Comparing Neglect Rates in Historic Cities

Agricultural preservation as potential remedy

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The effects of city decentralization and counter-urbanization of the American landscape have resulted in simultaneous negative impacts on both historic structures and agricultural landscapes. Rapid conversion of farmland has helped to facilitate the relocation of both populations and commercial activities in communities across the United States, leaving inner cities replete with functionless, unused, and unmaintained heritage structures. As civic core areas have become shells of their former selves, many once-vital structures have been removed while others have been abandoned and left to decay—a process known as demolition by neglect. While historic preservation efforts have attempted to salvage these historic structures, these efforts have initially focused on the preservation of each buildings individually, based on its historical value and architectural merit, not taking into account its role in a constantly changing contextual landscape. Attempts to counteract this process and the negative effects of fringe developments through land preservation have also gained momentum since the 1970s. In response to growing concerns about the climbing rate of neglected historic structures, this research considers the factors that affect ways to measure and sustain the viability of these structures while also protecting their historical integrity. Using multiple case study comparisons based on indicators obtained from viability and historic integrity models, this study compares the rates of demolition by neglect of two urban historic colonial towns in Bucks County, PA to determine whether the preservation of peripheral agricultural lands has aided in decreasing the rate of this neglect. The results indicate that, based on results using a multi-case pattern matching method, as amount of preserved farmland increases, the rate of demolition by neglect decreases.

Keywords: demolition by neglect, agricultural preservation, historic preservation, urbanization

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Demolition by Neglect

Introduction

Rethinking spatial planning of historic preservation for more proactive forms of heritage management has been an iterative process since the nascence of historic preservation in the Unites States. The approach of American preservationists differs from European heritage management by remaining primarily locally regulated, while European cities, especially in the United Kingdom and the Netherlands, practice an area-based approach when managing the historic built environment (Doratli, 2005). This paper seeks to understand if regional based approaches to regulating heritage structures in the United States directly affect demolition by neglect (DBN) or if they are simply indirect influences. Theories which posit that growth management and historic preservation are intrinsically linked suggest that the connections between the two are not fully understood and that state and local authorities alone do not sufficiently meet the needs of conservation of the built heritage (Listokin, 1997; Pickerill and Pickard, 2007). This research expands on these theories by comparing amounts of neglect in historic boroughs with differing amount of peripheral preserves farmlands to expose a correlation between an increase in agricultural preserves and a decrease in DBN. The paper compares the historic origin and heritage fabric of two historic urban boroughs in Bucks County, Pennsylvania, a leading region for sprawling development, historic preservation, and agricultural preservation in the United States. The county utilized peripheral agricultural management practices in an effort to limit the impact of sprawl on its historic fabric.

Demolition by Neglect

Too often, historic preservation is presented as a matter of technocratic planning and small scale architectural details, but it involves much wider considerations. Mediation of the historic built environment considers not only the structure itself, but also its. The impact that American centrifugal development has had on inner-city, historic structures—while both vitality (people) and viability (function) have fled to the peripheries of American cities—has been dire, leaving many historic structures to rot as vacant, unused shells of their former selves. As cities expand across countless parcels of the American landscape, they leave in their wakes—especially in historic centers—vacant lands, derelict lands, and building stock no longer suitable for their original purposes (Trieb, 2006). This expansion often accelerates the removal of heritage structures that have deteriorated due to a lack of use, a process known as demolition by neglect (DBN).

DBN can be defined as the destruction of a heritage landscape or area through abandonment or lack of maintenance (Leatherbarrow & Mostafavi, 1993). It has become an epidemic within historic areas and a challenging issue for state and local authorities. This process is a recognized heritage planning issue globally, and as of 2007, the number of demolition applications being submitted was on the rise (Wallace & Franchetti, 2007). The term DBN gained popularity in the early to mid-1990s and was coined to raise awareness of the loss of historic structures. Unfortunately, little to no research was conducted on the topic, and until recently, the term existed largely as an afterthought in preservation while the phenomenon continues to plague historic structures. The recent economic recession only exacerbated this condition as adaptive reuse projects were stopped mid-development or preservation programs grappled with significant reductions in funding. In 1994, the United States Preservation Commission Identification Project Report listed neglect as the most difficult situation

for local commissions to solve, with only 25 percent of respondents reporting they had the authority to protect designated structures from DBN (Goldwyn, 1995). Contemporarily, historic preservationists attempt to counteract DBN by placing restrictions on individual structures that disallow their removal. This strategy can sometimes only delay a structure's inevitable demise (Jigysau, 2002).

DBN can contradict the traditional philosophy of historic preservation in America (Cook, 1996), the salient reason that oftentimes not enough is done to prevent this condition. For example, preservation policy places strong value on factors considered intangible, such as architectural merit and societal importance. Preservation philosophy demands that property owners recognize and accept this value. Value depends on interpretation, and the value preservationists place on a structure is not always the same as the value a property owner may hold on that structure. Simply put, economic value can more easily be measure based supply and demand factors for a specific building, while aesthetic value is often much more difficult to quantify. Most American historic structures are regulated on a unit-by-unit basis—even those within historic districts—and are assessed primarily according to their ability to look as they did at a particular historic point. According to Jigysau (2002), historic structures have two fundamental dimensions: the first deals with aspects of historic integrity, but the second deals with their relationships to the living environment in which they exist. It is important to examine both the historic structure itself and its dynamic regional context to understand the process of DBN fully. Listokin, et al. (1998) argue that historic preservation should function as both a community development and large-scale revitalization tool. Although historic preservation at this scale can lead to gentrification and displacement of low-income households (Smith, 1999), the idea of examining the context of preserved built environments is an initial step in a positive direction regarding prevention of neglect.

