

Housing Vacancy and Abandonment in Wilkins Township



Joseph F. O'Connor

Graduate Student
MS / PhD

Indiana University of Pennsylvania
August 2014

Preface

This past January, I was attending the Wilkins Commissioners meeting with my son so that he could check off a requirement of a merit badge he was earning for Boy Scouts. It was here that I first learned of Wilkins Township's interest in building a Geographic Information System (GIS) to look at vacant and abandoned housing. As a graduate student working on both a Masters of Science in Geography and a Social Science Research Ph.D., I had studied the spatial aspects of social disruption associated with communities in change. This was in fact a major focus of my Doctoral Dissertation. This project not only piqued my interest as an academician, but as an 18 year resident of Wilkins Township as well. It was a project that not only allowed me to study community change but to hopefully improve the community in which I lived and owned a home.



Acknowledgements

I would like to thank the Board of Commissioners, the Township Manager Rebecca Bradley, and Township Code Enforcement Officer Leonard Hill for this opportunity to serve my community. I would also like to thank Karen Luffe, Dawn Bingham, and Lisa McCann for their assistance. Additional thanks to Officer John Davis for being there during some of the more interesting property condition assessments that I completed.

Table of Contents

Part I: Data Collection	5
Part II: Vacancy in Wilkins Township	7
Table 1- Vacancy Count by Stage	8
Table 2- Property Condition Rating	10
Table 3- Vacancy Condition Matrix	10
Table 4- Primary Cause of Vacancy	11
Table 5- Reasons House is Being Sold	12
Part III: Demographic Trend Analysis	13
Figure 1- Age Group Distribution	14
Figure 2- Age Group Distribution as Percent	15
Figure 3- New House Construction	16
Figure 4- Housing First Time Sold by Year Constructed	18
Figure 5- Comparison of Median Income	19
Table 6- Wilkins Township Housing Construction by Decade	20
Table 7- Increase in House Size and Amenities by Decade in Wilkins Township	21
Figure 6- Wilkins Existing Median House Size Compared to Northeast New Construction	22
Figure 7- Comparison of Sales Price to Square footage for above and Below Median	23
Part IV: Statistical Comparison of Vacant/Abandoned Property to All Properties by Residential Zone	24
Table 8- Residential Zone Restrictions	24
Table 9- Property Characteristics: All homes in Township	26
Table 10 Property Characteristics: Vacant and Abandoned Properties only	27
Table 11- Number of Vacant Properties by Zone and Condition	29
Table 12- Assessed Building Value of Vacant and Abandoned Houses	30
Table 13- Assessed Land Value of Vacant and Abandoned Houses	31
Table 14- Average Age of Vacant and Abandoned Houses	32
Table 15- Total Unpaid Real Estate Tax of Vacant and Abandoned Houses	33
Table 16- Average Unpaid Real Estate Tax of Vacant and Abandoned Houses	34
Table 17- Quantity of Code Violations of Vacant and Abandoned Houses	
Part V: Mapping Analysis of Vacant and Abandoned Property	36
Figure 8- Map: Wilkins Township Location of Vacant and Abandoned Homes	36
Table 19- Vacancy Condition Matrix	37
Figure 9- Frequency Distribution of Calculated Blight Condition	37
Figure 10- Map: Wilkins Calculated Vacancy Rating	38
Figure 11- Map: Wilkins Township Calculated Value Rating and Residential Building Value	39
Figure 12- Map: Wilkins Township Location of Rental Units- Single and Two Family Homes	40
Table 19 – Number of Code Violations by Category	41
Figure 13- Map: Number of Code Violations by Parcel	42
Figure 14- Map: Wilkins Township Location and Amount of Tax Delinquency	43
Figure 15- Map: Areas within 150 of At-Risk properties	44
Figure 16- Map: Wilkins Township Properties Sold 3 Times in Past 21 Years	46
Figure 17- Map: Wilkins Township Properties Sold 3 Times in Past 21 Years	47
Figure 18- Map: Wilkins Township Properties Sold 3 Times in Past 21 Years	48
Figure 19- Map: Houses Sold 3 Times in 10 Years Compared with At-Risk Buffer	49
Table 20- Correlation Between Sale Price and Distance From At-Risk Zone	50
Part VI: Summary	51
Final Thoughts	55

Introduction

The goals of this project as articulated in the 2014 Municipal Intern Program project list is as follows:

The intern will collect property data and input it into a GIS or Access program. The project will include the creation of GIS layers, research of Pennsylvania blight and vacancy laws, categorization and recommendations of courses of action for properties. If time permits, the intern will research how to create a database detailing local individuals and companies who rehabilitate properties for resale. Finally, the intern will research grant opportunities for demolition of structures.

Through discussions with the Township Manager, Rebecca Bradley, we decided that in addition to the creation of the data set that tracks vacant properties, it would be helpful to understand the underlying causes of vacancy in the township. It is hoped that this understanding would do more than just let us know the existence of current vacancies, but lead to plans to mitigate additional vacancies and blight in the future. It would also help in prioritizing the actions that the township could take regarding vacant properties so that the most value could be obtained from those actions.

Therefore, this project goes beyond merely cataloging current vacant structures. It will also look into areas of demography, economics, social changes, and historical patterns of development in order to acquire a more holistic understanding of the causes of vacancy and blight within the township.

What follows is a comprehensive analysis of the historical social, demographic, and economics characteristics of the Township with particular focus on the vacant structures and risk factor for abandonment. What this research shows is generalized understanding of the current state of housing in Wilkins Township. This research uses both quantitative and qualitative techniques in mining data. Additionally, statistical processes of regression analysis in SPSS and spatial analysis techniques through Geographic Information System (GIS) software are also used.

Part I: Data Collection

Listed below are the data components that were used in the analysis. Contained in each is a description of the data set and its source.

Wilkins Update.xls: This file received from the TVCOG contains all the property information from Wilkins Township. Data such as number of Bedrooms, Number of Bathrooms, Square Footage, lot size, and county assessed value among others. In addition to property description data, each property's last two sales dates and sales price is included. Each property is identified by the Parcel Identification Number (PIN) which will be used as a common key to connect with other data sets in a data base.

Forest Hills Update.xls: Includes the same data as Wilkins Update.xls but for the Borough of Forest Hills. This data will be used to compare Wilkins housing data to a similar near neighbor to find similarities and contrasts that should help further define understanding of the housing information in Wilkins.

WilkinsTax2014.xls: Contains the property assessed value for Wilkins township property tax. While in most cases, this is the same as the county, there are a few exceptions. Each property is identified by the Parcel Identification Number (PIN) which will be used as a common key to connect with other data sets in a data base.

2014 List of Rental Units.xls: This file lists housing related rental units within the township. Data includes the address, property owner name and address, number of rental units within the structure, and the date of the last receipt of rental property registration. Each property is identified by the Parcel Identification Number (PIN) which will be used as a common key to connect with other data sets in a data base.

CodeEnf.xls: Data contains the PIN and the quantity of code violations during the period April 15, 2002 through May 23, 2014. Information on the nature of the code violation was not consistently provided until March 23, 2010. However, of the 906 offenses recorded, 562 have occurred since that time. In summary, this data set includes total number of offenses by PIN for an approximately 12 year period and offense descriptions for an approximately 4 year period.

VacHousing.xls: This table contains the PIN, house address, history of vacancy, condition rating, vacant stage identifier, and hyperlinks to photos of the house.

GIS Data

Wilkins Township Municipal Boundary: Shapefile downloaded from the Pennsylvania Spatial Data Access (PASDA) website

Wilkins Parcel:- Shapefile downloaded from PASDA at the county level and clipped to Wilkins Township Municipal boundary

Wilkins Building Footprint: Shapefile downloaded from PASDA at the county level and clipped to Wilkins Township Municipal boundary

Street center lines: Shapefile downloaded from PASDA at the county level and clipped to Wilkins Township Municipal boundary

Part II: Vacancy In Wilkins Township

Vacancy Defined

Much of the prior investigations and research into vacancy and abandonment have pointed out that there is no clear definition of the two. One article points out only that “not all vacant houses are abandoned, but all abandoned houses are vacant.” In addition, early on in the process of cataloging the vacant properties, it became clear that there were several reasons for a property to be vacant. In some extreme cases, houses were vacant due to the previous owner walking away from them. In other cases, the home was foreclosed on and the property owner had been evicted. One increasingly common reason is the death of the home owner or the owners moving to a retirement home. Often the children of the home owner live out of state and have little interest in the property.

In another common scenario, the property owner had moved to a new house and put their previous, now vacant home on the market. A brief review of a real estate web site will show many properties that are for sale are also vacant. Many real estate agents believe it is easier to sell a home that is empty than one in which the previous owners are living with all their personal belongings. According to one agent, buyers see the existing furniture etc. as an impediment to moving in. Similarly, houses used as rental properties can go several months or years without an occupant. The longer the property goes unrented or unsold, the greater risk it has for vandalism and for becoming an abandoned property.

The one thing that is certain for all vacant and abandoned properties is that they were once owner occupied. Through one of several paths, each went from being lived in to being abandoned. In order to understand these paths, and hopefully preventing their completion toward abandonment, I developed a model to illustrate these paths and to categorize the stages that properties may go through on their way to abandonment.

Appendix A shows the complete model. In all cases the house begins as owner occupied. In many cases, the house moves into *Vacant Stage 1* when the owner moves or is deceased. The home will usually be put on the market for sale or for rent. If the home sells to a new owner, the process stops. If it is rented, it moves out of Stage 1 but remains in limbo within the model. In many cases, homes that are rented usually end up back in the vacancy process at some future point.

If the property is not rented within 6 months or sold within 9 months, it moves to *Vacant Stage 2*. At this point a home that has sat unoccupied for this duration has a higher risk of vandalism and code violations. A house can also move to this stage directly from being occupied if the home owner moves out of the house, but does not market it for sale or rent and instead uses the house for other purposes. Some homes that are in this category include houses used for storage or held onto by the property owner for personal reasons. A home may also move to this stage directly from occupied if it is foreclosed and the owner is evicted. In

those cases, the house is vacant and no longer being maintained beginning with the date of eviction.

Vacant Stage 3 begins when either the home becomes tax delinquent *or* is in violation of the Property Maintenance Code (PMC). Either of these circumstances serves as a warning signal that the house could become abandoned. When houses go unsold or unrented, the holding costs to the owner pile up. These costs include taxes, maintenance, and utilities. At some point, the owner of record may stop paying these costs in order to cut their losses. When general maintenance goes undone, it also increases the risk of vandalism to the home- particularly the theft of copper. Vandalized property represents another increased cost to the owner wishing to sell and would further induce the owner toward outright abandonment. Vacant Stage 3 represents a tipping point before a house is walked away from by the owner.

The final stage of the process is *Abandoned*. A house enters this stage when it is both tax delinquent *and* in violation of the PMC. Although the owner may not have given up completely on selling or renting the property, the combination of both tax delinquency and violation of the property maintenance code make it a greater likelihood they the owner will walk away.

This model may not be all encompassing regarding the paths an individual house may take in route to abandonment in all locations, but it works for our purposes at this point in time. The model also uses an arbitrary amount of time for the property to remain on the market before moving to *Vacant Stage 2*. At the time of this project, it has been 5 years since the mortgage crisis and housing market collapse of 2008. Initially this resulted in longer times for a house to remain unsold. Although this pace appears to be quickening, future studies may adjust those times according to market conditions.

Lastly, although commercial property vacancies exist, the market for them is uniquely different from housing. This model is also restricted to single, two, three and four family homes and rental properties.

Of the 123 properties that are vacant in Wilkins Township, the vacant stage classification breaks down as follows:

Table 1- Vacancy Count by Stage

Vacant Stage 1	31
Vacant Stage 2	34
Vacant Stage 3	13
Abandoned	45

Assessing Vacant Property Condition

Like the varying causes of vacancy, the current conditions of the properties are often unique in themselves and important in determining mitigation strategies. In Wilkins, properties range from Houses on the market in “move-in” condition to boarded up structures awaiting demolition. Using a rating scale of 1-5, 1 being the highest rating, each home was evaluated based on its condition. The form used (Appendix B) was based on one developed by University of Pittsburgh’s University Center for Social and Urban Research (UCSUR) and by the Pennsylvania Uniform Construction Code (UCC). The form has three major components that are evaluated. The first was the Exterior Property Areas, i.e. grass and weed maintenance as well as external buildings and swimming pools. The second dealt with the exterior condition of the house and the third part was an evaluation of the interior. Each major section included a series of yes/no responses to specific questions contained in that section. The purpose was to justify the final rating number of 1 through 5 that each house was assigned while also minimizing evaluator bias.

A condition rating of 1, *Excellent* would indicate a move-in ready home with zero maintenance issues. Due to the age of most properties that are vacant, this rating was rarely given.

A condition rating of 2, *Good*, would be a move-in ready home with minor issues such as minor cracks in walkways and driveways, fading paint, etc. Issues that are not a problem for the home, but show that maintenance will need to be completed soon.

Found more frequently is a condition rating of 3, *Fair*. These homes appear structurally sound but with issues such as overgrown vegetation, cracked and peeling paint, deteriorated shingles, etc.

A condition rating of 4, *Deteriorated* is applied to houses showing longer term neglect. The house is more than likely salvageable, but the costs of doing so *may* outweigh the property’s value.

Houses in the *Poor/Hazardous/Unsafe* condition rating of 5 include homes with holes in the roof, foundation defects, obvious structural issues, etc. Many houses in this condition have already been slated for demolition.

An evaluation form was completed for each vacant property. The breakdown of the condition of the vacant houses in Wilkins Township is as follows:

Table 2- Property Condition Rating

Condition Rating	Quantity
1	2
2	37
3	56
4	16
5	11

Together, the Condition assessment and the vacancy stage list form a matrix to clarify further the list of vacant properties. That break down is displayed in Table 3.

Table 3- Vacancy Condition Matrix

Condition	Vacancy Stage			
	V1	V2	V3	A
1	1	1		
2	18	18	1	
3	9	14	10	23
4	3	1	1	11
5	1			11

By combining the stage of abandonment and the current property condition, a clearer picture of the extent of the vacancy problem comes into view. Currently, there are 11 housing units that are abandoned and in very poor condition. 11 more may be very well on their way to this category. In addition, there are 23 houses that are in fair condition, but are abandoned. There is also a clear correlation between vacancy stage and property condition. Properties in good condition are not abandoned. Abandonment comes after the property has lost nearly all value.

Qualitative Analysis of Reasons for Vacancy and Residents Moving from Their Current Home

The list of vacant properties at the beginning of the project was compiled by Mr. Leonard Hill over the years with recent input coming about as a result of returned mail from a township mailer. In the spring of 2014, Wilkins sent notifications to every home in the township. Letters that could not be delivered due to vacancy were returned to the township. This method assisted the township in identifying possible vacancies that were not previously known. Visits to these homes either confirmed the vacancy or determined the reason for the letter's return.

For each house identified, Mr. Hill's personal awareness of the history of the owners and causes of vacancy were added to the Vacant Housing list. This rich description provided a starting point for identifying causes of vacancy. From this descriptive, a list of causes was developed. Each time one of these causes would appear in the descriptive list, it was tallied. Some of the existing vacant houses had been vacant in the past, became occupied, and then vacant again. Under these circumstances, more than one reason could have been attributed to the single housing unit making the total number of reasons greater than the current list of vacant houses. Table 4 shows the reasons found and the total number for each.

Table 4- Primary Cause of Vacancy

Cause of Vacancy	Count	Percentage
Death of Owner/ Retirement home	39	26%
Moved away unable to sell	26	17%
Unknown Reasons	27	17%
Extended Rental Vacancy	16	11%
Walk away/ Abandoned	18	11%
Foreclosure	13	9%
Home used for Storage	10	7%
Extended time unsold	5	3%
TOTAL	151	

The most common reason for vacancy centers on old age. These are houses where either the owner has moved to a nursing home or is deceased. While it may be presumed that most houses are vacant as a result of the recent mortgage crisis and home foreclosures, those account for just 9% of vacancy causes. However, there does appear to be some impact from the mortgage crisis due to the 17% attributable to an extended amount of time listed for sale.

