

The Economic Impacts
Of the Historic District
In Charleston, South Carolina

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Abstract

It is generally believed that implementation of historic designation policies increases the value of the house that is designated “historic” while it also increases the cost of maintaining said house. Some studies find positive benefits to being located adjacent to a historic home, akin to the benefit of being located next to a park. These positive benefits are embodied in increases in property values. The question then arises, if an entire neighborhood is designated historic, will these benefits spill over into neighboring areas? If so, then creating a historic district may lead to increased property values throughout a city. Examining Census tracts in Charleston, SC over the period 1970-2000, this study does not find that spillovers consistently occur from historic designation.

Introduction

It is generally believed that implementation of historic designation policies increases the value of the house that is designated “historic” while it also increases the cost of maintaining said house. Some studies find positive benefits to being located adjacent to a historic home, akin to the benefit of being located next to a park. These positive benefits are embodied in increases in property values. The question then arises, if an entire neighborhood is designated historic, will these benefits spill over into neighboring areas? If so, then creating a historic district may lead to increased property values throughout a city.

This study differs from previous literature in two major ways. First, I am not only examining differences between the historic district census tracts and non-historic

contingent census tracts but I am also comparing non-historic contingent and non-historic non-contingent census tracts to find if there are differences between these as well. If there is a significant difference in values between the contingent and non-contingent tracts, it may stem from varying proximity to the historic district, which would suggest there are spillovers to locating close to the historic district. Second, the location being examined is unique in that the historic district of Charleston, South Carolina has expanded over the time period in question (1970-2000) (See attached maps 1, 2, and 3¹). The expansion of the district to include adjoining census tracts may change the spillover effect over time. Furthermore, census tracts are used to test for statistical significance, which Leichenko and Coulson (2001) find inadequate for examining individual houses for spillover effects from neighboring historic houses, but for the purposes of this study, census tracts are the most appropriate.

I hypothesize that the results found by Leichenko and Coulson (2001) will be intensified by a large group of historic homes located in one area rather than dispersed throughout a community. Leichenko and Coulson find a positive effect on house prices when the house is located adjacent to a historic home. While this positive effect may be outweighed by costs they consider, detailed later, it is not readily apparent that when historic designation is aggregated, into an designation of an entire district, that said district of historic homes could not have a similar affect on adjacent neighborhoods.

Some city officials argue that historic preservation is a way to preserve history for the future, believing there is a benefit to society from preserving these unique housing characteristics as well as benefits to the homeowner. These societal benefits, if they exist,

¹ There was no change between 1990 and 2000 in the census tracts, therefore the census map for 2000 is used for both 2000 and 1990.

are positive externalities. Furthermore, historic designation is believed to promote economic development within the community, through tourism and other businesses. Charleston, for example, prides itself on its “tour of homes” offered to tourists, profiting from the existence of historically designated houses. The uniqueness of historic houses and belief that these houses are of historical significance brings tourists from all over the country to Charleston.

The motivation for this research has been driven by previous literature on the effects of historic districts in other cities, most notably by N. Edward Coulson and Robin Leichenko. These authors, in addition to others, attempt to fill gaps in arguments for and against the implementation of historic districts.

Literature Review

Leichenko, Coulson and Listokin (2000) give a detailed history of studies performed on the effects of historical designation, including results concerning the impact of designation on property values, and comparing historic and non-historic houses within the same neighborhoods (See Table 1). Included in the table along with the results of each study is the methodology used, hedonic or difference-on-difference. Both methodologies found positive and negative results, which would invalidate possible suggestions that there is methodology bias. The hedonic method, as described by Leichenko et al (2000), attempts to find the implicit value of the house based upon its characteristics. This allows for isolation of the historic designation characteristic of a house, *ceteris paribus*. The difference-on-difference method compares changes in property values within the historic district with changes in property values outside of the

district. If the prices of houses within the district increase more, then historic designation is found to have a positive effect, and vice versa. Leichenko et al (2000) suggest that the hedonic method is superior to the difference-on-difference method because other factors may contribute to changes in property values found using difference-on-difference methodology².