Research Design and Methods

Research Strategy

Using a historical-interpretive (Groat & Wang 2002) sequential, mixed-method (Creswell, 2009) approach, this exploratory research (Singleton & Straits, 1999) examines the correlation of peripheral agricultural preservation and DBN in historic colonial boroughs. The research design consists of a three-tiered process combining multiple types of data to understand the information by means of triangulation (Tashakkori & Teddlie, 1998). The research assesses differences in the historic growth of Doylestown, PA and Bristol, PA, surveys the conditions of structures within each borough, then compares the results across cases. This cross-case comparison correlates towns with differing levels of peripheral preserved farmlands and assesses the ability of these towns to retain their historic structures through the prevention of DBN. The independent variable is the amount of preserved agricultural land surrounding each study site. Peripheral farmland preservation is a joint effort by non-governmental organizations and local governments to set aside and protect examples of a region's farmland for the use, education, and enjoyment of future generations. Often a part of regional planning and national historic preservation, these farmlands are preserved on the periphery of urbanizing areas in an effort to contain and sustain civic growth. The dependent variable is the rate of DBN within each urban colonial town.

Data Collection and Sampling

Jigysau (2002) identifies both historic integrity and viability as dimensions that should be examined with regard to DBN. There are, however, no agreed-upon variables to use in studying this process. To alleviate this quandary, Newman's model (pending) of measuring neglect was utilized which combines existing data gathering models of historic integrity (Berg, 1998; Birnbaum, 1994, 2007; Birnbaum & Hughes, 2005, Dick, 2000; Carr, 2005) and those that use structural viability (Ravenscroft, 2000; New Castle City Council, 2005; Cooke, 2005) into five explanatory variables. The explanatory variables utilized in the model are time frame of construction (the time frame in which the structure was erected), architectural modification (whether or not the structure has been altered), land use change (the consistency of building function), physical condition (the quality of the condition or appearance of each structure), and assessed value (the fair market value of each structure sampled). Each variable is divided into three categories which are used as measures (See Figure 1).

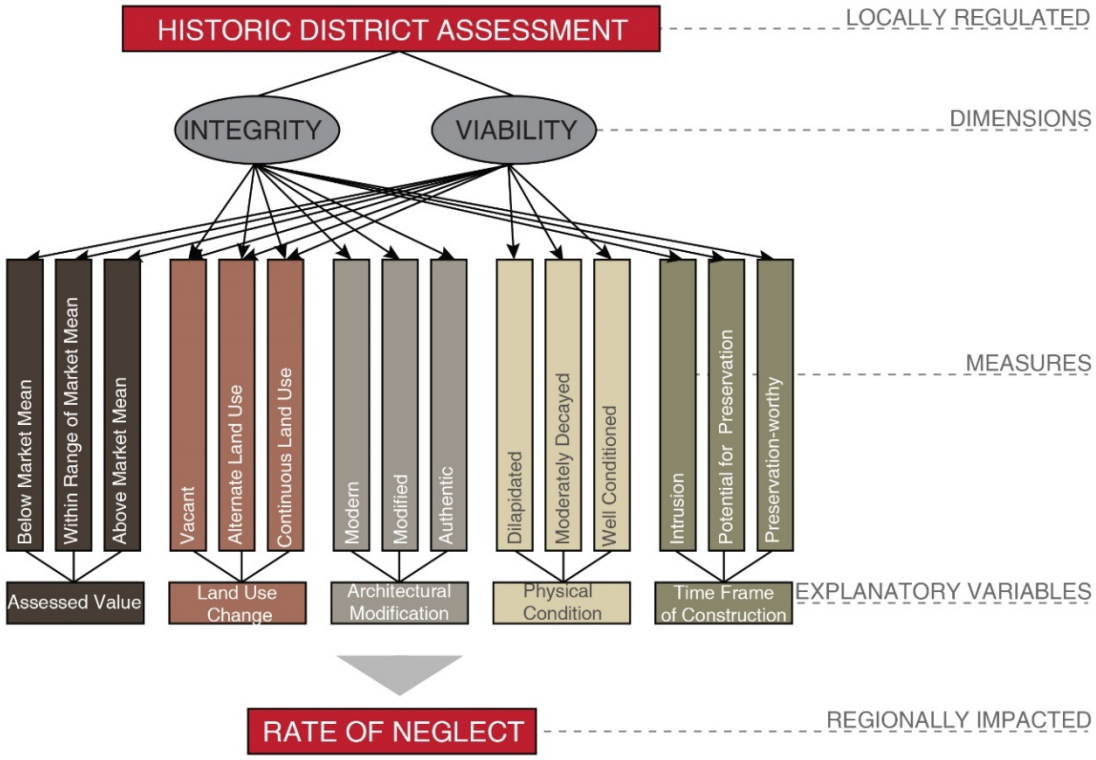

Figure 1: Newman's Conceptual Model for Measuring Neglect.

Figure-ground morphology assessments (based on information obtained from the Sanborn Fire Insurance maps and aerial photographs) were overlaid to identify the areas likely to have high concentrations of historic structures. The areas where the maps from all years overlap were outlined and served as the sampling frames, a method known as non-independent spatial sampling (Montello & Sutton, 2006) based on a clustered probability sampling approach is used. Bias is reduced by using

large sample areas of 8 to 12 blocks and a type of clustered sampling known as multi-stage area sampling (Montello & Sutton, 2006). Each cluster is further divided into sub-clusters which are randomly selected, and the units within these clusters are sampled. Existing blocks within the towns serve as features that break the continuous space into groups. Point locations (buildings) were then sampled within these areas.

To carry out the data analysis phase, Yin's (2009) method of multi-case pattern matching is used. This method compares an empirically based interpreted pattern to an existing or predicted one that is congruent with the specified hypothesis. Because no prior studies provide a suitable pattern for comparison, the results must be compared with predicted patterns. This analytic pattern matching strategy employed is called "non-equivalent dependent variables" (Yin, 2009). This is used because the variables used come from other research designs. The term "non-equivalent" means that predictions rise or fall due to the numerical amount of components present or absent in the dependent variable.