Beginning in May of 2014, Mr. Leonard Hill would engage home sellers in conversation regarding their reasons for selling while he was completing the occupancy inspection. Like the vacant property list, these reasons were grouped into categories. Although it has been a short

amount of time in which to collect these responses, spring and early summer is the most common time of year for listing a house for sale. The results of 66 responses are displayed in Table 5.

Table 5- Reasons House is Being Sold

Reason for Move	Count	Percent
Health Reasons or Death of Owner	19	33%
Unknown Reason	14	21%
Retiree Downsizing/Relocating	9	14%
Foreclosure	7	11%
Job Relocation	5	8%
Marriage/Divorce	4	6%
House Flipper/ Rental Sale (Investment)	3	5%
Neighboring vacancy and blight	1	2%
WHSD School District	1	2%
TOTAL	66	

Again, the most common reason given centers on an aging population. While some owners passed away, others were moving to retirement or nursing homes. An additional item that appeared on this list that was not on the vacancy list is the owner downsizing or relocating due to retirement. Combined, aging represents 47% of the known reasons given for a house being placed on the market. Only one respondent attributed the move to the quality of the school district. The educational quality of Woodland Hills School District has consistently ranked near the bottom in the state in many prominent studies. This has justified a knee jerk reaction to blame the school first for housing related issues, such as property value, vacancy, etc. Although the sample period only represents a few months of data collection, this still appears to be a minor issue. One home owner stated that the reason for the move was in part due to neighboring vacancies and blight.

In summary, both home sales and vacancy seem strongly related to an aging population. To investigate the relationship of aging and vacancy, the next part of the analysis will evaluate the demographic trends in the township.

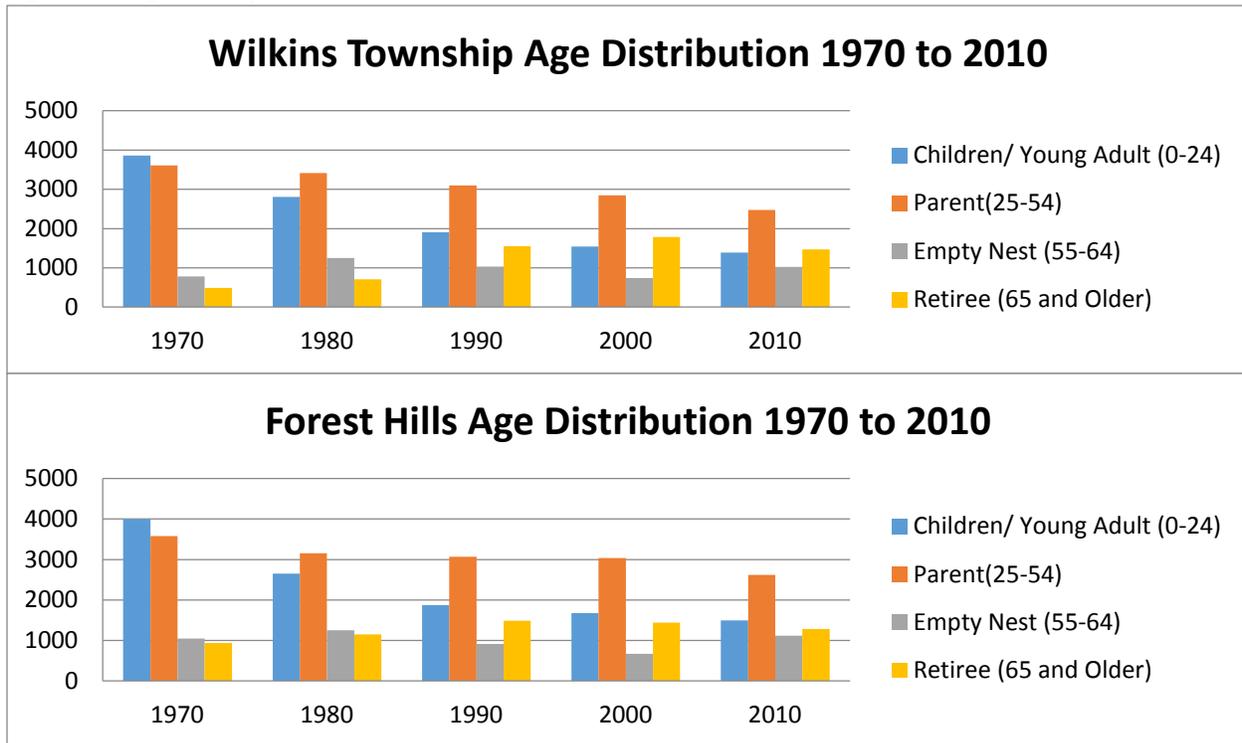
Part III: Demographic Trend Analysis

Change in the Population Age Distribution

Demographers have long used the distribution of a population's age to make determinations about the trends and future of communities and nations. For this project, I have done the same in order to understand the changes that have occurred over time within the township. This data was compiled through US Census web information as well as hard copy historical census records. In order to make census records comparable across decades, more recent census age distributions had to be grouped to match the same age distributions in prior censuses. For instance, beginning in 1990, ages 85 and older were a single group. Prior to 1990, ages 75 and older were a single group. For comparability, the lower 75 years and older is grouped across all decennial censuses. The census figures for these age groups for both Wilkins Township and Forest Hills is displayed in Appendix C

For comparison, ages were further grouped to represent four distinct life phases. These phases are Children/ Young Adults (0-24), Parent (25-54), Empty Nest (55-64), and Retiree (65 and older). These classes are also significant in understanding impact to the community. Higher percentages of retirees in a population can affect the income tax revenue overall as many retirement plans are not earned income. Although age classes are not equal in size, the comparisons made are not based on size so much as the change from decennial census to decennial census and across communities

The age distribution in total numbers for Wilkins Township and Forest Hills is graphically displayed in Figure 1. Forest Hills is a neighboring community with approximately the same population total as Wilkins. Its proximity to Wilkins would make them both subject to the same shifts resulting from plant closures, etc. Additionally, they are both in the Woodland Hills School District. Changes in population distribution as a result of the court mandated school district merger would have similar repercussions for both communities.

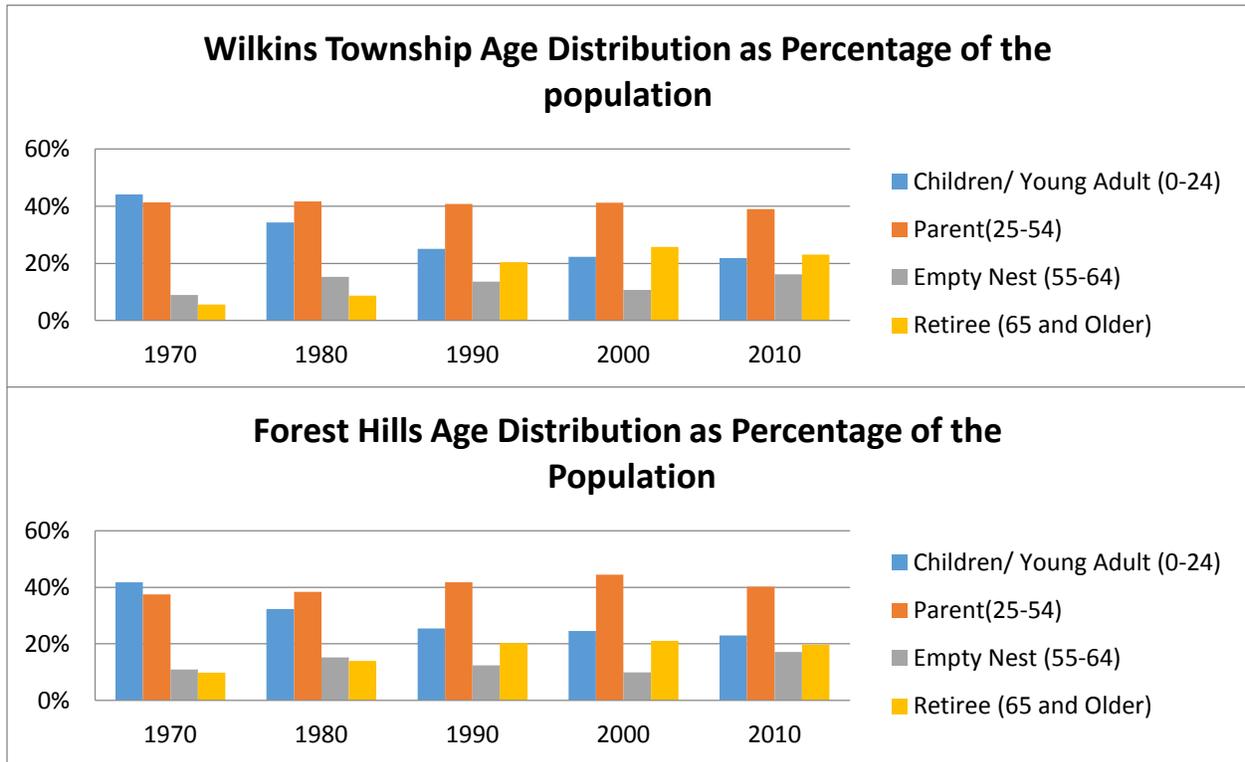
Figure 1- Age Group Distribution

Of note in this distribution is the overall decline in population for the 5 previous censuses in both communities. While the largest decline has been in the Children/ Young Adult and Parent age classes, this is partially offset by the increase in retirees during the first four censuses in the time period under evaluation. Additionally, the 1970 census was the only period in which the Children/ Young Adult age class outnumbered the Parent age class. This follows the national trend of smaller family sizes in recent decades. The 2010 Census shows some reversal of these trends. The retiree category has declined for the first time while the Empty Nest class has increased. The youngest age class continues to decline but at a slower pace in the recent two censuses.

Overall the pattern appears to be the same for both with some small differences. One such difference is the change in Wilkins from having a smaller number of retirees and empty nesters in 1970 than Forest hills, to having a larger number of retirees than Forest Hills in 2000 and 2010. The rate of decrease in the younger age classes has been greater for Wilkins Township as well. Figure 2 shows the same data but represented as a percentage portion of the population for each census year. This equalizes changes in overall population from one census period to another as well as total population differences between the two communities. The percentages of population distribution show again that the Forest Hills community had a higher percentage of their population in the older age classes in 1970 than Wilkins. These percentages were nearly equal in 1990 hinting at a trend that continued for the next two

census periods. By 2010, Wilkins Township had a greater percentage of its population in the two older age classes.

Figure 2- Age Group Distribution as Percent

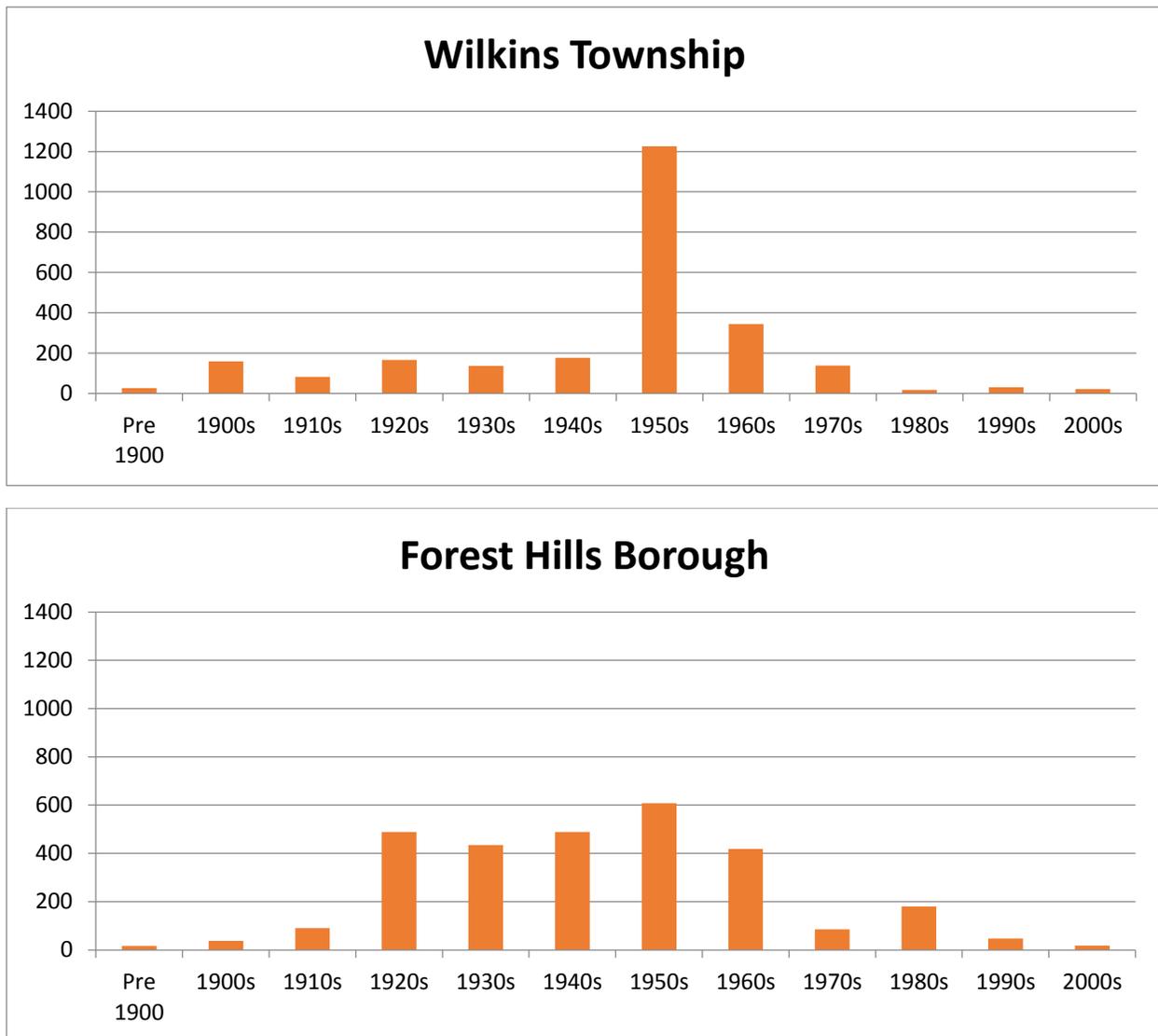


As the preceding graphs show, there are a great many similarities between the population distributions of the two communities. However, the change from Forest Hills having an older skewing population than Wilkins in 1970 to the reverse being true in 2010 warrants additional study. This shift is seen occurring over the 5 census periods. The fact that the communities are neighbors, and in the same geographic proximity to the City of Pittsburgh would seem to indicate that patterns of population distribution should be similar as well. To examine this further, a comparison of housing development was also completed.

Comparison of Housing Development patterns Between Wilkins Township and Forest Hills Borough

After reviewing the age distribution of Wilkins Township and Forest Hills, it made sense to compare the development patterns of housing as well. The change from having a greater share of the population in younger classes to older classes in Wilkins as compared to Forest Hills may be partially a result of the housing development process. As has been discussed before, there are many similarities between the two communities. However, as the graphs in Figure 3 show, the development of housing is not one of those shared traits. These charts show the number of residential housing units constructed by decade.

Figure 3- New House Construction



Like Wilkins Township, Forest Hills had its peak decade of development in the 1950s. However, that peak represents about half of the housing units constructed in Wilkins at that time. Up until 1950, only 29.6% of existing housing units had been built in Wilkins compared with 53.4% in Forest Hills. Growth was more consistent in Forest Hills and began nearly 30 years earlier.

Taken together with the population age distribution, a pattern begins to emerge. If the families that built these houses in both communities lived in them their entire lives, then housing transition becomes generational. For instance, assuming a new home is purchased by an individual at 25 years of age and lived in until 85 years of age, the pattern may explain shifts in each community's age distribution over the past 5 decades. If the hypothetical individual just described built his house in 1925 at the age of 25 then Forest Hills would have a higher number of retirees in the 1970 Census, This individual would be 70 in that census. The same holds true for Wilkins growth patterns. A person aged 25 in 1955 building his home in Wilkins would be 70 in the 2000 Census and 80 in the 2010 Census.