Leichenko et al. (2000) use a hedonic model to examine historic houses dispersed within Texas communities and find that there is a positive effect of historic designation on property values in all of the cities. While Leichenko et al. (2000) examine houses dispersed throughout Texas communities, this study examines the effect of a historic district on the property values of neighboring areas. There may be some intrinsic benefits of knowing that one is helping to preserve history, but the location and quality of these houses are attractive as well, and therefore affect property value.

One reason that Leichenko et al. (2000) may document seemingly contradictory results in their literature review is that historic designation is not consistent from city to city. Variances in local designation regulations may affect property values within the districts. Historic homes can be designated historically significant at the local, state or national level. The level of designation determines the type of regulations that are placed on the housing stock itself, which affects the property value of the house, which impacts the externality effect on other houses within the district. Governing boards like the Board of Architectural Review (BAR) in Charleston guarantee homeowners within historic districts that the surrounding houses will be under the same regulations as their own house. These homeowners may possibly benefit from two separate effects: first, being

² For a further discussion of spatial methodology, see Fundamentals of Urban Economics by John F. McDonald and Freeman's text on Environmental Valuation.

surrounded by regulated housing that is seen as rare by the public, and since they must also keep their houses well maintained due to BAR regulations, they also experience an increase in property value.

One of the most interesting studies noted in Leichenko et al. (2000) is a study by Schaeffer and Millerick (1991). Schaffer and Millerick note that they found positive impacts on property values with national designation, but negative impacts with local designation. Schaffer and Millerick suggest that this is due to more restrictive controls on locally designated properties, as well as an increased feeling of status associated with national designation. Historic designation, in effect, creates a regulatory barrier around specified houses, so that are unable to be demolished or changed in any substantial way. If the goal of historic designation was to preserve the house, it is achieved. In addition, homeowners of historically designated housing benefit from evidenced increased property values. However, there is evidence of downsides to these policies, most importantly in the form of gentrification, as noted by Gale (1991). Gentrification occurs when property values rise within the historic district, and families that previously could have afforded housing are now displaced. These families may have to move farther away from jobs, schools, etc. and receive a decrease in utility from their location. Historic districts are also implemented as a form of urban renewal policy within central cities, but when families are displaced due to rising property values, they are unable to experience any benefit. City planners have recognized that gentrification is a possible by-product of historic designation, and alterations to historic designation policies have been illustrated to diminish the gentrification effect from designation.

While gentrification effects are not examined in this study, it is important to include them in order to examine the possible costs of historic districts as well as the possible benefits. As noted previously, if a positive externality is created from the existence of a historic district, then compensation could be given to families that are forced to move because of increases in property values.

Historical designation literature is extensive, ranging from city planners who praise it as a way of “revitalizing inner cities” to others like Gale (1991) who stress the costs of historic preservation, most notably, gentrification. Leichenko and Coulson (2001) note that the effects of historical districting have been difficult to quantify in research previous to theirs, making it difficult to assess whether or not the districting achieves its goal of economic stimulation successfully. Leichenko and Coulson do not examine gentrification effects, but suggest that increases in maintenance costs of historic houses may be a cost of preservation.

Coulson and Leichenko (2001) use a hedonic model to quantify the effect of historical houses by examining any changes in property values, holding all other qualities of the house constant. They used a tax assessor data set of 7,600 homes in Texas, of which 160 had been locally designated historic. Of these 160 homes, the National Register of Historic Places had designated 75. Coulson and Leichenko then analyzed the houses by characteristics (number of bathrooms, bedrooms, heating, historic designation, if the household had received tax breaks). The houses that were designated historic also received tax breaks, so that had to be considered while determining the cost of historic designation. The historical designation variables were as follows:

HISTSTAT- a binary variable that indicates historical designation by local authority

NATDESIG – a binary variable that indicates national historical designation

TAXBREAK – binary variable that indicates if homeowner received tax break from designation

NATTAX = NATDESIG*TAXBREAK – a binary variable that indicates households that are nationally designated and receive tax break

In this model, the coefficient on HISTSTAT will reflect any increases or decreases in property value due to local designation and the coefficient of NATDESIG will show any additional impacts on property values from national designation. The coefficient of TAXBREAK will show any increase or decrease in the property value of houses that are receiving a tax break, and the coefficient of the NATTAX variable will reflect increases or decreases in the value of houses that are nationally designated historic and receive the tax break.