Study Area

The specific unit of analysis is each individual historic colonial borough (Doylestown, PA and Bristol, PA). The units of analysis are both located in Bucks County, Pennsylvania. Bucks County Pennsylvania is replete with heritage landscapes, and the state has adopted the practice of agricultural preservation to aid in conserving the historic distinctiveness that characterizes its townships and boroughs. Agriculture is both the leading industry and a deeply held symbol of heritage in the region (Bourke, Jacob, & Luloff, 1996). These two characteristics have made Pennsylvania the nation's leader in agricultural preservation in terms of amount of monetary resources devoted to farmland preservation. Bucks County, PA is under deep suburban developmental pressures. Once a destination in its own right, the county is currently absorbing the exurban developments of both New York City and Philadelphia. Located 45 minutes north of Philadelphia and 1.5 hours from New York City, rural Bucks County is absorbing much of the exurban development of the neighboring two metropolises. The county lost 70% of its farmland between 1950 and 1997, a drop in acreage from over 260,000 to less than 84,000 (U.S. Department of Agriculture 2005). The region is also ranked number two on a list of the nation's 20 most threatened agricultural lands (Olson & Lyson, 1999).

Although many other causal mechanisms contribute to DBN (such as local leadership, ownership attitude, neglect by policy, land use management strategies, political leadership, internal economic needs, grassroots support, economic condition of the towns, external funding, and reinvention of civic image, etc…) this research is searching for a correlation, not causation. Thus, controlling for these other variables, to the extent possible, is done through site selection. Studying units of analysis within the same political boundary (Bucks County) with similar sizes, populations, and ages helps to control for other intervening variables (See Table 1). Each unit of analysis practices similar methods of agricultural preservation. Doylestown, PA and Bristol, PA, the two sites under investigation, are both located within this environmentally threatened county. To calculate the amount of preserved farmland surrounding each borough, central place theory (King 1984) was used to define a hinterland boundary of the area which highly impacts towns of this particular size and population. Each borough is listed on the National Register of Historic Places (National Trust for Historic Preservation, 2008). Moreover, each town practices similar strategies of agricultural preservation,

including purchase of development rights. Doylestown also utilizes agricultural security areas, a form of agricultural zoning.

Research Question/Hypothesis

This paper seeks to understand if regional based approaches to regulating heritage structures in the United States directly affect demolition by neglect or if they simply have an indirect influence. In essence, has the preservation of peripheral agricultural lands directly aided in decreasing the rate of demolition by neglect? If this is true, primary causes of DBN such as function relocation and deferred maintenance should also decrease as amount of agricultural preservation increases. This paper hypothesizes that preserving peripheral agricultural lands as a land use management scheme aids in decreasing the rate of DBN of historic structures within town centers and that as amount of peripheral preserved farmland increases, there is a lower frequency of neglect in historic structures.

Scales of Analysis

The comparison contains three levels of analysis: a micro scale evaluating each case according to the measures, a macro analysis evaluating each case according to the explanatory variables, and a cross-case analysis that compares overall neglect rates of each case. These three scales helped to identify the correlation as well as identify specific variables which had the highest impact on neglect. The micro analysis assessed each case by measures using a nominal scale (1's and 0's) and the macro analysis of the explanatory variables utilized an ordinal scale (1's, 2's, and 3's). Each measure was placed on a gradient where a score of "1" indicated high neglect, "2" indicated moderate neglect, and "3" indicated low neglect. Each case was then tested against predicted patterns for each scale of measurement using totals scores as a means of assessment. Higher scores indicated lower neglect in occurrence. The rate of neglect was calculated by taking the ratio of the total score from the macro analysis (actual condition) divided by the total of all points possible (assuming no neglect in occurrence). The result from this calculation was subtracted from 100% to determine an overall neglect rate.

Doylestown and Bristol: Historical Comparisons

Doylestown

Before it obtained the title of Doylestown, the small urban borough had only a few small log homes scattered amidst heavily forested lands. The town's origin dates back to the mid1700's (Duess, 2007). Doylestown began as a tavern strategically located at the intersection of two streets connecting Philadelphia to the northern cities of Pennsylvania, allowing the hamlet to blossom into a popular urban townscape. William Doyle, the founder, moved from Philadelphia to the Chippewa Township in 1727 and purchased 50 acres of property to give birth to the borough (McNealy, 2001). As Bucks County's political boundaries were reshaped into the clumsy trapezoidal shape it holds today, and the county seat was moved from Newtown to the more centrally located Doylestown in 1813, although the borough was not officially incorporated until 1838. By 1931, the advent of the automobile and improved highway service had put the last trolley line out of business and early compact streetcar suburbs began their transformation into automobile suburbs. As in many small towns, the postwar decades also brought a new competitor to the downtown business district: the

shopping mall. By the 1960s, the toll could be seen in Doylestown by the numerous vacant buildings and dilapidated storefronts in the center of town.

The Bucks County Redevelopment Authority responded with a federal urban renewal scheme that called for the demolition of 27 historic buildings. The local business community objected to such wholesale clearance and responded with its own plan, called Operation '64—The Doylestown Plan for Self-Help Downtown Renewal. This private initiative was successful in saving Doylestown's old buildings and historic character, while improving business at the same time. In an effort to protect and enhance one the historic character of the community, the borough established a Historic and Architectural Review Board (HARB) in 1972.

By the 1980s, the borough began to see an increase in the demand for the convenient in-town living that Doylestown offers. This resurgence spurred a new market for both infill housing and commercial space that continues today. One result has been increased investment by way of infill, rehabilitation, and adaptive reuse along some of the borough's thoroughfares. By the end of the 1980s, the downtown business district was again showing the impact of massive new competition from the latest wave of suburban shopping centers, as well as the recession that hit hardest in the northeastern states. In response, Doylestown borough's city council established a volunteer group to formulate plans for the downtown area made up of civic-minded representatives from business organizations, government, and the residential communities. This effort resulted in streetscape improvements, including cast-iron street lamps and brick pavers, facade improvements and other beautification efforts, and the establishment of a Main Street Manager Program.