In order to examine if housing age was correlated with the year in which it sold, I created the following two surface area graphs in Figure 4. The vertical axis represents the year the house was constructed and the horizontal axis represents either the first recorded sale of the property or the second most recent sale based on Allegheny County records. Although it is possible that a home may have been sold prior to the second most recent recorded sale, the data seems to show this was not a usual occurrence. In particular for Wilkins, nearly half of the properties have only had one recorded sale since construction. So, although it is possible that some points in the data may be inaccurate, it is a small minority of data points. The overall trend can still be visualized in the graphs in spite of these potential erroneous data points.

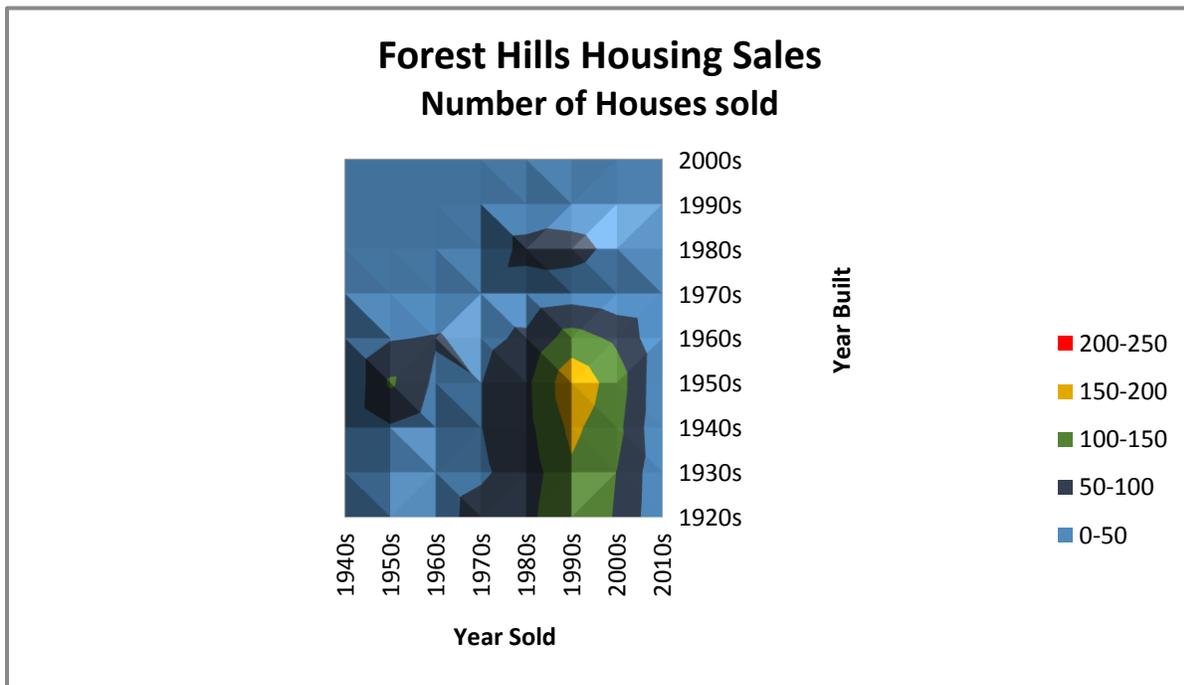
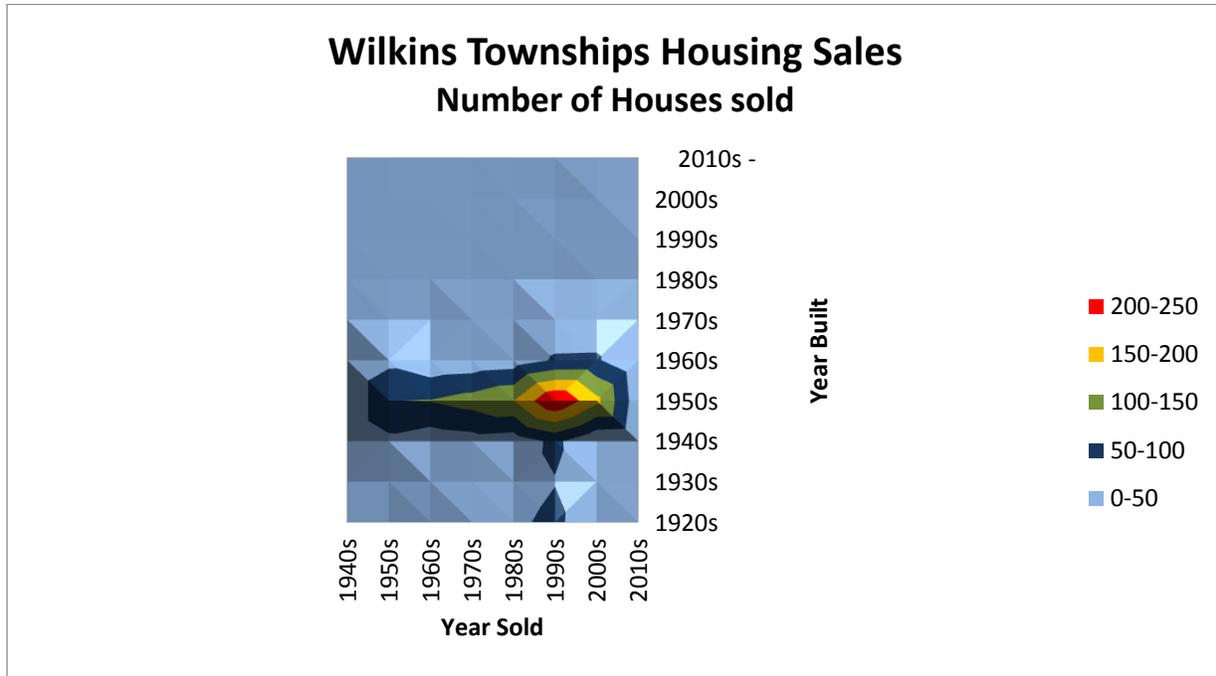
If the generation that built the house held onto it for several decades before selling, then we would expect to see a diagonal pattern from year built to year sold across decades.

A few things to note is the evidence that properties tend to be sold shortly after construction and again several decades later. The initially sold properties can be considered the "starter" home by the first owners. It is held for a very short period by some and much longer by the subsequent buyer. Both Forest Hills and Wilkins exhibit a hold of property for about 40 to 50 years. This is more apparent in Forest Hills. Wilkins data may be skewed by the sheer number of houses constructed in the 1950s.

In addition, there seems to have been a large sell off in the 1980s and peaking in the 1990s for both areas. Although the population evaluation does not indicate any large shifts for either area during this time, the reasons for this sell off may be due to several factors. These include educational expectations brought about by the merger into the Woodland Hills School

District, Plant closings of Westinghouse, and the 40-50 year cycle for home buyers moving from their first home.

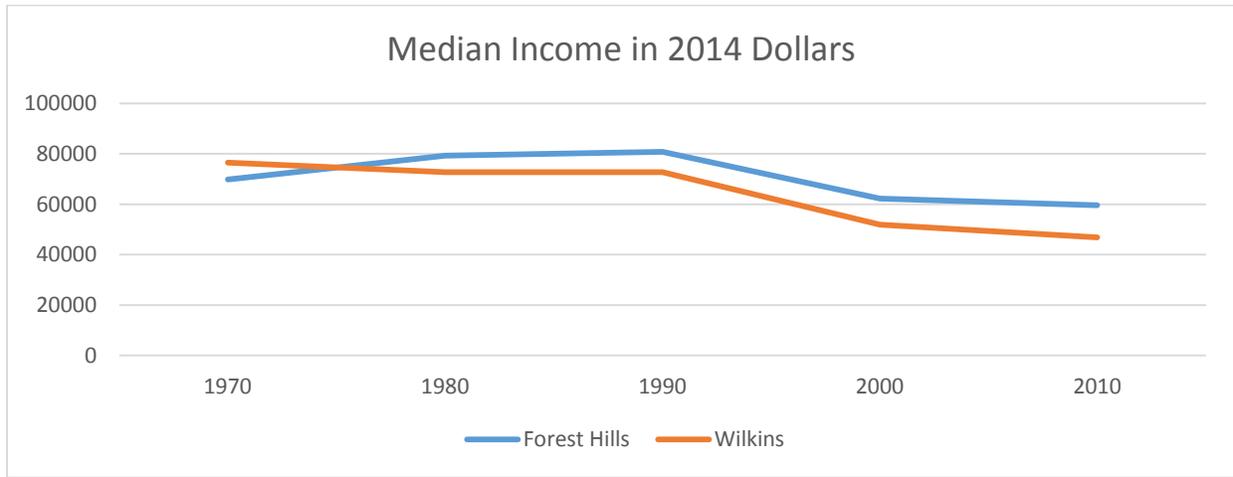
Figure 4- Housing First Time Sold by Year Constructed



Median Income

In addition to population and housing changes, I also studied the median income for each community from the prior 5 censuses. The dollar values collected from the census was converted to 2014 dollars for comparison across the census periods. The results, in 2014 dollars are displayed in Figure 5.

Figure 5- Comparison of Median Income



The patterns are very similar overall. The decline in the 1990s would seem to correlate with the property sell off that occurred in the same period. Although it is difficult to assign specific causes to this income decline, potential causes could be attributed to closures of Westinghouse operations in the area. The minimal change that occurred in the 1980s suggests that the Woodland Hills School District merger was not as great of a factor. That merger took effect beginning with the 1982/83 school year.

Historical Housing Developments

Recent studies by the Steel Valley, Turtle Creek and Twin Rivers Council of Governments (Tri-COGs) have indicated that many of the eastern Allegheny County municipalities have property values below construction costs. This analysis is based on the sales price of existing homes divided by each home's square footage of living space. These totals are averages for each community. With the exception of 4 communities: Churchill, Edgewood, Monroeville, and Plum, the average square foot selling price is lower than the construction costs of a new house. In general, with the exception of these 4 areas, it costs more to build a new home than the price for which it could sell. Because of the implications this raises, a little further analysis is needed.

Table 6 shows the number of existing housing units constructed during each of the past 8 decades. Houses constructed prior to 1930 are grouped into a single category. What is readily apparent is that nearly half of all existing housing was built in the 1950s. By 1970, 92% of currently existing housing had already been constructed. This housing boom could be attributable to several causes.

One such cause could be due to tax incentives put in place during the depression era that encouraged housing construction. These incentives included the mortgage tax deduction. Although attributing this tax incentive doesn't explain the nearly twenty year delay in seeing the effects, the Second World War does. Additionally, following the war, returning veterans were able to use GI Bill money to build their homes through loan guarantees. Growth in employment in area steel mills and Westinghouse Electric also led to expansive residential development in the area. However, there were also national trends toward suburbanization brought on by increased use of automobiles and new highway systems that further enabled suburban growth. All these events together define the growth patterns of many of these area communities. What is different among them is the timing of when the growth happened.

Table 6- Wilkins Township Housing Construction by Decade

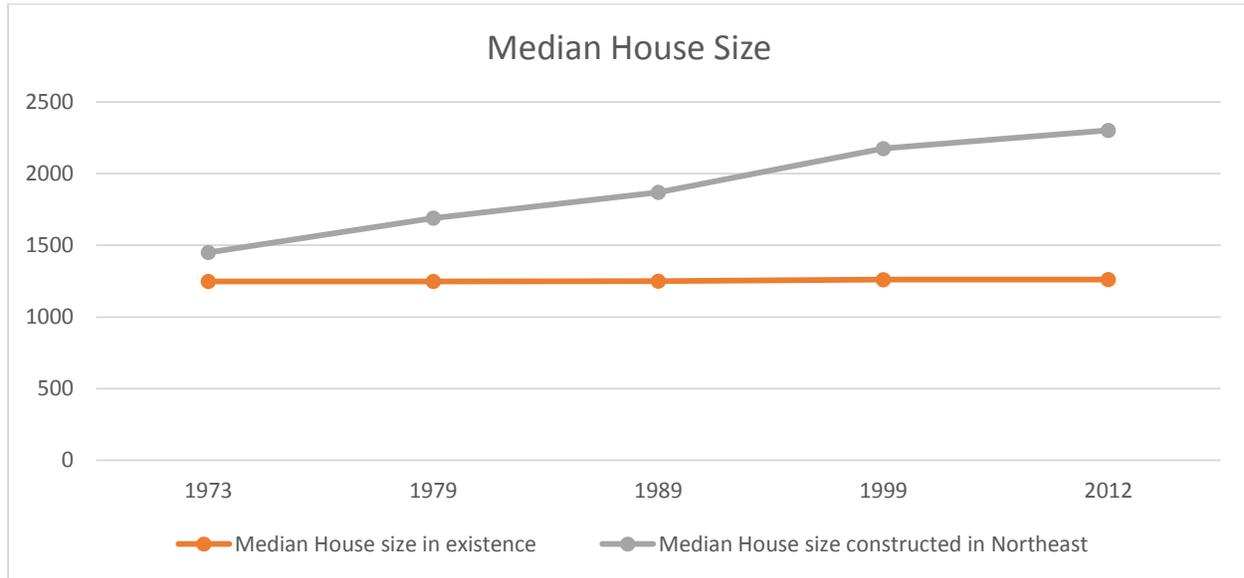
	Count	Percentage	Cum_percent
Pre1930s	434	17%	17%
1930s	138	5%	23%
1940s	176	7%	30%
1950s	1226	49%	78%
1960s	345	14%	92%
1970s	139	6%	97%
1980s	17	1%	98%
1990s	31	1%	99%
2000s	21	1%	100%
Total	2527		

The US Department of Commerce tracks housing characteristics of new home construction. In the *2012 Characteristics of New Housing* report, data on virtually all aspects of new housing is listed for each year from 1973 through 2012. One of the details that is clear from the data is that housing had gotten larger over that period. In 1973, new home construction in the northeast had a median size of 1,450 square feet and an average size of 1,595 square feet. Among all houses built by 1970 in Wilkins Township, the median was only 1,240 with an average of 1,383 square feet. The newer homes being constructed in the Northeast were larger than the 92% of houses that had already been built in 1970. In addition to more square feet, newer homes typically had more bathrooms and bedrooms than those built earlier. Although Wilkins data in Table 7 shows similar growth patterns in newer homes being constructed at the time, it was not enough to skew to total median and average values.