Coulson and Leichenko also examine if there are spillover effects on the neighboring houses by examining census tract level data and adding a variable to their model (NUMHIST) to indicate the number of historically designated properties within a census tract. They square this variable (NUMHIST^2) because they believe there are diminishing external returns to historical designation. They find, with fairly restrictive assumptions, that there is an aggregate effect on property values; suggesting historical designation does benefit the surrounding area. Coulson and Leichenko's table of coefficient estimates are attached in Table 2.

Coulson and Leichenko find that the coefficient of NATTAX is not significant, and the *F*-test of NATDESIG, TAXBREAK, and NATTAX results cannot reject the joint hypothesis that all designations have no effect.

The coefficient on the NUMHIST variable is found to be positive and significant, and that a house increases in value by 0.14 percent for every historically designated house within its tract. NUMHIST² is found to be negative, as they hypothesized it would be. Coulson and Leichenko then estimate the external effects of historic designation to be \$4 million when added up over the census tracts; their results are attached in Table 3.

Coulson and Leichenko (2001) find that there is a positive effect of historical designation, but they caution that this may not be a net benefit because they do not account for possible costs of designation to the household in the historic district. They note that the local government of Texas where they conducted the study did believe that historic designation “passed the cost-benefit test” (Coulson and Leichenko 122).

Other studies have been performed on historical designation as well, including a study performed by David Listokin, Barbara Listokin and Michael Lahr (1998). They examine more broadly than Coulson and Leichenko the positive benefits to historical designation, and they examine the negative effects of historical designation, specifically gentrification. Giving a historical overview of national designation programs, including tax credits, they introduce the idea of a “tiered” effect from designation. This tiered effect describes a method that city officials can use in designating a house historical. This system designates levels of local historical significance, and therefore different regulations are placed on different houses. Listokin et al. (1998) argue that different levels of designation have different impacts because of the tax benefits as well as

building restrictions. For example, a house that is designated at a lower historic significance level than another house will have fewer restrictions placed on it, while they are still receiving some tax relief. Each city's historic preservation authority specifies certain criteria that must be met in order for the house to be of historical significance for the city. In turn, these characteristics must be preserved, so cities may have very stringent building regulations in order to keep the owner from changing the house, and thus, losing its significance. Listokin et al. (1998) find that this system is desirable if one owns a house that is only somewhat significant, but as the house is deemed increasingly significant, the number of building restrictions increases, and it becomes more expensive to maintain the property. Listokin et al. (1998) question the criteria used by cities to designate houses historic, believing that it may be on a subjective basis. They argue that there may be an over-designation of houses by cities in this manner.

Listokin et al. (1998), like Gale (1991), also confront the issue of gentrification due to historical designation policies. Listokin et al. (1998) find that city planners are attempting to rectify these costs by altering how new historic preservation efforts are implemented in cities. These efforts include the tiered system previously discussed. This system reduces gentrification because lower income families are still able to afford houses that are only marginally significant, because these houses do not experience as large an increase in property value. Policies like this attempt to stimulate revitalization, a main suggested benefit from historical preservation, without displacing these families. Since these buildings are only marginally significant based on criteria set by the city, these families will not experience as great an increase in property value as other homeowners with "more" significant houses. This inequality of benefit is offset by the

lower-income family's ability to afford the house with lower significance (rather than being displaced).

In the literature on historical designation, the closest study to what I want to examine is the study by Leichenko and Coulson (2001). While I want to examine the effects of a historic *district* on neighboring *areas*, Leichenko and Coulson examine the effect of historic *households* on neighboring *households*. While my study is different because it uses time-series data to examine effects of designation, Coulson and Leichenko's work is used as insight into how to examine these data.

Model

In this study, I am trying to find if there are spillover costs or benefits of historic designation into neighboring tracts. Spillover costs may be due to gentrification effects, while spillover benefits may be property value increases in houses located adjacent to the historic district. These spillovers, if they exist, are also known as externalities in economics. In any competitive market, the existence of externalities suggests that the private costs and benefits do not account for external or societal, costs and benefits from the good. Externalities imply that the benefits and costs from a good are not fully reflected in its price. These externalities can be positive (external benefits) or negative (external costs). A third party that is not involved in the selling or purchasing of the good experiences negative externalities, or spillover costs. Likewise, a third party can experience positive externalities, or spillover benefits. In markets with positive

externalities, the demand curve, which reflects private benefits, understates total social benefits³.