After the existing Bucks County Courthouse was built in Doylestown in 1960, residential expansion within the town began to increase. Much has changed in the last five decades as the county population has mushroomed. Currently, the town's economy is largely tourism-based, creating a need to preserve its historic structures. The downtown has rebuilt itself largely by turning to an out-of-town audience based on heritage tourism. As the Philadelphia metropolitan area expanded from southern into central Bucks County, the fields and farms of the communities around Doylestown quickly began to sprout housing developments. This development brought thousands of people to the area, and the town was well positioned to capitalize on its proximity to the growing metropolitan population.

Since the 1990s, the population within the borough has decreased by around 500 persons, or 5.5% (U.S Census, 2009). The large increase in population in the early 1990s has been reversed, and the current population is about the same as in the 1970s, when agricultural preservation programs began in the county. This decline in population may have caused a dramatic rise in the rate of demolition by neglect of historical structures within the town. However, the current median income level of Doylestown is $58,689, about $8,000 higher than the state itself (U.S. Census Bureau, 2009). The high amount of income may help to counteract this population loss as current inhabitants of existing structures have more money to spend on maintenance and upkeep. Since 1970 the borough has added more than 1,000 housing units. However, its population has remained fairly stable due to a decrease in the number of persons per household. This demographic shift parallels national trends toward smaller household size due to an aging population, more single-person households, later age of marriage, higher rates of divorce, and other factors.

Bristol

More than three centuries have passed since the first European settlers occupied the 262 acres along the Delaware River now known as Bristol borough. Many original homes are still standing as part of the three centuries of architecture reflected in its residences and public building. Founded in 1681, Bristol is Bucks County's largest borough and oldest town. From its earliest days, Bristol was a center of milling and industry. First settled as Buckingham in 1681, Bristol was used as a port and dock, at that time the county's only seaport. It was an aristocratic town, and eventually became one of the first spas in America. It was actually named by William Penn after the name of his English birthplace (McNealy, 2001). Never actually settling on one primary source of revenue, the town utilized the Delaware River to create multiple venues for fiscal income. Due to its location along the Delaware River, the town had ready access to water with which to pamper elite settlers and the high-income population. Although shipbuilding was its first primary industry, the building of the Delaware Canal and the Pennsylvania Railroad, the borough eventually became the home of many factories. A street was built to connect the river town to Philadelphia, and Bristol became the first county seat in 1700; by 1720 the town was officially incorporated. The mill town would eventually lose its central location as the county's boundaries expanded, and the county seat was moved to Newtown and eventually to Doylestown.

Currently, Bristol is a riverfront community with significant tourism but a greater dependence on manufacturing. Bristol's population has fallen dramatically and continuously since the 1970s. In fact, since 1990, the borough has seen a decrease in population of 4.8%, or nearly 500 persons (U.S. Census, 2009). Comparatively speaking, Doylestown has lost more of its inner-city population, but both boroughs have had significant losses.

Historic Preservation Policies and Programs

Pennsylvania's local government structure gives townships and boroughs (local governments), not counties, the authority to regulate historic preservation ordinances and policies. It is important to compare the different strategies employed by each local government. The state has enabled townships to zone for historic districts under Pennsylvania Act 167. Using this state law, townships and boroughs can designate historic districts, appoint an advisory Historical Architectural Review Board (HARB), and then regulate, within the limits of local law, changes to the exteriors of buildings.

As noted, the entire cities of Doylestown and Bristol are both listed on the National Register of Historic Places, which gives their locally zoned historic districts national and state benefits. Although being listed on the National Register places no restrictions on private property, state recognition of historic districts allows for a larger scope of protection of historic structures. A listing on the National Register of Historic Places constitutes federal governmental acknowledgment of a historic district which can also make the location eligible for federal financial incentives and qualifies a structure or geographic location for similar state-level benefits, such as qualification for tax incentives. In addition, the property can gain a greater level of protection under state law (National Register of Historic Places, 2010).

Local historic districts usually enjoy the greatest level of protection under law from any threats that may compromise their historic integrity. This is because many land-use decisions are made at the

local level. The county government provides advice to local governments, but does not have legal authority. Policies employed by both Doylestown and Bristol's local governments include historic district zoning, tax incentives for preserving a historic structure, design guidelines for new developments within the historic district, and transfer of development rights for the owners of preserved structures. These policies are implemented to ensure that new construction is compatible with the character of a historic district and that existing historic structures are preserved, rehabilitated, renovated, adaptively reused, or restored. It has been proven that using multiple policies simultaneously aids in increasing historic integrity (Collins, Waters, & Dotson, 1991). Doylestown and Bristol appear to be utilizing similar combinations of existing internal strategies in place to retain historic character.

In addition to these polices, each case under investigation also utilizes the Main Street Program as a framework to retain the town's traditional layout and historic character. Main Street is a comprehensive, community-based revitalization approach, developed by the National Trust for Historic Preservation in 1980. Pennsylvania's Main Street program is one piece of the overall community and economic development plan of the state's Department of Community and Economic Development (DCED). The five-year program encourages revitalization by leveraging private dollars and requiring ongoing, local support, as evidenced by the establishment of an organization and documented financial commitment from the community. The program is based on a four-tiered process: design, promotion, organization, and economic restructuring (National Trust for Historic Preservation, 2008).

There are three key differences which the initial evaluation has surfaced (See Table 1). First, and seemingly the most important, is that Doylestown utilizes Heritage tourism as its primary means of revenue. While Bristol generates some level of income from heritage tourism, it does not generate their highest fiscal contribution. This indicates that Doylestown probably puts more money into maintaining their existing historic structure than the other two localities to help increase its primary source of revenue. Secondly, Bristol has a smaller median income. This indicates that the owner of the structures residing within Doylestown should have more money to spend on keeping their structures maintained than in Bristol. However, Doylestown, housing totals have actually decreased since 1970. This suggests that function relocation may not be highly impacted by the practice of farmland preservation.