Table 7- Increase in House Size and Amenities by Decade in Wilkins Township

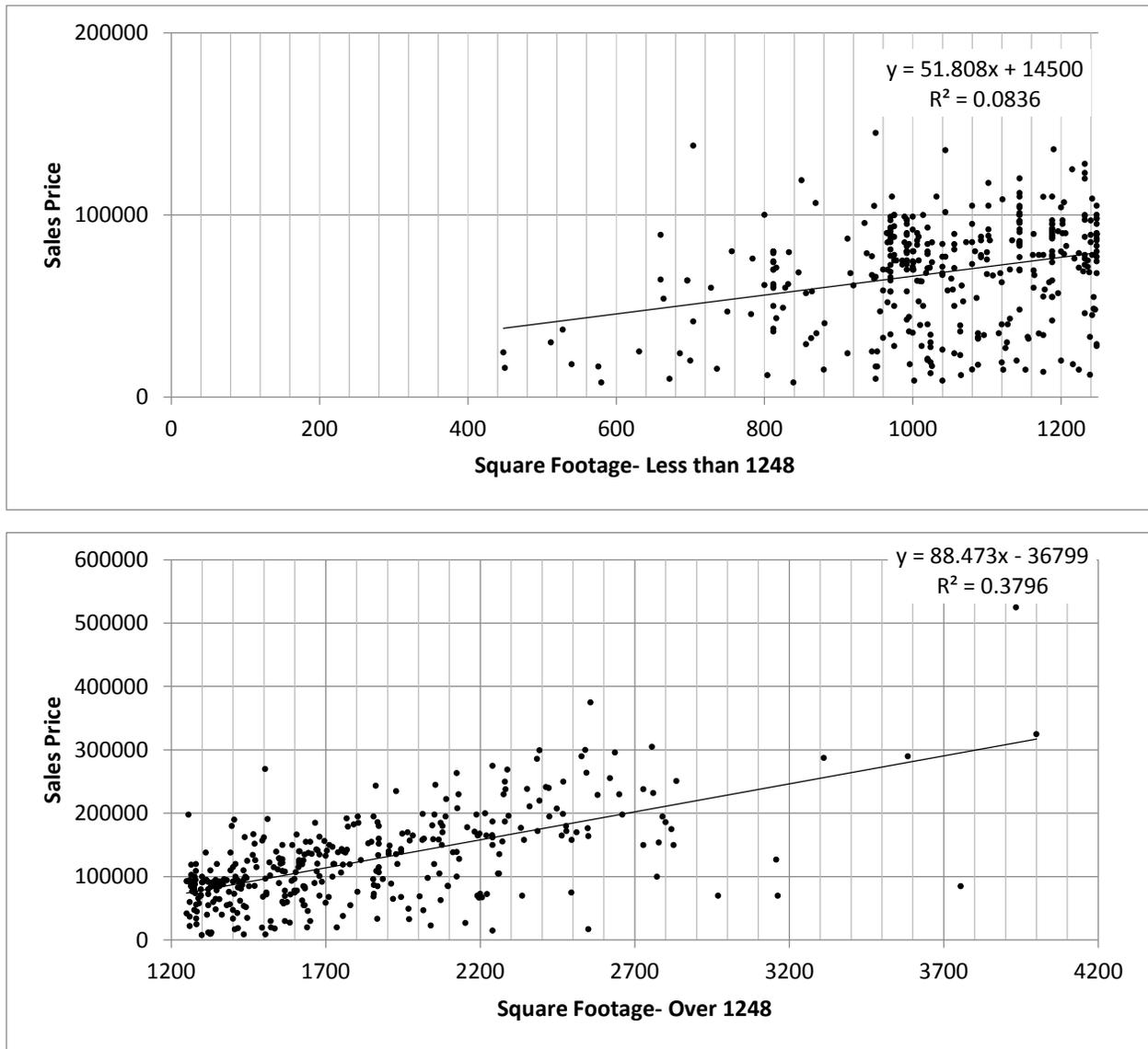
YearBuilt	Count	Avg Total Rooms	Avg Finished Living Area	Avg BedRooms	Avg FullBaths	Avg HalfBaths	Avg Garage
Pre1930s	434	5.8	1,349	2.7	1.2	0.2	0.2
1930s	138	6.0	1,409	2.7	1.2	0.3	0.4
1940s	176	5.9	1,270	2.7	1.1	0.3	0.7
1950s	1226	6.0	1,264	2.9	1.2	0.4	1.0
1960s	345	7.2	1,894	3.4	1.6	0.9	1.4
1970s	139	7.1	1,997	3.4	1.7	0.9	1.7
1980s	17	6.9	1,933	3.1	1.6	0.8	1.6
1990s	31	7.2	2,681	3.3	2.2	1.0	1.4
2000s	21	6.0	2,192	2.8	2.0	0.4	1.6

The graph in Figure 6 demonstrates the difference in existing median house size by year in Wilkins with the median house size being constructed in the Northeast at that time. While the median Wilkins house size barely moves, the size of new housing is considerably larger.

Figure 6- Wilkins Existing Median House Size Compared to Northeast New Construction

What this data shows is the importance of housing characteristics in determining valuation. Newer homes are more than just larger. They have additional amenities such as more bedrooms, bathrooms, and garage spaces as well. The two graphs in Figure 7 demonstrate the difference in larger housing from smaller. All the housing in Wilkins Township was divided into larger and smaller groups using the median of 1248 square feet as the cutoff point. For above median homes, the average square foot sales price is \$88.47 with an R-Squared value of .3796 while below median homes average square foot sales price is \$51.81 with an R-Square value of .0836. The R-Square values are a measure of model predictability. In effect, the R-square value measures how well the independent variable measures change in the dependant variable. In this case, it measures how well housing square footage predicts the sales price of house. For above median homes, approximately 38% of a sales price is associated with the square footage of the house. The other 62% is attributable to causes not included in the model. While the R-Square values both demonstrate the ineffectiveness of square footage in predicting sales price, that is far more true among the below median homes. Above median house size sales prices are more closely linked to square footage than those houses below median square footage.

Figure 7- Comparison of Sales Price to Square footage for above and Below Median



Because so many of the houses in Wilkins Township were built in a smaller home era, this method of valuation unfairly penalizes the Township. The four communities with higher than construction cost values have unique reasons for being calculated as such. Edgewood and Churchill have considerably larger houses with more amenities and carry a greater historical significance than their neighboring communities. On the other hand, Plum and Monroeville were communities that were developed in the 1970s and 1980s. As such and consistent with the trends in the Housing Report, these homes are larger and have more bedrooms, bathrooms and garage spaces than earlier developed communities. In total, the use of square footage alone in comparing building value is highly questionable.

Part IV: Statistical Comparison of Vacant/Abandoned Property to All Properties by Residential Zone

Comparison of Vacant/Abandoned Housing to All housing In Wilkins Township

This section is a comparison of the issues that are common with vacant and abandoned homes to the greater community. This is done to further identify trends that lead to vacancy and abandonment. Issues such as house age, tax assessment value, code violations and delinquent property taxes are compared. Using the list of vacant and abandoned properties broken out by vacancy stage and condition helps identify differences within the vacancies, but also from the larger community. In addition, the housing analysis also breaks housing down into residential categories according to Residential Zoning.

Wilkins Township housing generally falls into 4 residential Zones labeled R-1 through R-4. The differences in the zones are primarily focused on lot size and setback requirements. Some of the specifics of the zones are outlined in table 8 below. In some cases, existing houses are not in conformance with the restrictions due to having been constructed prior to the enactment of the code requirements. Additionally, some existing vacant housing falls outside of a residential zone. The houses are located in a zone that has since become a business/commercial zone.

Table 8- Residential Zone Restrictions

	R-1	R-2	R-3	R-4
Minimum Lot Size	15000	10000	7500	7500
Minimum Lot Width	80	65	50	50
Front Yard Setback	40	30	30	30
Side Yard Setback	15	10	8	5
Rear Yard Setback	25	20	20	20
Types of Dwellings	Single Family	Single Family	Multi-Family (7500 Sqft)	Multi-Family (2500 Sqft)

The effect of the zone requirements has been a pricing of housing that ranges from the high end in zone R-1 to the low end in Zone R-4. For this research, it further helps the analysis by comparing vacant and abandoned property to similar properties within the same zone. Table 9 shows a comparison of all properties bisected by zone. The properties listed are restricted to Single-Family, Two-Family, Three-Family, and Townhouses. Column "Non-R" represents the 154 houses that are not listed in a residential zone due to re-zoning that occurred after their construction. This re-zoning placed the house in a Non-R zone. A description of each category is presented below:

Totals:

Total Residential Houses- Total Single-Family, Two-Family, Three-Family, and Townhouse housing units,

Sum of Code Violations- Total Violations of the Building Maintenance Code and Uniform Construction Code between 2003 and March 2014.

Sum of Rental Units- Single-Family, Two-Family, Three-Family, and Townhouse residential rental properties on file in June 2014

Sum of Unpaid RE Tax- The total unpaid property tax due to Wilkins Township for Single-Family, Two-Family, Three-Family, and Townhouses as of May 2014.

Average of Unpaid RE Tax- Averages the total amount owed within a zone across all housing. This is done to compare property tax delinquency in light of the much larger number of homes in R-3.

Average Land Value- Average assessed value of residential land

Average Building Value- Average assessed value of residential housing

Average Age of House- Average age of house based on County records as of 2014

Percents:

Total Residential Houses: Percentage of housing within zone compared to all housing in township

Sum of Code Violations: Percentage of code violations within zone compared to all code violations in township.

Sum of Rental Units- Percentage of rental Units within zone compared to all rental units in township.

Sum of Unpaid RE Tax- Percentage of unpaid RE tax within zone compared to all unpaid RE tax in township.

Average of Unpaid RE Tax- Percentage of average unpaid RE tax within zone compared to total average unpaid RE tax in township. This yields a comparison that demonstrates difference from average.

Average of land value- Percentage of average land value within zone compared to total average land value in township. This yields a comparison that demonstrates difference from average.

Average of Building Value- Percentage of average building value within zone compared to total average building value in township. This yields a comparison that demonstrates difference from average.

Average of age of house- Percentage of average age of house within zone compared to total average age of house in township. This yields a comparison that demonstrates difference from average.

When housing is delineated by zone, certain trends become very clear. Housing value as mentioned earlier is higher in R-1. Additionally, unpaid RE tax is higher in the lower valued houses of the R-4 zone. R-4 also has 30.6% of the total code violations when it is only 9.5 % of total housing in the township. The housing in R-3 has 60% of the rental units when it is only 57.4% of the total housing in the township.

Table 9- Property Characteristics: All homes in Township

Totals	Non-R	R-1	R-2	R-3	R-4	Total
Total Residential Houses	154	244	437	1443	238	2516
Sum of Code Violations	36	41	70	392	238	777
Sum of Rental Units	24	5	21	150	50	250
Sum of Unpaid RE Tax	\$16,968	\$2,393	\$18,275	\$76,346	\$64,068	\$178,050
Average of Unpaid RE Tax	\$110	\$10	\$42	\$53	\$269	\$71
Average Land Value	\$19,125	\$27,709	\$21,459	\$17,356	\$15,606	\$19,015
Average Building Value	\$82,756	\$169,195	\$111,201	\$62,973	\$28,583	\$79,609
Average Age of House	65.4	51.2	52.6	66.5	98.2	65.6
Percent						
Total Residential Houses	6.1%	9.7%	17.4%	57.4%	9.5%	100.0%
Sum of Code Violations	4.6%	5.3%	9.0%	50.5%	30.6%	100.0%
Sum of Rental Units	9.6%	2.0%	8.4%	60.0%	20.0%	100.0%
Sum of Unpaid RE Tax	9.5%	1.3%	10.3%	42.9%	36.0%	100.0%
Average of Unpaid RE Tax	155.7%	13.9%	59.1%	74.8%	380.4%	100.0%
Average Land Value	100.6%	145.7%	112.8%	91.3%	82.1%	100.0%
Average Building Value	104.0%	212.5%	139.7%	79.1%	35.9%	100.0%
Average Age of House	99.8%	78.1%	80.3%	101.5%	149.7%	100.0%

The preceding table presents a baseline in which to compare the vacant and abandoned properties to the community as a whole. Table 10 shows similar data but restricted to the

vacant and abandoned properties. Changes in form were made to Table 10 for further clarity. The differences, and the reasons, are explained below.

Percentage of Total Housing- This field calculates the percentage of vacant and abandoned houses within the zone. Research currently being conducted in Baltimore shows preliminary tipping points occurring at 6% vacancy.

Code Violations as a Percent of Zone Total- The percentage of code violations assigned to vacant houses as a percentage of total violations within that zone.

Unpaid RE Tax as Percent of Zone Average- This field compares the average unpaid RE tax of vacant homes to the average Unpaid RE Tax of the zone in Table XX.

Land Value as Percent of Zone Average- This field compares the average land value of vacant homes to the average land value of all residential properties in the zone.

Building Value as Percent of Zone Average- This field compares the average Building value of vacant homes to the average building value of all houses in that zone.

Age of house as Percent of Zone Average- This field compares the average age of vacant houses to the average age of all houses in that zone.

Table 10 Property Characteristics: Vacant and Abandoned Properties only

Totals	Non-R	R-1	R-2	R-3	R-4	Total
Total Residential Houses	8	4	15	65	30	122
Percentage of Total Housing	5.2%	1.6%	3.4%	4.5%	12.6%	4.8%
Sum of Code Violations	2	1	6	22	10	41
Sum of Unpaid RE Tax	\$769	\$748	\$4,134	\$32,213	\$30,491	\$68,355
Average of Unpaid RE Tax	\$96	\$187	\$276	\$496	\$1,016	\$560
Average Land Value	\$17,400	\$25,575	\$18,647	\$16,760	\$16,167	\$17,177
Average Building Value	\$56,913	\$191,075	\$86,767	\$50,191	\$27,337	\$54,128
Average Age of House	91.9	44.3	62.8	81.6	98.9	83.0
Percent	Non-R	R-1	R-2	R-3	R-4	Total
Total Residential Houses	6.6%	3.3%	12.3%	53.3%	24.6%	100.0%
Percentage of Vacant Houses	6.6%	3.3%	12.3%	53.3%	24.6%	100.0%
Code Violations as percent of Zone Total	5.6%	2.4%	8.6%	5.6%	4.2%	5.3%
Unpaid RE Tax as Percent of Zone Total	4.5%	31.2%	22.6%	42.2%	47.6%	38.4%
Unpaid RE Tax as Percent of Zone Average	87%	1905%	659%	937%	378%	100.0%
Land Value as Percent of Zone Average	91.0%	92.3%	86.9%	96.6%	103.6%	100.0%
Bldg Value as Percent of Zone Average	68.8%	112.9%	78.0%	79.7%	95.6%	100.0%
Age of House as Percent of Zone Average	140.5%	86.4%	119.3%	122.6%	100.8%	100.0%

These tables together create some useful insights, particularly in regards to tax delinquency. Overwhelmingly, vacant housing has higher rates of tax delinquency and those are concentrated in zones R-3 and R-4. While vacant housing as a whole is 4.8% of the total of all housing in the township, delinquent taxes on vacant houses are 38.4% of the total of delinquent taxes across the township. Additionally, while in most cases the assessed values of vacant properties are lower than average, in Zone R-4, the assessed values for land is higher than average while the assessed value of the buildings in R-4 are near average. Building value is higher than average for zone R-1 as well but with a total unit count of 4, this value becomes easily skewed.

Age of house presents another useful insight. While R-4 houses tend to be older, the average age of vacant houses does not differ much from the average. On the other hand, for zones R-2 and R-3, vacant and abandoned houses are significantly older than average. A greater case exists for houses in non-residential zones. These tend to be the oldest houses in the community. Therefore, older houses regardless of residential zoning tend to be vacant more than newer houses.

The next several tables calculate by zone, vacancy class and condition, various aspects of the properties used throughout this research. The pattern that emerges is one that demonstrates the redundancy of problem properties. That is, they have code violations, tax delinquency and vacancy usually in common. Additionally, these tables begin to show a breaking point at which the owner ceases future investment in the property in lieu of cutting losses.

Table 11- Number of Vacant Properties by Zone and Condition

Vacancy Status	Condition	Residential Zoning- Count of Vacant Abandoned					
		Non-R	R-1	R-2	R-3	R-4	Total
V1	1			1			1
	2		1	4	12	1	18
	3	2		2	3	4	11
	4				1	2	3
	5						
V2	1		1				1
	2	2	1	4	13		20
	3	2		1	8	3	14
	4						
	5						
V3	1						
	2						
	3		1	1	5	3	10
	4			1			1
	5					1	1
A	1						
	2						
	3	1			12	7	20
	4				6	5	11
	5	1		1	5	4	11

Table 12- Assessed Building Value of Vacant and Abandoned Houses

Vacancy Status	Condition	Residential Zoning- Average Building Assessed Value					
		Non-R	R-1	R-2	R-3	R-4	Total
V1	1			105,100			105,100
	2		135,500	92,400	66,533	18,000	73,417
	3	41,200		52,200	37,633	31,075	38,545
	4				16,200	17,000	16,733
	5						
V2	1		282,500				282,500
	2	77,000	235,300	106,575	68,715		85,445
	3	34,550		51,600	35,450	23,033	33,814
	4						
	5						
V3	1						
	2						
	3		111,000	47,100	35,940	12,967	37,670
	4			165,900			165,900
	5					20,800	20,800
A	1						
	2						
	3	116,400			59,725	46,486	57,925
	4				22,633	22,520	22,582
	5	33,400		31,500	25,160	19,250	24,336

Averages the assessed building value of all vacant and abandoned houses based on condition, vacancy status and residential zone.