Negative externalities can be corrected for if the extra cost can be measured and then paid to those who must bear the extra cost. These spillover costs, like pollution, when found, can be taxed specifically, in order to compensate society for dealing with the increased cost. When positive externalities or spillover benefits exist, this means that there are extra benefits to society that have not been accounted for in its price, and suggests there is too little demand for this good. The government can subsidize these goods to increase demand, so that more consumers can experience the benefit from this good.

Previous literature, like Coulson and Leichenko (2001), find positive spillovers from historic designation onto neighboring houses. If positive externalities for historic designation exist, it may be a way to counteract the detrimental effects of gentrification that are also associated with designation. If the benefits are greater than the costs of designation, then cities should pursue a policy even if some families are displaced by gentrification. These displaced families could then be compensated by the city so that they are not worse off from the historic designation policy.

In light of Coulson and Leichenko's 2001 findings, I hypothesize that positive spillovers exist from the historic district in Charleston and contingent census tracts to the historic district will benefit from being located next to the historic district. I hypothesize that my results will be similar to the results from Coulson and Leichenko (2001), finding positive spillovers from historic designation.

³ See *Microeconomics: Principles, Problems and Policies* for further explanation of externalities

In order to measure this, I will examine census tract data for Charleston over time to see how property values within the historic district have changed, as a measure of the presence of a spillover effect in the surrounding census tracts. I think that the spillover will be most obvious in the adjacent tracts, diminishing in size as one moves away from the historic district. Charleston is interesting because it increased the size of its historic district since its creation in 1931, so special attention will be paid to how the property values change both in the census tracts that are absorbed in the district extensions and non-contingent tracts that become contingent. The historic district of Charleston is located in an attractive area, on the waterfront as well as in the heart of the city, close to jobs. This may have an effect on how property values change over time, if there are changes in the kind of jobs that are located near the historic district.

The census tract data were collected and separated by census year (1970, 1980, 1990, and 2000). Mean values were then calculated for each variable (Year Built, Year Moved Into Unit, Value, Income, Gross Rent, and Percent White). Since the Census reports a range of values for each variable (i.e. Income between 10,000 and 15,000), I assigned each range a specific median value. This value was found by taking the difference between the upper and lower restraints, then adding the difference to the lower restraint. For values such as “50,000 or more” that had no upper restraint, half of the value was added again to the lower restraint (i.e. 75,000). This approximation creates a single number, so that means can be calculated for each tract. Once these means are calculated for each of the census tracts, they are grouped into historic district tracts, non-historic contingent tracts, and non-historic non-contingent tracts. These are averaged so

that a comparison of means test can be applied to find if there is a statistically significant difference in these values.

To compare these means, I will use a t-test (assuming different variances) from Newbold, Carlson and Thorne (2003). The null hypothesis (H_0) for my test is that there is no difference between the means. I have two alternative hypotheses, the first (H_{A1}) is that these means are not equal. To test this hypothesis, I will use a two-tailed t-test on the Year Moved Into Unit, and Year Built variables. The second alternative hypothesis (H_{A2}) is that there is a positive difference between the means, suggesting that there is no spill over effect. The variables tested with the second hypothesis are: Value, Income, Gross Rent, and Percent White.

$$H_0 : \bar{X} - \bar{Y} = 0$$

$$H_{A1} : \bar{X} - \bar{Y} \neq 0$$

$$H_{A2} : \bar{X} - \bar{Y} > 0$$

$$t = \frac{\bar{X} - \bar{Y}}{\sqrt{\frac{S_x^2}{n_x} + \frac{S_y^2}{n_y}}}$$

$$d_f = n_x + n_y - 2$$

$$S_x^2 = \frac{1}{n_x - 1} \sum (X_i - \bar{X})^2$$

Here, S_x^2 denotes the variance, where n_x indicates the sample size (how many tracts).

The bars signify that these are means for the tracts in question. The degrees of freedom

(d_f) were calculated by adding the number of tracts in both areas in question (e.g. historic (n_x) and non-historic non-contingent (n_y)) and subtracting two.