Comparing Neglect in Historic Boroughs

Survey Results

Within the sample frame, enough samples were taken from each case to produce a 90% confidence level and a 10% confidence interval. Doylestown had 202 total structures within the sample frame, and 65 structures were randomly selected in clusters of seven within each block to achieve a 90 percent confidence level (See Figure 2). Bristol had a population of 126 qualifying structures and required 55 samples to achieve the desired limits (See Figure 3). Results were then adjusted to compare across cases as though an equal number of samples had been taken from each case. Analysis revealed a 73% mean pattern matching rate with building condition having a 100% matched pattern rate and the other four explanatory variables scoring 67%. Although a positive correlation was revealed when compared to predicted patterns, as the amount of preserved farmland

increased, the ability to retain historic structures increased. On a Micro scale, Doylestown had a large number of older buildings still in existence and also had the lowest amount of buildings built between 1971 and the present.

Table 1: Comparison of Historic Preservation Policies.

Doylestown		***Bristol***	
Current Population	8227	**Current Population**	9923
Current Size	2.2m2	**Current Size**	1.9 m2
Date Founded	1745	**Date Founded**	1720
Preserved Farms	46	**Preserved Farms**	1
Total Acreage	3323.38	**Total Acreage**	99.9
Preservation Strategy	ASA/PDR	**Preservation Strategy**	PDR
National Register Listing	Yes	**National Register Listing**	Pending
Transportational Origin	Intersection (Hwy202-Hwy611)	**Transportational Origin**	Waterway (Delaware River)
Dominant Culture	English/Scottish-Irish	**Dominant Culture**	English
Commercial Origin	Alcohol	**Commercial Origin**	Spa
Typology	Courthouse Town	**Typology**	Mill Town
Historical Connections	Philadelphia-Milford	**Historical Connections**	Philadelphia-Bristol
Town Size at Origin	Hamlet	**Town Size at Origin**	Hamlet
Historic/Present Economies	Civic to Tourism	**Historic/Present Economies**	Resort to Manufacturing
Defined Area of Historic Character	District	**Defined Area of Historic Character**	District
Recognition Level of District	National-State-Local	**Recognition Level of District**	National-State-Local
Historic Pres. Policies	HD Zoning Tax Incentives Design Guidelines TDR's	**Historic Pres. Policies**	HD Zoning Tax Incentives Design Guidelines TDR's
HP Promotional Programs	Operation '64 Main St Program	**HP Promotional Programs**	Main St Program
Pop. Change since 1990	-5.5%	**Pop. Change since 1990**	-4.8%
Housing Total since 1990	-100	**Housing Change since 1990**	+100

Doylestown had fewer 1941 to 1970 built buildings than Bristol as well as more modern structures. This result could be due to the differences in preservation policies on the local level. Also, amount of preserved farmland increased, the ability to retain continuous land uses over time could not be positively correlated. Land use remained fairly consistent through time in Bristol, more so than in Doylestown, which increases the integrity of its historic structures. Doylestown did have more buildings with alternate uses and a lower vacancy rate than Bristol (See Figures 4 and 5). These patterns suggest that the amount of agricultural preservation may not be directly correlated with keeping a land use consistent within a structure, but the amount of buildings with at least some useful function increases.