Table 13- Assessed Land Value of Vacant and Abandoned Houses

Vacancy Status	Condition	Residential Zoning- Average Land Assessed Value					
		Non-R	R-1	R-2	R-3	R-4	Total
V1	1			20,800			20,800
	2		20,200	18,475	16,867	14,700	17,289
	3	19,050		15,700	12,633	14,775	15,136
	4				13,400	20,750	18,300
	5						
V2	1		40,200				40,200
	2	20,200	21,700	18,325	18,831		19,010
	3	16,550		21,900	16,675	14,200	16,500
	4						
	5						
V3	1						
	2						
	3		20,200	16,300	17,140	14,100	16,450
	4			20,400			20,400
	5					14,600	14,600
A	1						
	2						
	3	14,300			16,150	16,957	16,340
	4				16,917	16,300	16,636
	5	13,300		21,700	15,300	17,500	16,500

Averages the assessed land value of all vacant and abandoned houses based on condition, vacancy status and residential zone.

Table 14- Average Age of Vacant and Abandoned Houses

Vacancy Status	Condition	Residential Zoning- Average Age of House					
		Non-R	R-1	R-2	R-3	R-4	Total
V1	1			47			47
	2		58	63	61	104	64
	3	99		65	94	83	85
	4				104	107	106
	5						
V2	1		19				19
	2	81	40	59	71		68
	3	97		78	88	104	92
	4						
	5						
V3	1						
	2						
	3		60	74	87	114	91
	4			45			45
	5					100	100
A	1						
	2						
	3	68			81	89	83
	4				104	106	105
	5	114		79	106	103	103

Averages the age of all vacant and abandoned houses based on condition, vacancy status and residential zone.

Table 15- Total Unpaid Real Estate Tax of Vacant and Abandoned Houses

Vacancy Status	Condition	Residential Zoning- Total Unpaid RE Tax					
		Non-R	R-1	R-2	R-3	R-4	Total
V1	1						
	2				1,135		1,135
	3	769					769
	4						
	5						
V2	1						
	2						
	3					9,084	9,084
	4						
	5						
V3	1						
	2						
	3		748		2,471	1,483	4,701
	4			1,059			1,059
	5						
A	1						
	2						
	3				5,163	8,860	14,022
	4				9,468	6,718	16,187
	5			3,075	13,976	4,347	21,398

Total Tax delinquency of all vacant and abandoned houses segmented by condition, vacancy status and residential zone.

Table 16- Average Unpaid Real Estate Tax of Vacant and Abandoned Houses

Vacancy Status	Condition	Residential Zoning- Average Unpaid RE Tax (Vac_Ab)					
		Non-R	R-1	R-2	R-3	R-4	Total
V1	1						
	2				95		63
	3	384					70
	4						
	5						
V2	1						
	2						
	3					3,028	649
	4						
	5						
V3	1						
	2						
	3		748		494	494	470
	4			1,059			1,059
	5						
A	1						
	2						
	3				430	1,266	701
	4				1,578	1,344	1,472
	5			3,075	2,795	1,087	1,945

Average tax delinquency of all vacant and abandoned houses segmented by condition, vacancy status and residential zone.

Table 17- Quantity of Code Violations of Vacant and Abandoned Houses

Vacancy Status	Condition	Residential Zoning- Count Code Violations					Total
		Non-R	R-1	R-2	R-3	R-4	
V1	1						
	2			1	1		2
	3			1	1		2
	4						
	5						
V2	1						
	2				1		1
	3			1	2		3
	4						
	5						
V3	1						
	2						
	3		1	1	4	2	8
	4			1			1
	5						
A	1						
	2						
	3	1			7	5	13
	4				3	2	5
	5	1		1	3	1	6

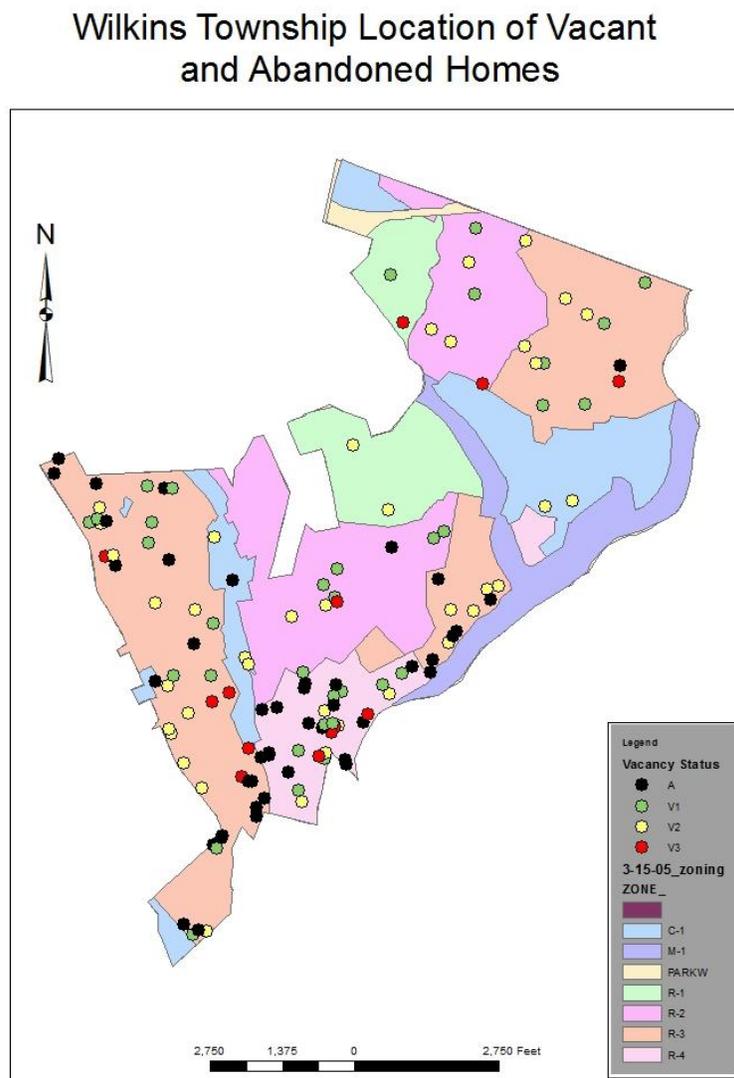
Total code violations of vacant and abandoned property segmented by condition, vacancy status and residential zone.

Part V: Mapping Analysis of Vacant and Abandoned Property

Mapping Vacancy and Abandonment

As defined earlier, the stages of vacancy are mapped in Figure 8. The color coding used aids in identifying patterns of abandonment from newer vacant properties. From the map, vacancy overall is clustered in the southern and northern areas of the township. Abandonment is primarily in the south.

Figure 8

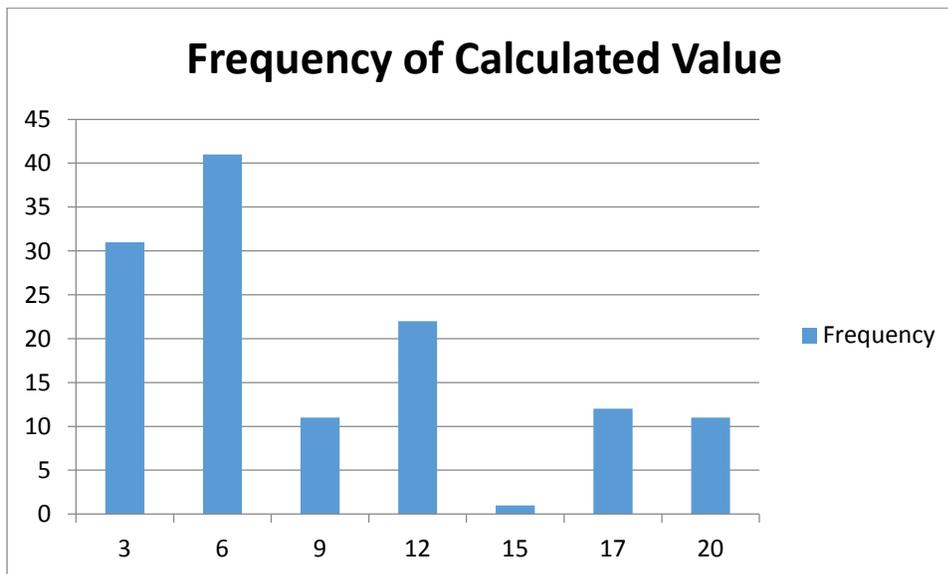


The properties within the Vacant and Abandoned list were segmented by their stage of vacancy and by their current condition rating. This yielded the matrix table displayed in Table 18. Values were assigned to vacancy stage for ease in tabulation (V1=1, V2=2, V3=3 and A=4). The calculated product of the property condition multiplied by the vacancy stage yielded a new value that aided in defining the overall status of blight in the township. These values are depicted in the histogram in Figure 9. It is important to note that the distribution skews towards better condition and lower vacancy status properties.

Table 18- Vacancy Condition Matrix

Condition	Vacancy Stage			
	V1	V2	V3	A
1	1	1		
2	18	18	1	
3	9	14	10	21
4	3	1	1	11
5	1			11

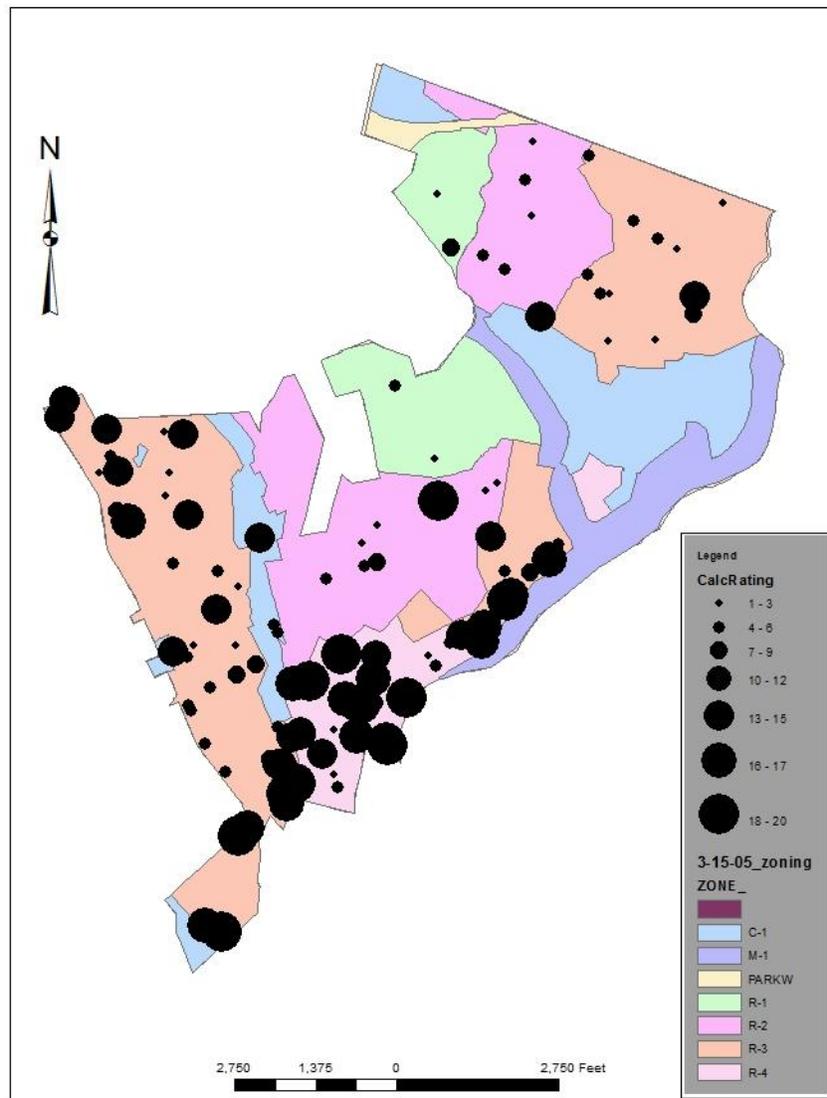
Figure 9- Frequency Distribution of Calculated Blight Condition



The calculated values were mapped in GIS using graduated symbols. This process gives a larger form to properties whose calculated value is higher and smaller form to lower values. The result clearly shows the correlation between abandonment and condition in the southeastern portion of the township.

Figure 10

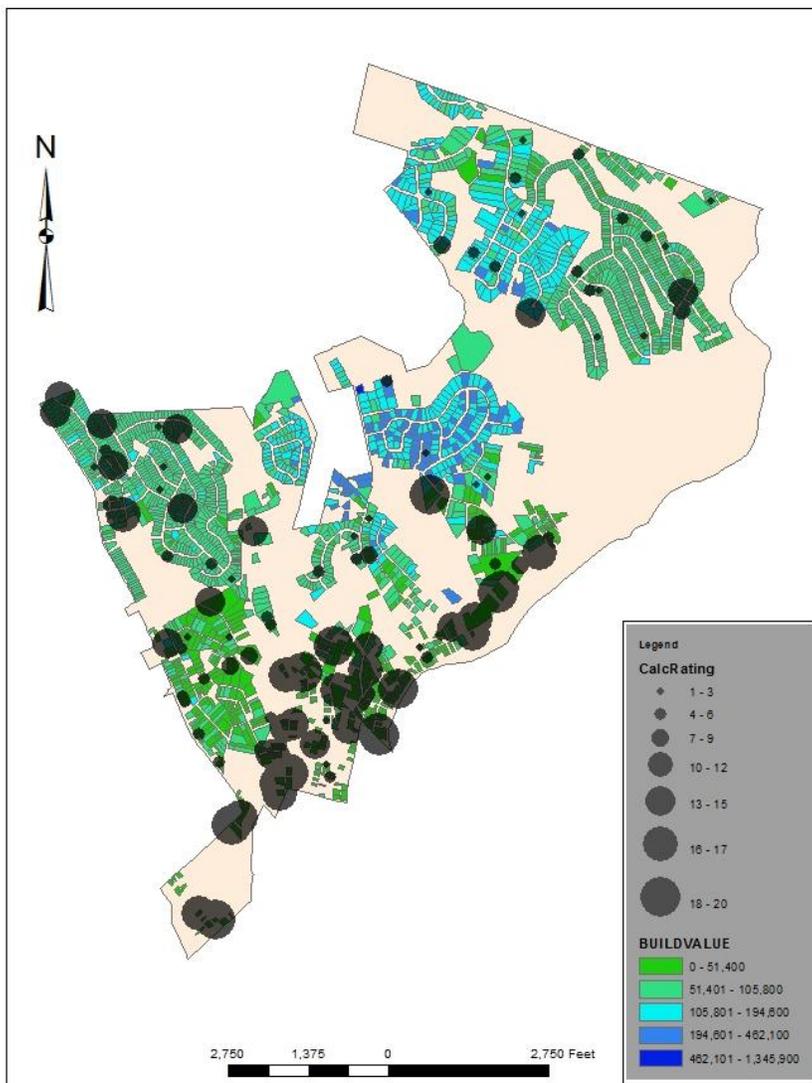
Wilkins Township Calculated Vacancy Rating



The calculated value was also plotted against the relative assessed building value for each single and two family home parcels within the township. This map shows the correlation vacancy and abandonment has with assessed building value. That map is displayed in Figure 10.