Data

In theory, historic designation is a tool that city planners can use to preserve old housing stock that has some inherent value to the community. Once a house is designated historic on either the national, state, or local level, there are regulations put upon the house that are intended to maintain the house in its original condition. For example, a brochure on general guidelines for historic houses in the City of Charleston details specific kinds of roofing materials, gutters, and chimneys that are acceptable. It stresses the (BAR)'s desire for homeowners to repair original materials rather than replace them, in order to maintain the house's original integrity, if possible.

Charleston, South Carolina was one of the pioneering cities to implement historic designation beginning in the early 1900s to preserve colonial houses. At first, private citizens worked to save historic houses in Charleston, but they soon realized that they would need the local government's aid to be successful. This eventually gave way to zoning ordinances, a city council and the creation of the Board of Architectural Review or BAR. This governing body oversees any issues concerning historically designated houses.

Beginning in the late 1930s, federal money was used in preservation. By the late 1960s, Charleston historic homes were designated as such in the newly founded National Register of Historic Places. Since then, Charleston has continued preservation efforts, extending the boundaries of the Old Historic District to incorporate more of the peninsula

of Downtown Charleston. The district has been expanded five times, and two of the increases are pertinent to this study because they occurred during the time period 1970-2000. In 1970, the historic district was expanded to include “an area roughly bounded by Calhoun, Archdale, Cumberland, E. Battery, Broad and Gadsden and an area along Anson St” (National Directory of Historic Places website). The other increase occurred in 1984 to include “King and Calhoun Streets” (National Directory of Historic Places website). Since the Census of 1970 is taken in 1969, the 1970 extension will be reflected in 1980, as the 1984 change will be reflected in the 1990 Census.

Census data were amassed for census tracts located in Charleston’s peninsula. Although census tracts are altered slightly every time the census is taken, the 1970 divisions are used to compare data over the 1970-2000, with some alterations as the census tracts change over time. Since the historic district has expanded over time, the 1970 historic district consists of census tracts 1-5, while the historic district in 1980, 1990, and 2000 consist of census tracts 1-8. Using maps from the Census as well as a map from the Department of Planning and Neighborhoods for the City of Charleston (see Appendix), contingent tracts were identified as well as non-contingent non-historic tracts. The census tract map matches exactly with the City of Charleston map of the historic district. The historic district street boundaries are also street boundaries for census tracts.

Although Leichenko and Coulson found census data inadequate for their 2001 study, I embrace them as a good measure since it is taken once every 10 years, so it allows enough time for changes in property values to be more significant than comparisons every year or even every five years. Leichenko and Coulson found census data to be inadequate because they were examining specific houses to see if there were

spillover effects from neighboring houses. This study is a more aggregate examination of the spillover effect, so using census tracts rather than individual houses is helpful.

There are some specific issues with the Census data that must be explained. The variable “Family Income” is different than “Earnings” or “Household Income” in Census data. “Family Income” was chosen as a measure instead of “Earnings” in order to give a more comprehensive view of how much wealth the households in the census tract have, which may not be entirely reflected by the earnings of a household. This will give a more accurate comparison between census tracts. For example, if an increase in property values influenced their income, while not changing their wage, this may be reflected in the Income variable rather than Earnings. While the Income variable would suggest this is earned Income, I chose Income instead of Earnings for the possibility that Income will include income to the household outside of compensation for employment. I hypothesize that the “Income” variable for non-historic contingent and non-contingent tracts will be significantly different from this value for the historic district. In Charleston, the historic district is one of the main centers for business activity in the area, and most of the high-income jobs are located in that area. This would suggest that the “Income” variable for historic district households will be significantly different than the “Income” variable for the non-historic contingent and non-historic non-contingent districts.

The “Value” variable will show if historical designation has an impact on property values. If the “Value” variable in the historic district is significantly different than the “Value” variable in contingent and non-contingent tracts, then historical designation is at least correlated with increases in property values, if not the causation. I think that there will not be a significant difference between the homes within the historic

district and those located in the contingent tracts. If this is true, then there are positive spillovers from the historic district.