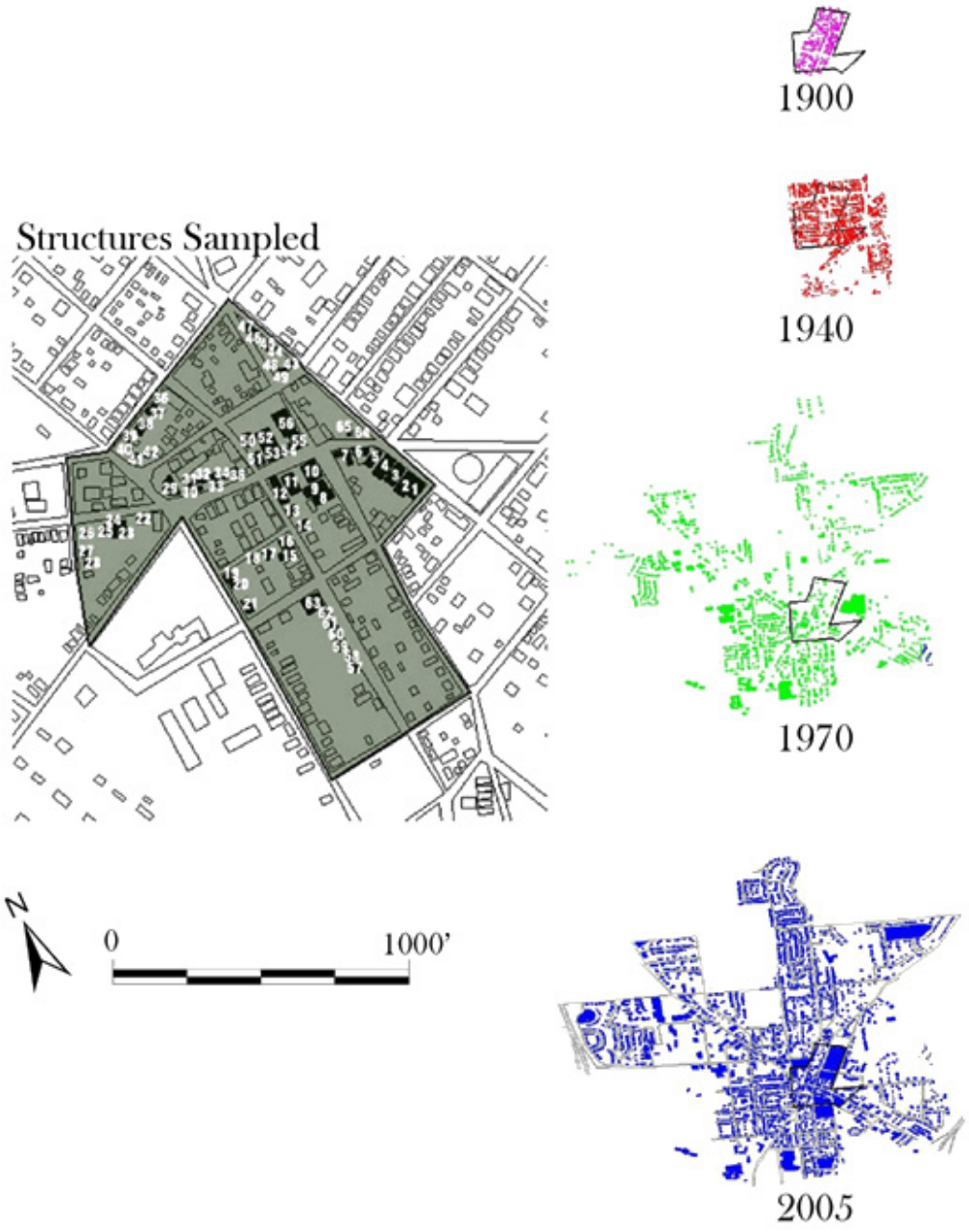

Figure 2: Doylestown Sample Frame/Historic Layover and Location of Samples Structures.

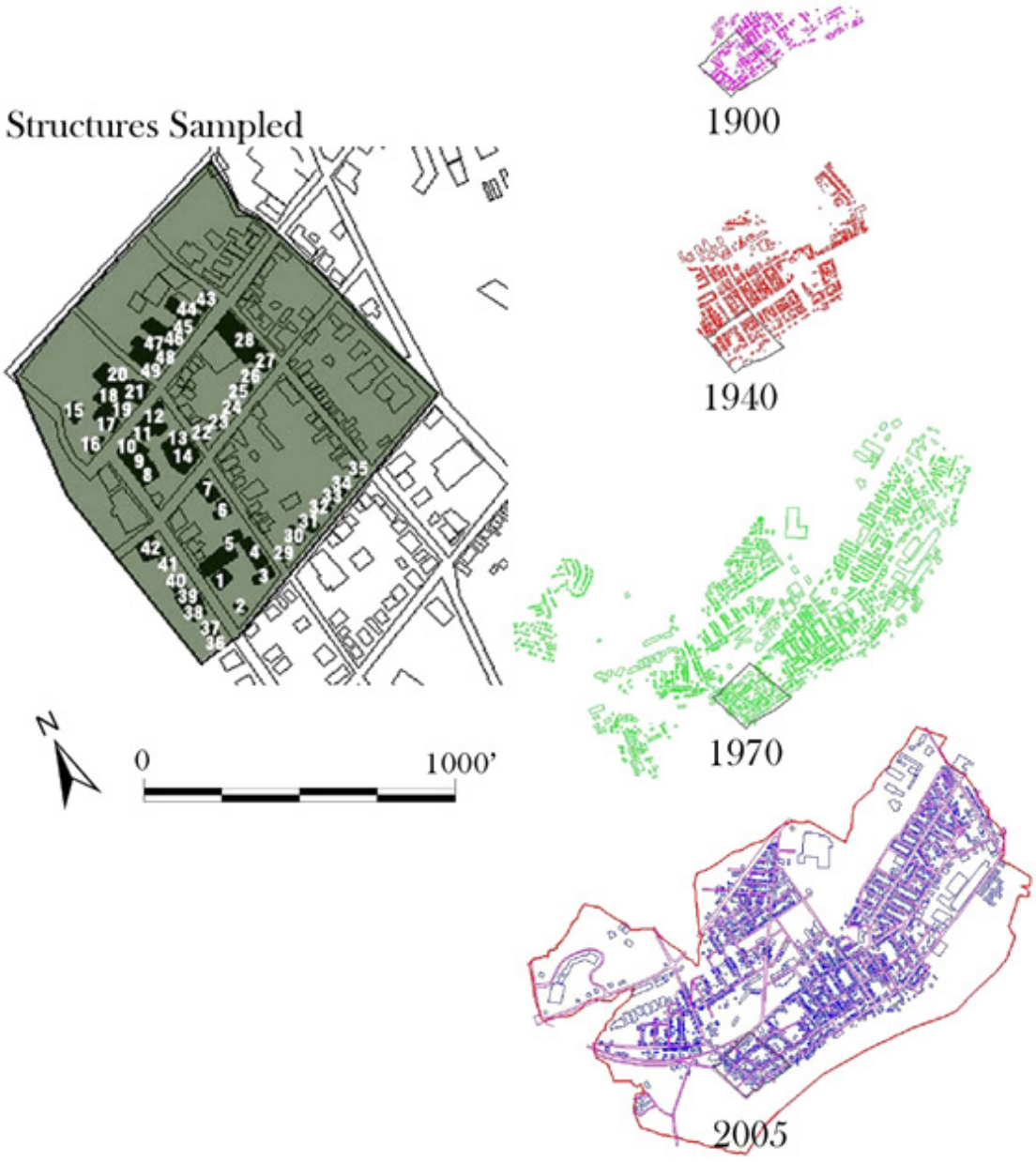

Figure 3: Bristol Sample Frame/Historic Layover and Location of Sample Structures.