Figure 11

Wilkins Township Calculated Vacancy Rating and Residential Building Value

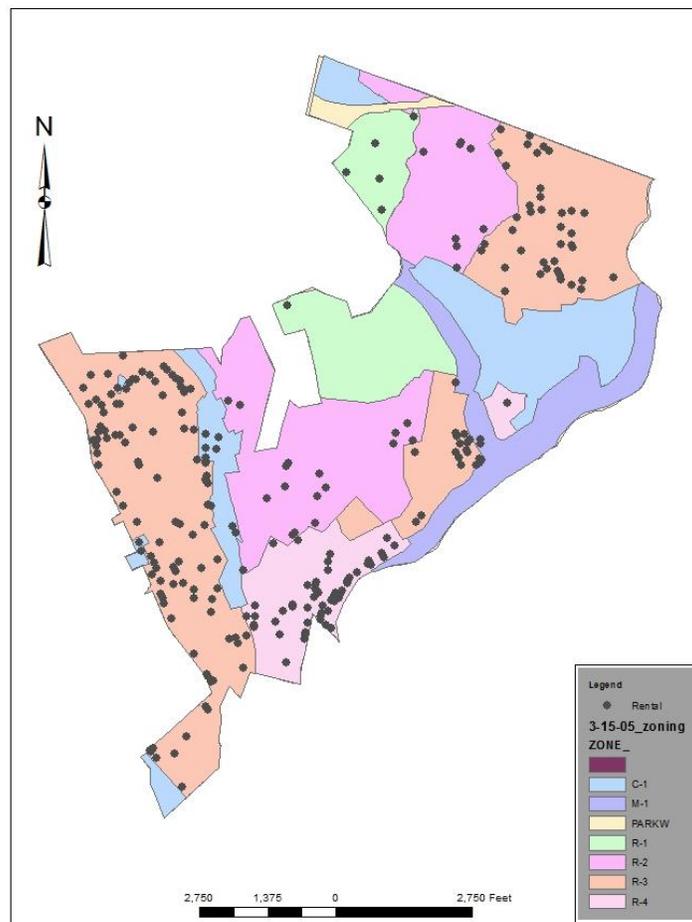


Mapping Rental Units

In and of itself, rental housing is not necessarily a problem. However, these houses generally represent a lower value building structure and transience of the residents in them. Houses are usually rented by the occupant for a shorter duration than a resident of a purchased home. These combined factors, greater resident turnover and lower overall value of the property, combined with the economic interest of the property owner, make them susceptible to blight. Additionally, the changeover in residents at these properties prevents the construction of local residential social cohesion that develops in neighborhoods with longer term residents. The map of rental single and two family homes is depicted in Figure 11.

Figure 12

**Wilkins Township Location of Rental Units
Single and Two Family Homes**



Code Violations

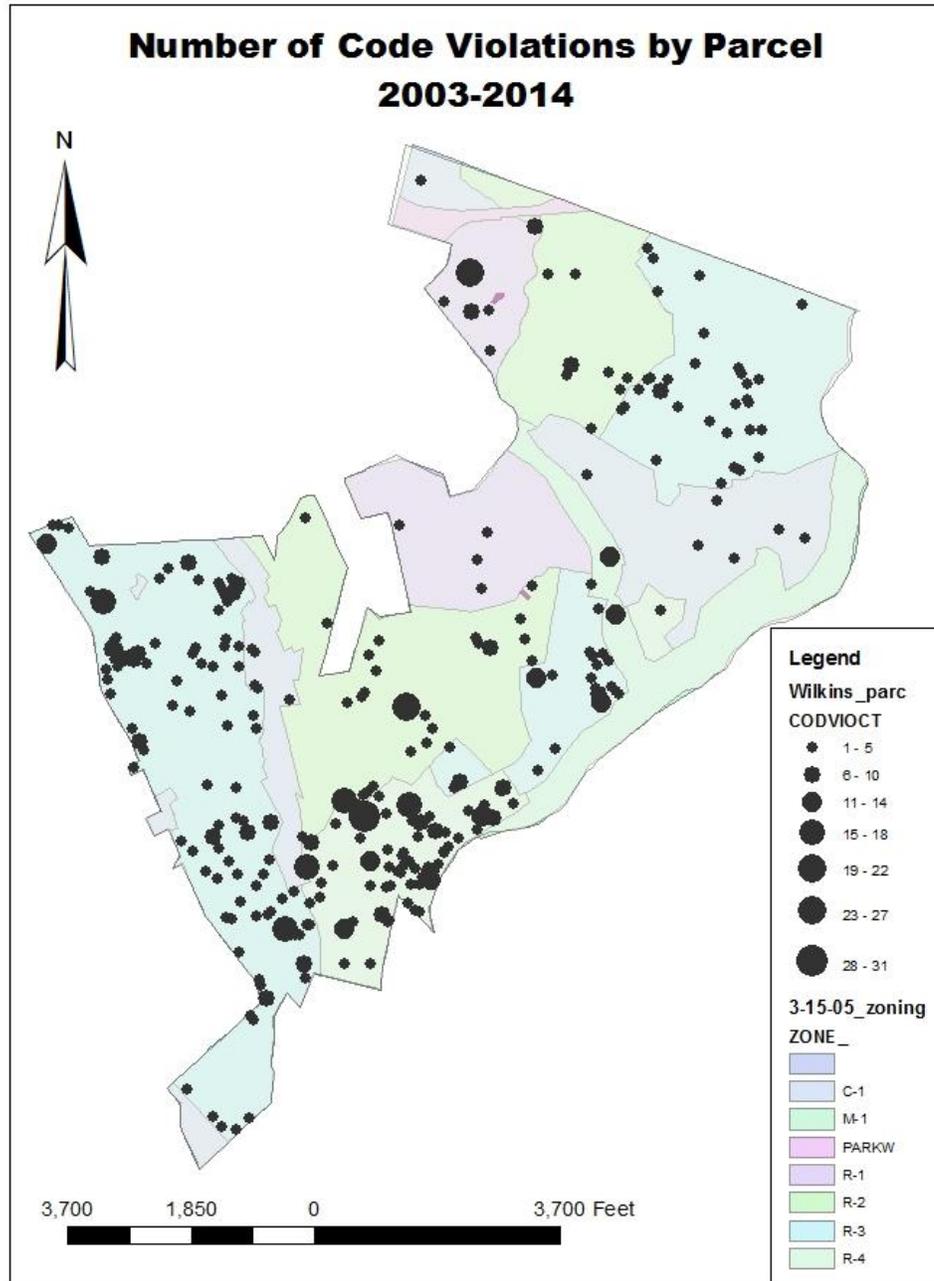
The International Property Maintenance Code (IPMC) is enforced by the township code enforcement officer. Data on code violations was collected for the period March 2003 through May 2014. Details collected for the entire time period included the date and Parcel ID. Total code violations recorded during this period is 906. Beginning in 2010, descriptions of the violation were also tracked in the township database. These 583 descriptions were grouped into categories and are represented in Table 19.

Table 19- Number of Code Violations by Category

Category	Count	Percent
Occupancy	252	43%
Register Rental Tenants	78	13%
Grass	67	11%
Vehicle	64	11%
Bldg Maintenance	51	9%
Rubbish	30	5%
Construction Code	14	2%
Inspection	13	2%
Failure to Obtain Permit	8	1%
Signage	5	1%
Abandoned property	1	0%
Total	583	

Of these total, 56% center on the Townships occupancy ordinances. New owner occupancy certification requirements went into effect in 2006 while rental tenant registration occupancy certification requirements went into effect in 2011. The next categories show the beginnings of abandonment and blight more clearly. High grass is an early indicator as is failing to maintain the building. Abandoned vehicles and rubbish on the property are also indicators of abandonment. While the number of violations is clearly higher than the current list of vacant and abandoned properties, this is due to repeat offenses and past offenses occurring on properties that are not currently vacant or abandoned. In order to visualize code enforcement problem areas, I produced the map of Wilkins Township in Figure 12. This map uses graduated symbols to represent the number of violations occurring on a particular parcel over the last 11 years.

Figure 13

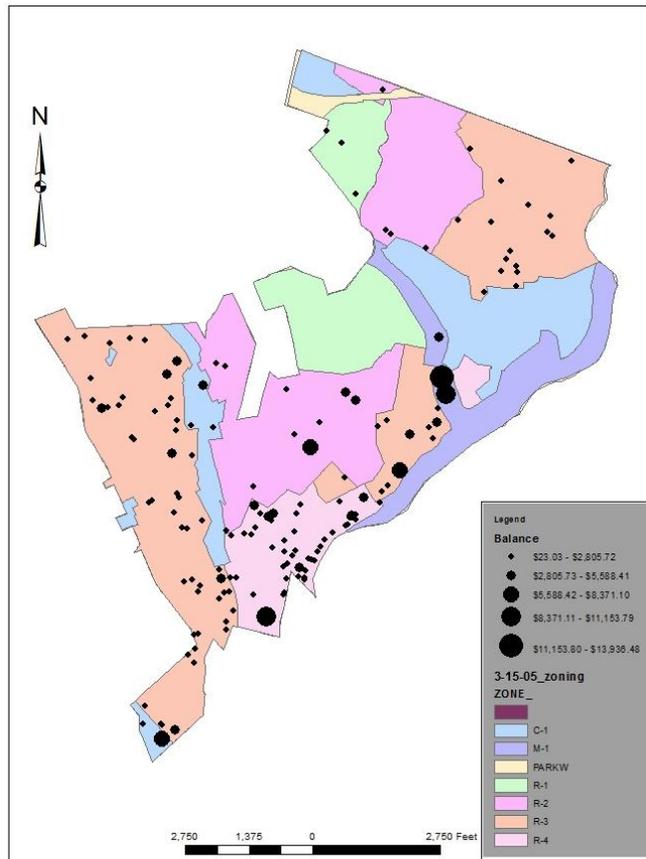


Mapping Tax Delinquency

As previously mentioned, properties that become tax delinquent are already or are in the process of becoming vacant or abandoned. This happens when the home owner starts to cut losses associated with holding the property. Using delinquent tax data from Jordan Tax Service, I was able to plot tax delinquency on a map of Wilkins Township. Figure 13 shows all the locations of and amounts of tax delinquency associated with Non-vacant lots. There are a large number of vacant land parcels within Allegheny County that have tax delinquency going back for many years and even decades in some cases. For this reason, and the fact that this research is focused on blight in general, the mapping of tax delinquency is restricted to parcels with built structures on them.

Figure 14

Wilkins Township Location And Amount of Tax Delinquency

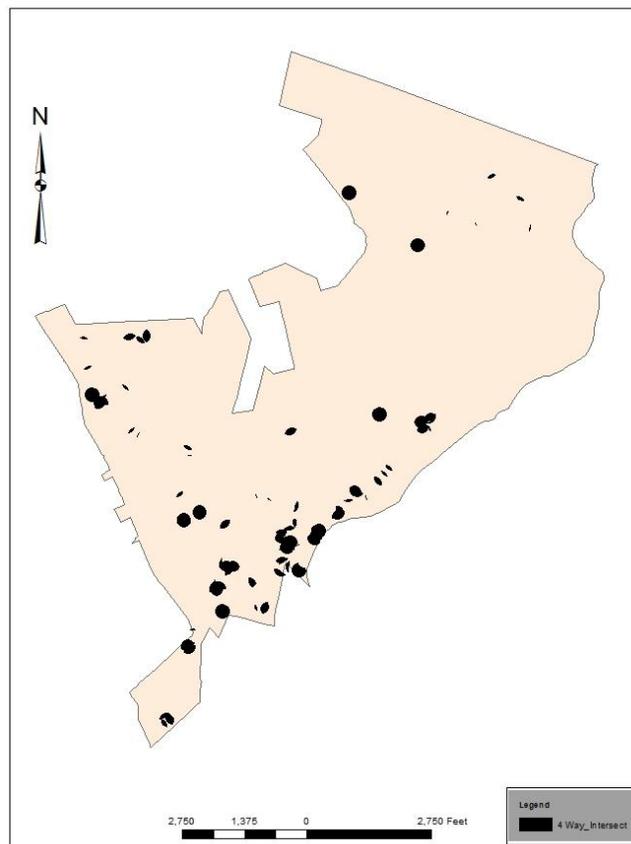


Mapping Clustering

What the preceding maps illustrate is the correlation between the features typically found in vacant and abandoned properties. These are tax delinquency, code violations, rental units, and eventual vacancy. These factors run together most of the time. The map in figure 14 is derived from applying a 150 foot buffer around each property that is on a list for the aforementioned classes. These individual buffers were then intersected with each other to show areas where all four classes exist. The result shows areas within the township that are within 150 feet of rental units, tax delinquency, code violations and vacant/ abandoned properties. While there are many cases where all four factors exist in one housing unit, this method shows the clustering of these factors in the southern areas of the township. In total, 2.27% of the township is within 150 feet of all four risk factors.

Figure 15

Areas within 150 Feet of Risk Properties



Property Turnover

One of the critical aspects of blighted properties is the continuous turnover of homes to new owners. Properties that sell often have owners that do not necessarily make connections within the community. This prevents the establishment of community cohesion within neighborhood groups and leads to even greater turnover. Although there could be many reasons why individual home owners sell their homes, spatial pockets that show higher concentrations of homes sold may indicate a problem. The maps on the following pages use data from county records to show sales of properties by date. Because we know that a large number of homes sold in the 1990s, we use that as a starting point to evaluate property churn. For efficiency, the cutoff date of June 30, 1993 is used. This provides 21 years of property sales information that can be divided into seven year increments. The maps that follow show properties that sold 3 times in the past 7, 14, and 21 years. Although information can be gleaned by these figures, it is possible that the reasons are part of the greater market and not exclusive to the eastern Allegheny region.

The past 21 years have witnessed many properties being sold within the township as can be seen in Figure 15. Although there appears to be a spatial clustering, this can be attributed to the clustering of existing properties in those areas. While the past 14 years (Figure 16) shows that clustering pattern again, it is not as uniform as that shown in the 21 year map. A pattern appears to be emerging. This pattern becomes clearer in the 7 year map shown in Figure 17. Houses in the R-3 and R-4 zones have more property churn than R-2 and R-1. However, this pattern, when overlaid with the At-Risk buffer from earlier shown in Figure 18, shows not only a definable pattern, but the relation to blighted property and property turnover.