If higher property values within the historic district are created by historic designation, this would suggest that there would be no statistical difference between the non-historic contingent tracts and the non-historic non-contingent tracts. However, if the non-historic contingent district experiences an increase in property value due to their location adjacent to the historic district, there will be a statistically significant difference between the non-historic contingent tracts and the non-historic non-contingent tracts. This will help determine if there is a statistically significant difference between historic and non-historic districts, or if there is also a statistically significant difference between the non-historic districts as well.

In addition, “Year Moved into Unit” is examined, to proxy for turnover rate within the tract. A greater number of households moving into the area during a certain period of time may indicate factors that are within and exogenous to this study. Changes external to the housing stock may facilitate mobility, but if property values and increases in population are positively correlated, perhaps there is a strong relationship that can be demonstrated by this study. I think that there will be a significant difference between this variable within the historic district and the contingent and non-contingent tracts. I think that if there are increases in property values from historic designation, this will be incentive for those historic homeowners to remain longer in their house than those outside of the historic district. Since this variable also gives some information about how quickly these houses change owners, I think its significance will be tied closely with the “Value” variable. If the data show that there is a spillover effect for the “Value” variable

from the historic district to the non-historic non-contingent tracts, then I think these households will remain in their houses longer to experience the increase in property values.

The “Year Built” is an approximation for how many houses are historically designated. One of the main criteria for naming a house historically significant is the age of the house (General Guidelines). This variable will indicate if there are significant differences between the housing stock within the historic district as compared to the housing contingent and non-contingent to the district. I believe there will be a significant difference in this variable between houses within the historic district and those in contingent and non-contingent tracts. This would show that are differences between the housing stock of historic and non-historic homes, and support the designation of these historic homes. This would also suggest that houses in the non-historic tracts are replaceable, in contrast with the houses within the historic district.

The “Gross Rent” variable is included to examine property values by how expensive it is for renters to live within the historic district as compared to the surrounding areas. This includes housing prices that are not simply borne by the owner-occupied units, as renters will also experience increases in their rent as the historic district experiences increases in property values. If this variable, like the “Value” variable is statistically significant from the contingent and non-contingent tracts then this suggests that historic districts are at least correlated with increases in property values. I think that there will be significant differences in value between the historic district and the non-historic districts because I think that if there are significant differences in property values of the houses, these differences will also be reflected in rent price. If there is a positive

spillover in the form of higher property values from the historic district to the non-historic contingent tracts, this suggests that the “Gross Rent” variable will not be statistically significant because the housing prices will not be statistically different. If this is true, there will be a statistically significant difference between the non-historic contingent and non-historic non-contingent tracts.

The “Percent White” variable is a way to describe the racial make-up of the census tracts. This variable is used to examine if racial gentrification exists, if it affects different racial groups differently. This also is an approximation for describing the demographic differences between the historic tracts from the contingent and non-contingent tracts. I think that there will be a significant difference in this value between the historic district and the non-historic tracts due to gentrification. If there is a significant difference for this variable between the non-historic contingent tracts and the non-historic non-contingent tracts, this suggests that these are possibly significantly different in their racial make-up. Furthermore, if the non-historic non-contingent tract has a higher value than the other tracts, this suggests that racial gentrification may be occurring, possibly due to the existence of the historic district.

Results

1970

| | | | |
|--|---|---|---|
| | Historic District versus Non Historic Contingent | Historic District versus Non-Historic Non-Contingent | Non Historic Contingent versus Non Historic Non Contingent |
|--|---|---|---|

| | | | |
|-------------------------------------|---|---|--|
| Value | t= 9.556358135(*) d _f = 6 | t= 14.85596785(*) d _f = 6 | t=2.991323341(*) d _f = 4 |
| Income | t= 3.284826138(*) d _f = 6 | t= 3.276870959(*) d _f = 6 | t= -.1188792451 d _f = 4 |
| Gross Rent | t= 2.32372566 d _f = 6 | t= 4.033373106(*) d _f = 6 | t= 1.520245707 d _f = 4 |
| Year Moved Into Unit | t= -.6732403224 d _f = 6 | t= -1.085915161 d _f = 6 | t= -.4077253602 d _f = 4 |
| Year Built | t= 1.269031478 d _f = 6 | t= .6367380137 d _f = 6 | t= -1.070385111 d _f = 4 |
| Percent White | t=4.982881112(*) d _f = 6 | t=9.514885843(*) d _f = 6 | t=1.77538741 d _f =4 |