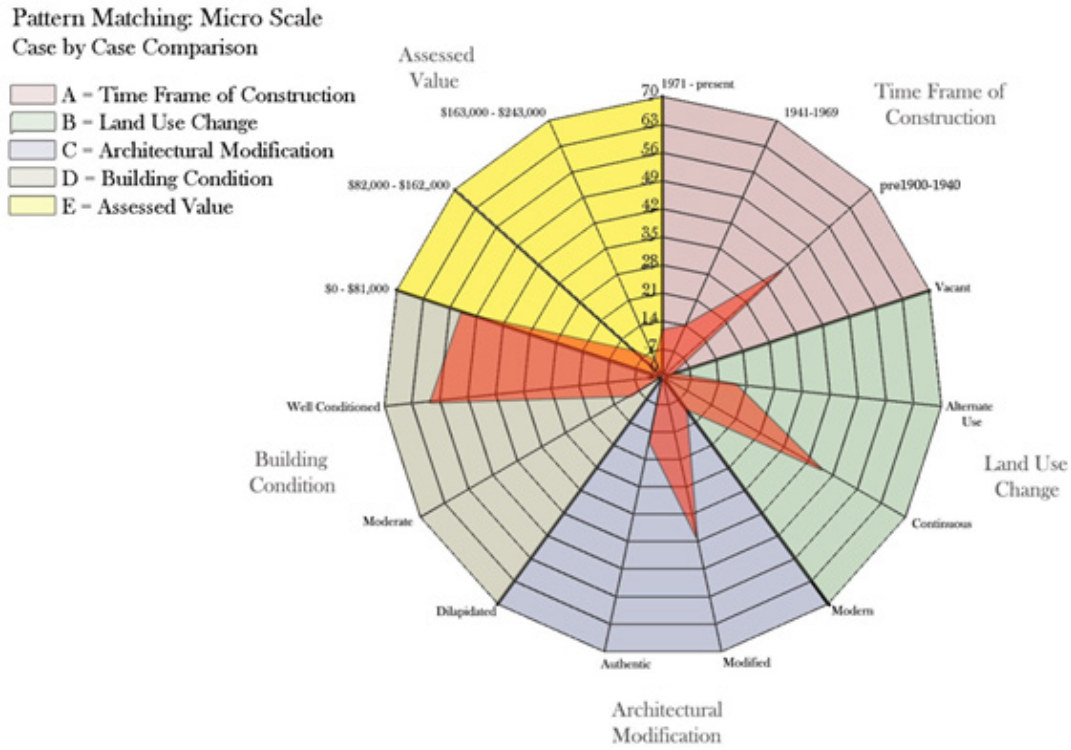

Figure 4: Doylestown Micro Scale Scores.

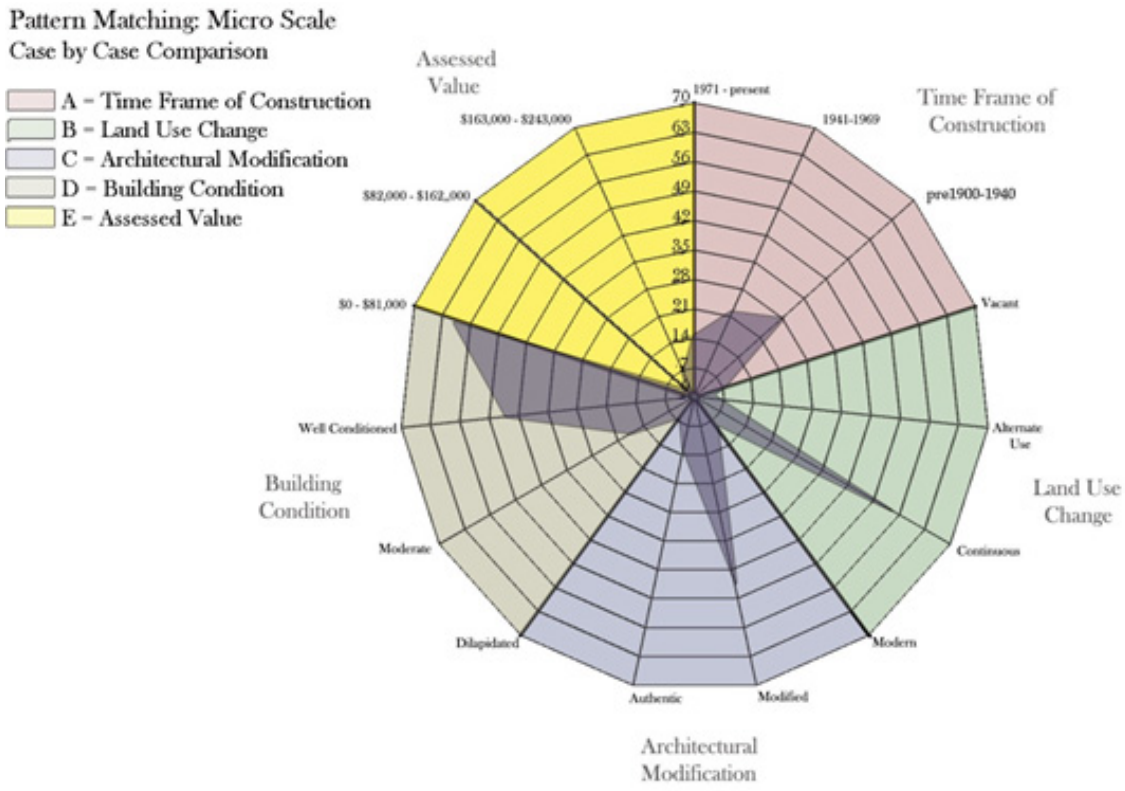

Figure 5: Bristol Micro-scale Totals.

Architectural modification results showed that as the amount of peripheral preserved farmland increased, the number of modern structures decreased while the number of authentic structures increased. However, the total number of modified structures actually decreased, suggesting that renovation activity may also increase as farmland preservation increases. The condition of these buildings proved to show the strongest correlation with the increase in amount of preserved farmland, as all three predicted patterns proved to be accurate. In particular, the number of well-conditioned buildings increased significantly as the amount of preserved farmland increased. Also, although both cases had a low number of dilapidated structures, the total decreased as the amount of preserved farmland increased. Moderate structure totals were fairly close when comparing, although the predictions proved accurate (See Table 3 for matched pattern rates).