Figure 16

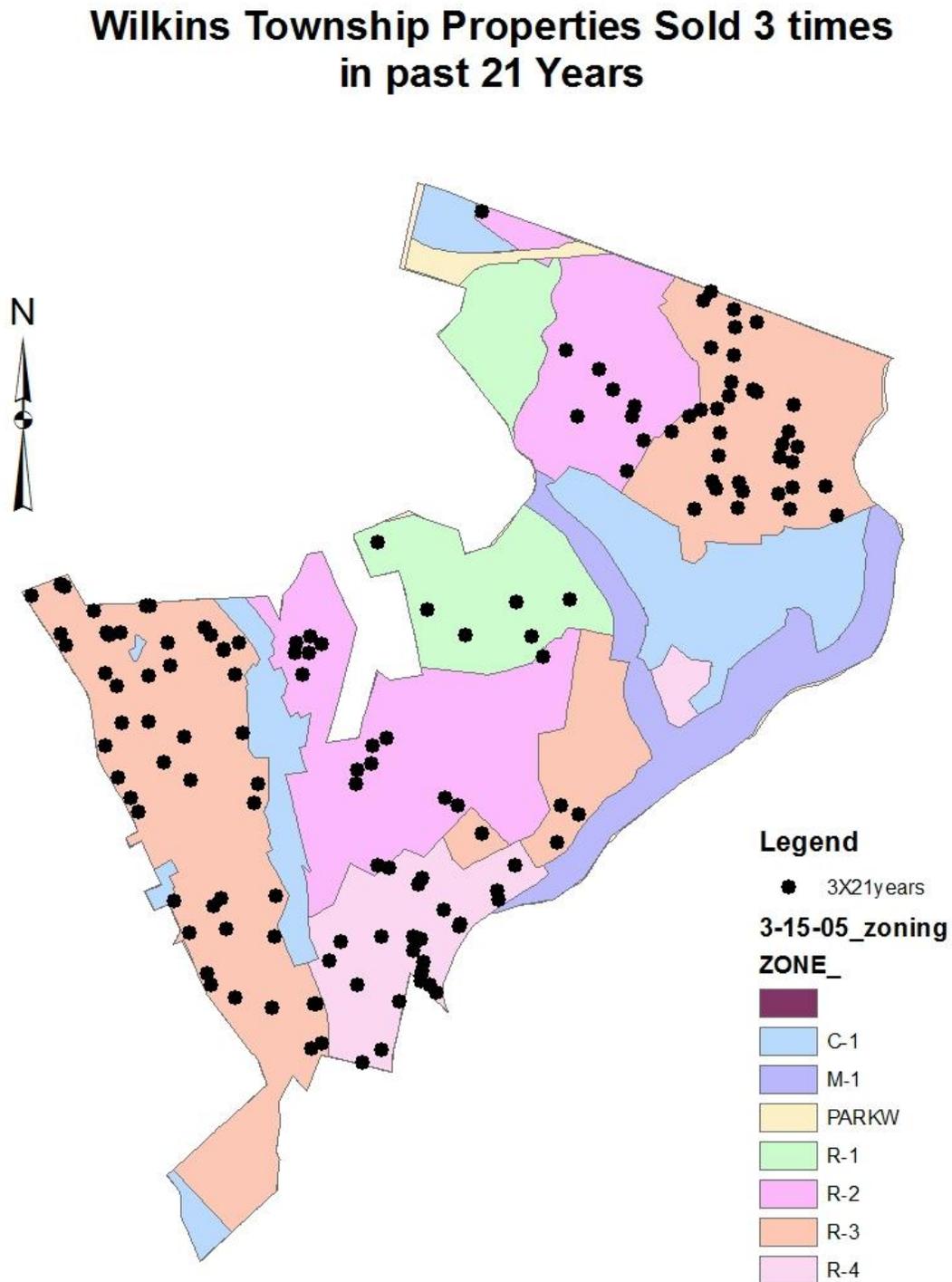


Figure 17

Wilkins Township Properties Sold 3 times in past 14 Years

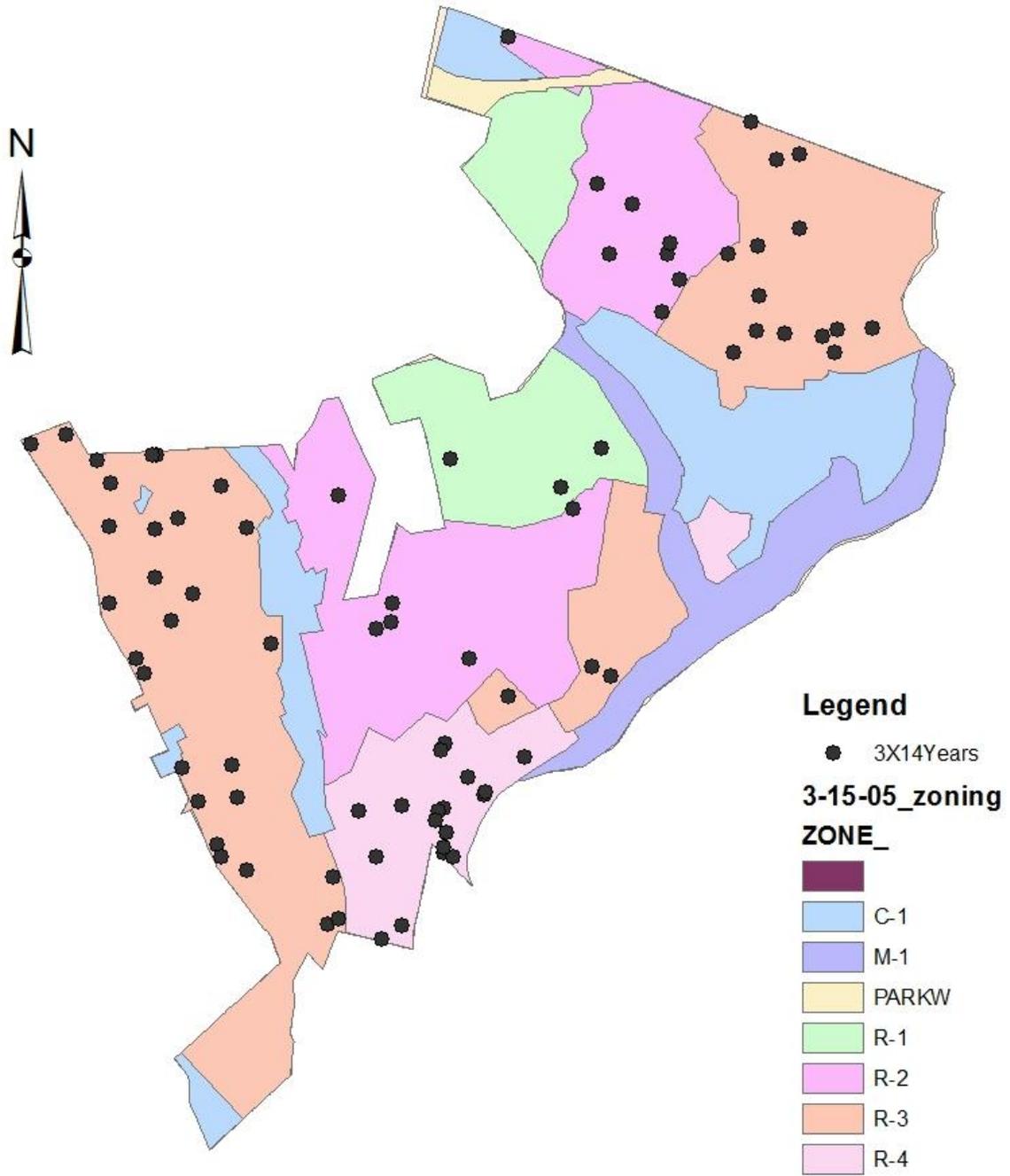


Figure 18

Wilkins Township Properties Sold 3 times in past 7 Years

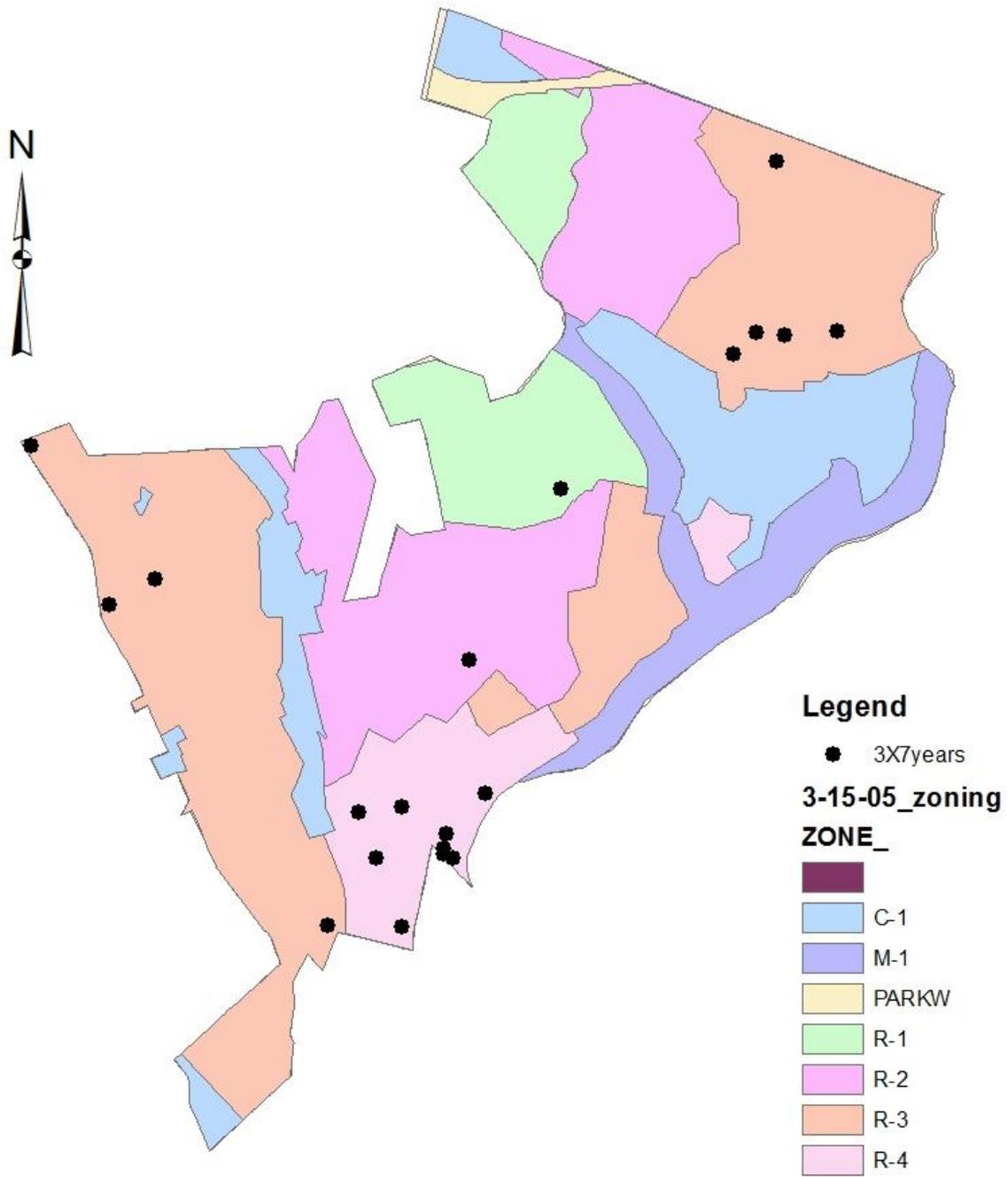
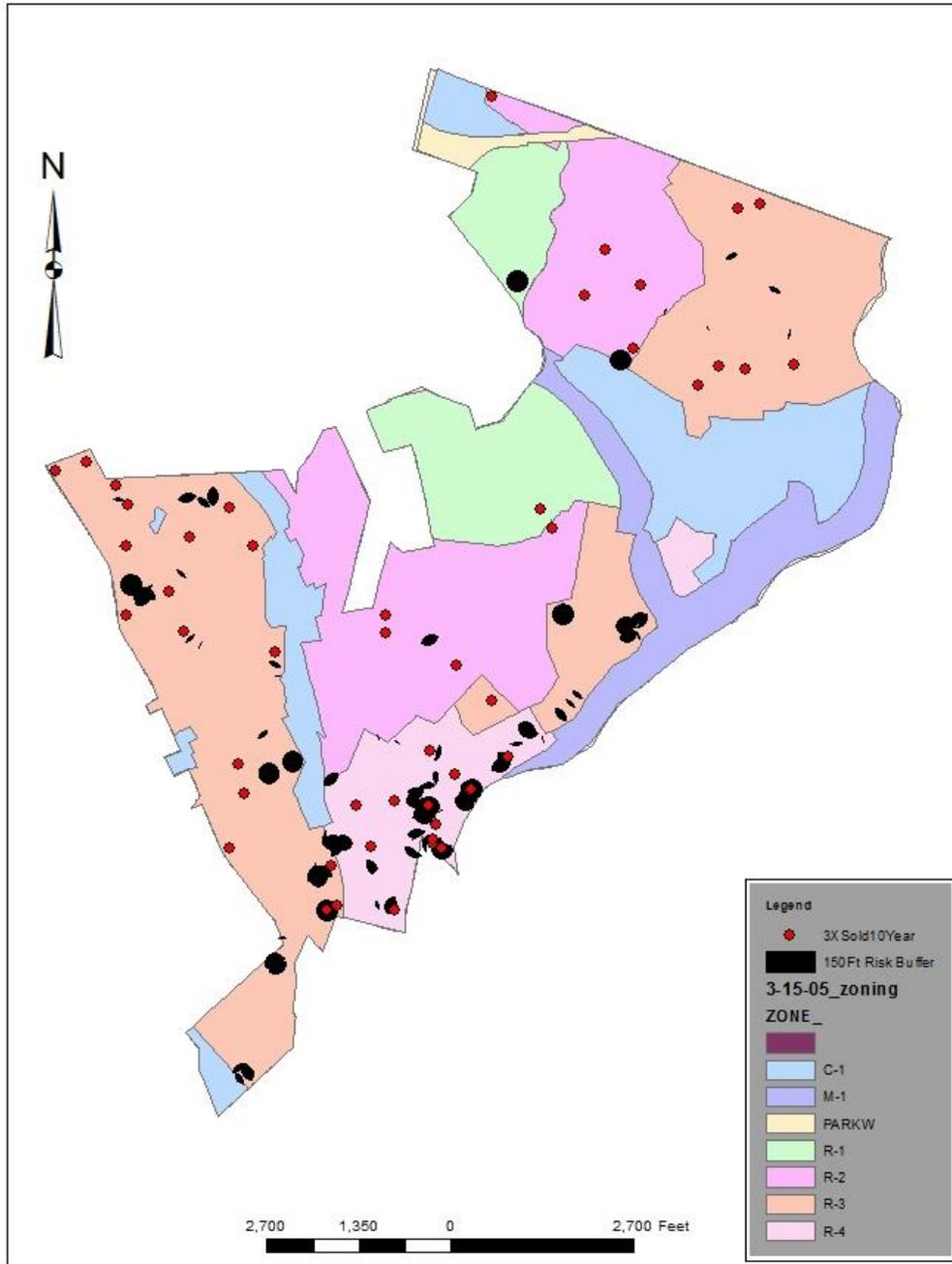


Figure 19

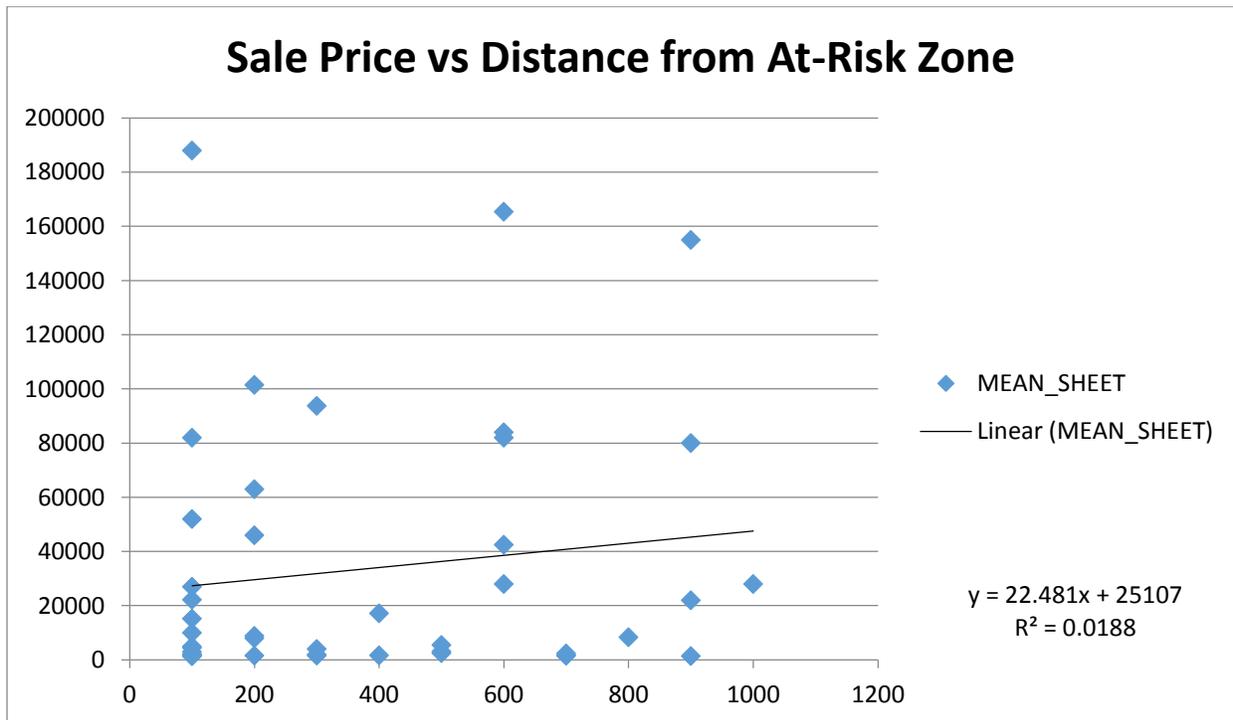
Houses Sold 3 Times in 10 Years Compared With 150 Foot Risk Buffer



This last map shows the correlation between increased property turnover and risk factors such as code violations, tax delinquency, etc. Properties that have sold 3 times in the past 10 years are displayed with the at risk buffer areas. The resulting map shows the correlation between property turnover and at risk areas. Additionally, the at-risk zones were buffered using a multi ring buffer at 200 foot intervals to 1000 feet. This allowed for an analysis of property sales figures to be correlated with proximity to at risk zones. The resulting table is displayed in Table 20.