1980

| | Historic District versus Non Historic Contingent | Historic District versus Non-Historic Non-Contingent | Non Historic Contingent versus Non-Historic Non- Contingent |
|-----------------------------|---|---|--|
| Value | t= 4.950989033(*) d _f = 9 | t= 4.635737084(*) d _f = 9 | t= 0.0056191645 d _f = 4 |
| Income | t= 3.501947062(*) d _f = 9 | t= .3740801177 d _f = 10 | t= -1.619053335 d _f = 5 |
| Gross Rent | t= 3.137581353(*) d _f = 9 | t= 2.077213238 d _f = 10 | t= 0.0863578357 d _f = 5 |
| Year Moved Into Unit | t= -2.844474602(*) d _f = 9 | t= -2.270941806 d _f = 9 | t= 0.6854575234 d _f = 4 |
| Year Built | t= 1.459899226 d _f = 9 | t= .8974387179 d _f = 10 | t= -0.7599973806 d _f = 5 |
| Percent White | t=9.541292167(*) d _f = 9 | t=6.137917453(*) d _f = 10 | T=-1.067417765 d _f =5 |

1990

| | Historic District versus Non-Historic Contingent | Historic District versus Non-Historic Non-Contingent | Non-Historic Contingent versus Non-Historic Non-Contingent |
|-----------------------------|---|---|---|
| Value | t= 4.633357013(*) d _f = 9 | t= 9.719559796 E -5 d _f = 10 | t= -0.8896091347 d _f = 5 |
| Income | t= 2.667264565(*) d _f = 9 | t= 1.740106137 d _f = 10 | t= -2.03819763(*) d _f = 5 |
| Gross Rent | t= 2.19464609 d _f = 9 | t= 1.794334684 d _f = 10 | t= -0.5267700795 d _f = 5 |
| Year Moved Into Unit | t= -5.890230224(*) d _f = 9 | t= -1.470683872 d _f = 10 | t= 0.98714281127 d _f = 5 |
| Year Built | t= 2.059468322 d _f = 9 | t= .9061134328 d _f = 10 | t= -1.5770159474 d _f = 5 |
| Percent White | t=8.011837855(*) d _f = 9 | t=. 973321925 d _f = 10 | t= -2.275455928 d _f = 5 |

2000

| | Historic District versus Non-Historic Contingent | Historic District versus Non-Historic Non-Contingent | Non-Historic Contingent versus Non-Historic Non-Contingent |
|-----------------------------|---|---|---|
| Value | t= 3.497122432(*) d _f = 9 | t= 3.881187564(*) d _f = 10 | t= 1.636986504 d _f = 5 |
| Income | t= .7827093426 d _f = 10 | t= 9.444975821(*) d _f = 10 | t=-.2665986504 d _f = 5 |
| Gross Rent | t= 3.532280097(*) d _f = 9 | t= 2.06294647 d _f = 10 | t= -0.5376666232 d _f = 5 |
| Year Moved Into Unit | t= -9.701410275(*) d _f = 9 | t= -8.296805337(*) d _f = 10 | t= -0.5108574579 d _f = 5 |
| Year Built | t= .7474435562 d _f = 9 | t= 2.046078957 d _f = 10 | t= 0.4676232245 d _f = 5 |

| | | | |
|----------------------|--|--|--------------------------------------|
| Percent White | t=2.450475206(*) d _f = 9 | t= 2.450475206(*) d _f = 10 | t= -.7898796251 d _f =5 |
|----------------------|--|--|--------------------------------------|

Examining the results from 1970, the “Value” variable reflects no spillover from the historic district to the contingent tracts. There is a significant difference between the means, suggesting that there is a large difference between values of the houses within the historic district and houses in the contingent districts. In addition, there is not a statistically significant difference between the means of the contingent and non-contingent tracts. This suggests that the difference is not in proximity to the historic district, but if the tracts are historic or non-historic. Therefore, the non-historic contingent and non-historic non-contingent tracts, according to these results, are not statistically different from one another in their housing values.