On a macro scale, the correlation between the increase in amount of preserved farmland and the decrease in the rate of DBN had an overall 100% matched pattern rate. Building condition, again, proved to have the highest differences in totals, making it the explanatory variable with the strongest positive correlation on both scales, followed by time frame of construction, assessed value, land use change, then building condition. The cross case analysis also showed a positive correlation with a 100% matched pattern rate. Doylestown had the highest average number of points per structure (15 being the highest achievable) with 11.23, while Bristol had only a core of 10.57. This result means that a given building in Doylestown is likely to be experiencing less neglect than a structure in Bristol. The cross-case analysis also showed that the case with the highest amount of preserved farmland actually had the lowest amount of “1” measures (which indicate higher neglect in occurrence according to the utilized scale). Inversely, the percentage of “3” measures, which indicate the prevention of neglect, followed this same pattern. The percentages of “2” measures accepted in each case were extremely close in both cases, indicating that the process of neglect is present within each case under investigation. Finally, the overall rate of neglect was lowest for Doylestown with 25% of its structures being severely neglected compared to 30% for Bristol (See Table 4).

Research Question Assessment

Does the preservation of peripheral agricultural have a direct impact on the rate of demolition by neglect? The initial hypothesis upon which this study was founded was that preserving peripheral agricultural lands aids in decreasing the amount of DBN of historic structures. Based on the aforementioned results, the hypothesis should not be rejected, because all three scales of measurement showed a positive correlation. Findings indicate that there may be an indirect decrease in the process of DBN when the preservation of peripheral agricultural lands. However, this premise may only be sustained when farmland preservation is used in combination with multiple local preservation policies for a locality and cannot be fully projected to differing areas or cities without historic districts. The case studies support the proposition that historic preservation strategies should consider a wider context (other than simply the building and immediate precinct) that includes land-use planning in order to better protect buildings and areas of historic value.

Table 3: Mean Matched Pattern Rate Outputs.

Scale of Measurement/Variable	**Doylestown (T score) minus Bristol (T score)**
MICRO SCALE	***74% - MPR***
(A) Time Frame of Construction	**67%**
Preservation Worthy	-2.06
Potential for Preservation	-8.352
Intrusion	11.448
(B) Land Use Change	**67%**
Vacant	-6.336
Alternate Land Use	13.776
Continuous Land Use	-6.36
(C) Architectural Modification	**67%**
Modern	-0.552
Modified	-2.952
Authentic	3.48
(D) Physical Condition	**100%**
Dilapidated	-6
Moderately Decayed	-6.312
Well Conditioned	15.792
(E) Assessed Value	**67%**
Below Market Mean	-7.356
Within Range of Market Mean	9.12
Above Market Mean	-0.54
MACRO SCALE	***100% - MPR***
(A) Time Frame of Construction	14.434
(B) Land Use Change	5.736
(C) Architectural Modification	1.1991
(D) Building Condition	23.784
(E) Assessed Value	10.224
CROSS CASE ANALYSIS	***100% - MPR***
Average Points per Structure	0.66
% of 1 Variables	-7%
% of 2 Variables	1%
% of 3 Variables	6%
Rate of Neglect	5%
MEAN MATCHED PATTERN RATE (MPR)	***91% - MPR***

Table 4: Cross-Case Comparison Results.

Cross Case Analysis	Doylestown	Bristol
Avg. Pts per Structure	11.23	10.57
% of 1 Variables	24%	31%
% of 2 Variables	28%	27%
% of 3 Variables	48%	42%
Rate of Neglect	25%	30%

This result suggests that, although the preservation of peripheral agricultural lands may not decrease the rate of DBN by itself, it can be applied effectively in combination with other internal preservation strategies and have a direct effect on the rate of neglect. This is an extremely important observation for current preservationists, in that it appears that, on the surface, external land use management practices could help to decrease the loss of historic structures by keeping them active. In confirming that external strategies are an option to be employed to help shield historic structures from DBN, the study suggests that the paradigmatic shift in heritage landscape studies, which is shifting to a broader, systems based approach should be further explored. A systems based approach used wider regional scaled management practices which couple with a multitude of polices in an effort to regulate the historic built environment. It addresses both the structure and its setting simultaneously through multiple operations rather than narrow singular approaches.

Results also indicated that as preserved farmland increased, function relocation also slightly decreased but, due to other causal factors, the results were somewhat inconclusive. Findings from the micro scale analysis showed that the case with the highest amount of preserved farmland had a slightly lower vacancy rate but a lower rate of land use continuity. However, Bristol also had more buildings which had altered their land use through time. On the surface, this suggests that function relocation may be decreased as there is an increase in preserved farmland function retainment was stabilized but the land use was not always consistently the same. However, housing statistics refuted this finding; in fact, housing statistics were the reverse of predicted patterns. Doylestown has lost an estimated 100 units of housing since 1990, while Bristol had a 100-unit increase. These findings suggest that there may need to be more investigation of which particular uses remain consistent as there appears to be a stronger correlation with commercial, industrial, or civic uses than with residential uses, as housing statistics diverge from other findings.

Findings also suggest that there is a decrease in deferred maintenance as amount of preserved farmland increases. The strongest correlation between amount of preserved farmland and any explanatory variable was the relationship with physical condition which had a 100% matched pattern rate on both the micro and macro scales, followed by time frame of construction. Doylestown had a larger amount of more buildings constructed between the pre1900-1940 time frame than did Bristol. These results suggest that, as the amount of preserved farmland increases, not only structures are in better condition, but historic structures, more importantly, tend to resist the process of decay. If there had been more modern structures in Doylestown, one might have suspected that the newer

buildings were swaying the results of the assessment, but this was not the case. However, it could not be proven that these building were necessarily worth more on the fair market. On average, Doylestown did have a mean $56,000 assessed value per structure compared to nearly $34,000 for Bristol. There was also an 83% mean matched pattern rate for the assessed value variable. Conversely, Bristol did have a larger total of structures above the market mean than did Doylestown. We can then assume that, as amount of preserved farmland increased, both the building condition and its economic worth are improved to some degree, but there may be another elastic variable which impacts results. It may be due to the fact that, because many of Bristol's structures are on the riverfront, their assessed values were affected by an additional intervening variable.

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