This table shows that sale prices increase the further from an At Risk Zone the property is. However, this increase is moderate. Additionally, the R-Squared value is only .018 due to the large number of outliers present in the data. Most importantly, At-Risk zones are spatially auto correlated with lower valued property, generally.

Table 20- Correlation Between Sale Price and Distance from At-Risk Zone



Part VI- Summary

In setting out to inventory the vacant houses in Wilkins Township, it became clear that the causes of vacancy were often different from one house to the next. These differences would often steer the direction of the vacant home to either eventual sale or eventual demolition. It became important therefore to not only inventory the homes that were unoccupied, but to categorize them as well. From this process came the vacancy transition model and condition rating. Together, they helped to prioritize township efforts and define the extent of the vacancy issue within Wilkins.

In addition to understanding the path each individual house took in getting on the vacancy list, I also studied the demographic trends that created Wilkins as it exists today. It was hoped that knowledge in the process of development would illuminate causes of vacancy at a macro level. There does appear to be evidence that the rapid development of Wilkins in the 1950s created a cohort that has been transitioning out over the past 20 years. In addition to the age shift that is occurring, shifts in housing demand toward larger homes, changes in the amount of time an individual may work for a single employer and the lingering effects of the housing crash are also having an effect. Together the factors may discourage home ownership, particularly in communities with smaller housing. Younger age groups may be more apt to rent than previous generations. When they do buy a house, it is with a starter home mindset. These factors point to more rental properties and short-time owner-occupants across much of the township.

A short-time home buyer or a purchase for a rental property would likely prevent deep investment in the property. Instead, for the first time home buyer, focus would be on saving for the next house. For the rental property, investment in the house would be through the prism of maximizing a return. Both of these processes see housing as an economic interest instead of the traditional “home” interest. The emotional connection of owning your own home gets replaced by protecting the investment and maximizing profit on that investment.

When a neighborhood is seen as in decline, the owner may sell to cut losses or the rental owner cut costs associated with the property. Those costs show up as maintenance and taxes on the property. The lack of maintenance furthers the perception of decline and creates a downward spiral for the neighborhood. This is the process of “blight spread”.

With the knowledge of the underlying causes of blight spread, the next question is, “What can be done about it?” Current processes include the occupancy permit requirement and code enforcement. However, it is possible that the current needs are overwhelming the current resources available. In the summer of 2014, there has been a sharp uptick in the number of houses being placed on the market. This has been brought about by the rebound in the housing industry across the region and not indicative of housing in Wilkins in particular. The associated occupancy inspection process has created a larger workload for the code

enforcement officer. Additional rental housing units and more frequent property turnover will only increase this workload. Taking proactive steps in property blight prevention through code enforcement will become more difficult.

Regionally, and through the efforts of the Steel Valley, Turtle Creek and Twin Rivers Council of Governments (Tri-COGs), there are additional resources being brought to fruition. The most notable is the Landbank. This non-profit organization's purpose will be to acquire properties, either through sheriff sale, purchase, or donation, etc, bring them up to municipal codes, and then sell them to new owners. This is done in collaboration with and input from local communities. The Landbank is still in the development stage, but may be a great help to Wilkins in the future. Wilkins participation in the Landbank will hinge on the participation of Woodland Hill School District (WHSD) as well due to the Landbank's requirement of the participation of all three taxing bodies in any geographic area. The county has already signaled its support. If WHSD participates, and Wilkins chooses to as well, the township would appoint two members of the community to represent it on the Landbank's Municipal Advisory Committee. Each participating taxing body would likewise have two representatives. From all these representatives, two will be elected by the representatives to serve on the Board of Directors for the Landbank. The current plan is that the Landbank will be operational by Spring 2015. Although the Landbank has been greatly anticipated, its effect on Wilkins in the short term may not be as great as hoped.

In addition to the Landbank, there are other resources stemming from new Pennsylvania legislation that can be used in various cases. Each of these tools has been defined by the Housing Alliance of Pennsylvania in their publication "From Blight to Bright". Some of the tools, such as occupancy inspections, are already in place in Wilkins. Others, such as the Landbank, are still being developed regionally. The application of additional tools available at the local level will require additional resources within the township.

The additional resources needed should take the form of a local board established by the Board of Commissioners for the purpose of addressing vacancy and blight within Wilkins Township. This board could take a form similar to the one being established for the Landbank. It could include representatives from the various neighborhoods as well as professionals who bring particular expertise. This board would also include the two Township representatives appointed to the Landbank Municipal Advisory Committee. This board could make recommendations for individual properties in light of limited financial resources as well as propose ordinances for the commissioners to combat property blight. Although blight has been considered at a community level, addressing it may best be done one house at a time. This board could do that.

Some roles to be considered for the board would include communication with the community about blight issues. Within their local neighborhoods, board members would be able to educate their neighbors on the actions being taken by the Township to address the

blighted properties near them. Additionally, the board may be able to suggest new ordinances to combat the spread of blight. The board would also be able to develop processes for prioritizing abandoned house demolitions.

Although one of the major tools identified by the Housing Alliance of Pennsylvania was an increased focus on code enforcement, this doesn't always work in individual cases. Instead, the Board should develop a list of resources for low income home owners to address property issues and develop a means of communicating these resources to home owners before the property becomes abandoned. Likewise, increased property turnover and rental unit housing are limiting the availability of code enforcement for property maintenance issues.

Considerations of Spatial Autocorrelation

The redundancy visualized in risk factors illustrates issues with spatial autocorrelation. Each of these factors is not necessarily separate and distinct from each other. Vacant and abandoned homes tend to also be tax delinquent and have code violations registered against owner. These properties likewise tend to be low in value and represent the older homes in the community. This is a tendency of the data, but not an absolute rule. With that in mind, the neighborhood effects of dilapidated and vacant houses appear to be different depending on the nearby housing. A dilapidated house in a lower income neighborhood may represent more of a safety concern than one of property value lost. In an affluent neighborhood, the vacant house represents more of a concern for local property values. However, in the middle income neighborhoods, it would appear that a vacant dilapidated structure is a signal of community decline. In these neighborhoods, the spread of blight to neighboring houses is of greater risk. Issues of safety, neighborhood and property values need to be considered together in targeting enforcement and prioritizing house demolition.

The recommendations given here are limited and generalized with the exception of the establishment of a blight board. The board as structurally recommended would provide community represented feedback on specific measures. The research that I have conducted here would be provided to them as a starting point. It would be used to educate them on the current conditions and underlying causes of blight in Wilkins. Specific recommendations would be theirs.

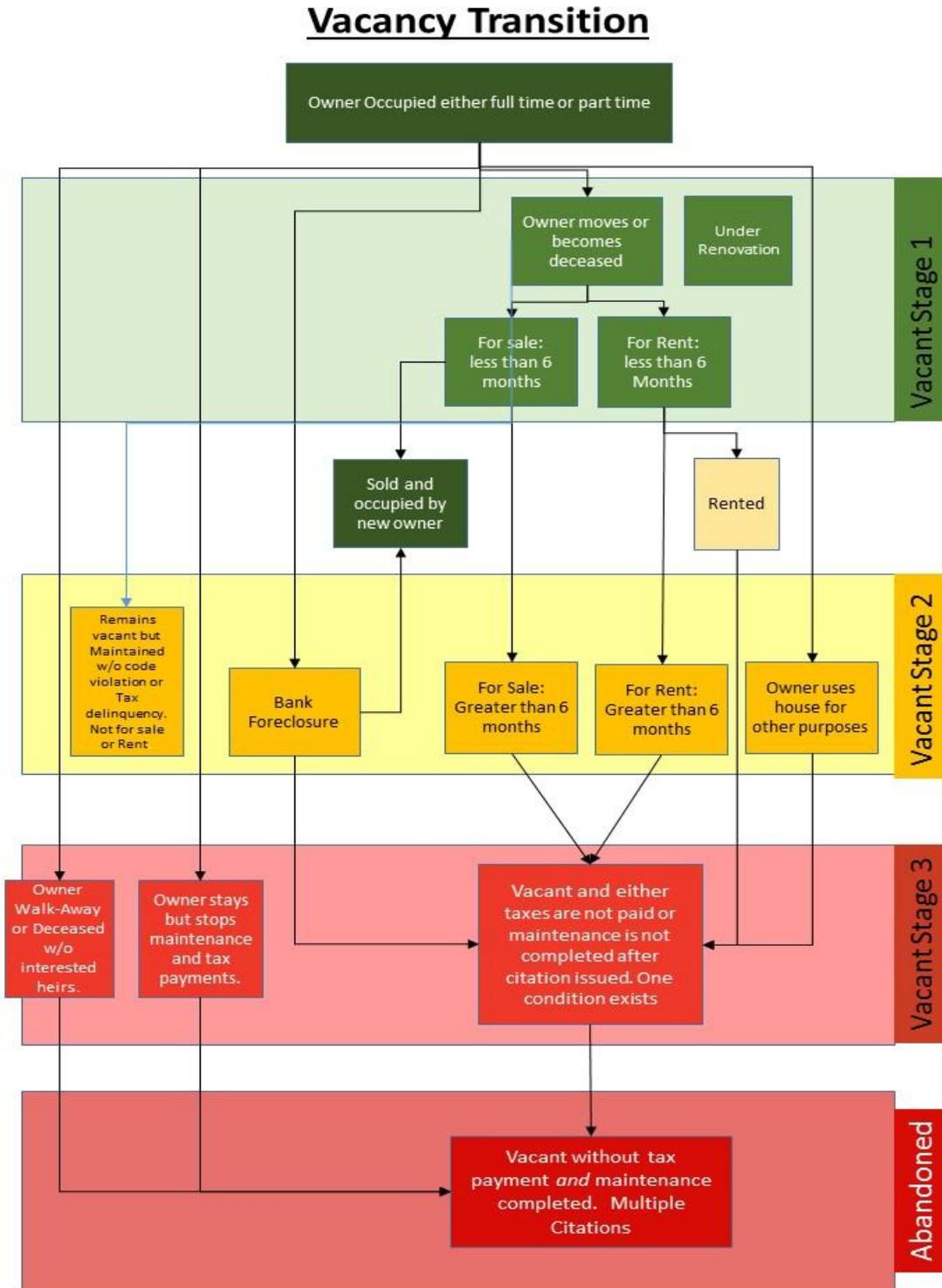
Final Thoughts

As a member of the Wilkins Township community, I have a vested interest in seeing the continued success of our township. I have been a resident for 18 years having moved here with my wife- she is a lifetime resident. It is the community in which I raised my son; he is a fifth generation resident of the township. It is where he played T-ball and I got to know the other parents in the community. My immediate neighborhood is one in which the residents have known each other for more than several decades. Holiday get-togethers and summer barbecues are the norm on my little street. So is giving a helping hand with each other house projects. However, it was not too long ago that I thought of moving.

In the process of completing this research, I was reminded of that time about six years ago when, sitting on my front porch, I suddenly realized that in the immediate vicinity there were four vacant houses- one dangerously dilapidated. Although I had great neighbors and deep history, the community seemed to be on the decline. Any improvements I made to my own property would be overshadowed by the blighted houses next door. These properties represented a disincentive toward investment and created an impulse to “get out while I could”. This project not only helped me understand the statistical and social processes of community change and property blight, but to understand my own perceptions at that time.

Today, all but one of those houses is occupied. That fourth house was bulldozed last winter. The new residents in the previously vacant houses are investing time and money into them. The neighborhood is looking brighter. It is not just the new residents making improvements either. Long time residents of my street are improving their landscaping and getting some interior work done as well. It's as if the investment disincentive has been removed and now the neighbors are taking care of those projects they had previously put off. I just may add that rear patio after all.

Appendix A: Vacancy Transition Model



Appendix B: Property Condition Evaluation Form

Address _____ Parcel _____

Owner _____

Date _____ Length of vacancy _____ Stories _____ Final rating _____

Exterior Property Areas:

- YES – NO = Generally in good condition, clean & sanitary
- YES – NO = Sidewalks & Driveways well maintained (even, no large gaps, no large height differences in slabs)
- YES – NO = Weeds & Grass cut
- YES – NO = Accessory structures (shed, detached garage in good repair)
- YES – NO = Property free from willful damage, graffiti etc.
- YES – NO = Swimming Pool well maintained, has proper barrier protection, gate closes & latches

Exterior of Structure:

- YES – NO = Generally well maintained
- YES – NO = Protective treatment is good (no peeling, cracking paint, no rust, no missing siding)
- YES – NO = Structural support members good (columns, posts, bearing walls are in good condition)
- YES – NO = Foundation walls are good (no holes, cracks, not moved out of alignment)
- YES – NO = Exterior walls in good condition (no holes, cracks, damage, or deterioration, not out of alignment)
- YES – NO = Roof in good condition, (no sagging, no missing shingles, no holes, no rot)
- YES – NO = Draining system good, includes gutters & downspouts in good condition
- YES – NO = Decks, porches, balconies, including roof over, in good condition (no holes, not leaning)
- YES – NO = Chimney in good condition (no missing bricks, not leaning)
- YES – NO = Stairway, handrail & guardrails in place & in good condition, well fastened
- YES – NO = Windows, including frames, in good condition, closed
- YES – NO = Glass in good condition, not broken? No holes.
- YES – No = Doors in good condition, (shut & secured, no splits or rotting material)
- YES – NO = No Unsafe conditions (Explain any defects)

Interior of structure:

- YES – NO = Generally in good condition, clean & sanitary
- YES – NO = Interior surfaces in good condition (no sagging, no holes, nothing fell off, no peeling paint/plaster).
- YES – NO = Structural support members in good condition (columns, walls, joists, rafters good)
- YES – NO = Stairs, floors, walking surfaces in good condition (no holes, no rotting)
- YES – NO = Interior doors in good condition (plumb, not split or cracked)
- YES – NO = Handrails & guardrails in good condition
- YES – NO = No Unsafe conditions (Explain any defects)

Comments: _____

(1) = Excellent (2) = Good (3) = Fair (4) = Deteriorated (5) = Poor/Hazardous/Unsafe

Appendix C: Census Data

Forest Hills

	Census Year				
	1970	1980	1990	2000	2010
under 5	570	373	474	319	300
5 to 9	896	428	378	305	301
10 to 14	1065	541	330	460	322
15 to 19	933	720	351	379	294
20 to 24	531	590	338	216	279
25 to 34	907	1211	1154	731	812
35 to 44	1211	825	1222	1126	761
45 to 54	1464	1115	690	1181	1047
55 to 59	586	633	386	373	628
60 to 64	461	616	525	301	488
65 to 74	635	734	927	735	540
75 and older	302	412	560	705	746
Total	9561	8198	7335	6831	6518

Wilkins

	Census Year				
	1970	1980	1990	2000	2010
under 5	664	395	412	328	264
5 to 9	849	477	347	318	264
10 to 14	981	608	370	330	278
15 to 19	861	678	388	294	262
20 to 24	509	647	388	275	319
25 to 34	1063	1327	1192	798	791
35 to 44	1263	915	1085	984	722
45 to 54	1286	1170	820	1068	964
55 to 59	457	695	459	378	565
60 to 64	324	555	576	360	460
65 to 74	311	438	993	918	658
75 and older	181	273	555	866	810
Total	8749	8178	7585	6917	6357