There is also a positive and significant difference between the value of the “Income” variable for the historic district and the “Income” variable value for the non-historic contingent tracts. One possible explanation for this may be the different jobs within the historic district and those outside of it. Many of the higher-paying jobs are located within the historic district of Charleston because it is also has historically been the center of most of the city’s business activity. The “Gross Rent” variable is not significantly different between the historic district and the non-historic contingent tracts, but is significantly different between the historic district and the non-historic, non-contingent tracts. As demonstrated by the results for the Gross Rent and Value variables in 1970, significant changes in rent prices appear to occur farther away from the historic

district than the value of the house. This suggests that there is a demand for renting homes closer to the historic district, which again could be partly explained by a desire to live near the business center of Charleston. This demand would keep rent prices higher than might be suggested by the value of the homes surrounding these rental properties in the non-historic contingent tracts. There is no significant difference in the “Year moved into unit” variable between any of the tracts. This suggests that there is no large difference in the mobility of homeowners within the area; homeowners of historic homes are just as likely to move as those who live in the surrounding tracts. Therefore, gentrification effects, if they exist in Charleston, are not large enough to restrict mobility. Households that would like to move to or from these areas, according to these results, do not experience great difficulty because of the historic district.

Also, the “Percent White” variable in the 1970 data set demonstrates that there is a significant difference in racial make-up between the historic district and both the contingent and non-contingent historic districts. This may be segregation due to gentrification, but it signifies the lack of diversity within the historic district’s demographic make-up.

What I find most surprising about the 1970 results is that there is not a significant difference in the “Year Built” variable. This demonstrates that the houses within the historic district are not significantly older than houses located in the surrounding tracts. Age is not the only attribute required for designating a house historically significant, but it is one of the most important criteria, therefore it is surprising that “historic” homes in Charleston are not significantly older than those outside of the district. This suggests that

the BAR in Charleston is using other criteria to designate houses, and that there may be other houses in Charleston that are old enough to be designated that were not in 1970.

The 1980 results do not differ significantly from the 1970 results in the “Value” variable or the “Year Built” variable. This suggests that these indicators did not change significantly within 10 years, and that it would take more time to find significant changes in these variables. However, the “Income”, “Gross Rent” and “Year Moved Into Unit” variables differ. The “Income” variable in the 1980 data set reflects a significant difference between the incomes of homeowners within the historic district to those in the contingent tracts, but there is no significant difference between the income of historic home homeowners and those in the non-historic non-contingent tract. This may be explained by business growth in Charleston during this time away from the historic district, businesses locating in the nearby suburb of Mt. Pleasant (see maps 1,2, and 3), which would be located closer to the non-contingent districts. This suggests a splitting of business activity, and homeowners living in the non-contingent district may not have to rely on businesses located within the historic district for employment as Charleston expands.

The “Gross Rent” variable in 1980 differs from the 1970 variable because it is significant in the non-historic contingent tracts. This suggests that a change has occurred between 1970 and 1980, and rent prices decrease more rapidly as one leaves the historic district. However, there is no significant difference between rent values of the historic district and the non-historic non-contingent tracts. This, as speculated previously, may be due to the growth of Mt. Pleasant as a business center for Charleston. As more families

desire to move to Mt. Pleasant, there is a greater demand for housing in the non-historic non-contingent districts, to be closer to Mt. Pleasant.

The “Year Moved Into Unit” variable for 1980 reflects a small but significant difference between the historic district and non-historic non-contingent tracts. Although this is a significant value, it is small enough that it may be attributed to mobility changes that are not due to historical designation.

The 1990 data set reflects similar significance to the “Income”, “Year Moved Into Unit”, and “Year Built” variables in the 1980 data set. Differences arise in the “Value” and “Gross Rent” variables. The findings of the “Value” variable in 1990 demonstrate a significant difference between the value of homes within the historic district and those located in the non-historic contingent district, which could be attributed to increases in property value due to historic designation. This suggests that there is no spillover of property value from the historic district to the non-historic contingent tracts. Also interesting is the lack of significance between the historic district and the non-historic non-contingent tracts. This value may be erroneous (because it is extremely small), but if it is not, then it would further illustrate a change in Charleston due to the increasing pull of Mt. Pleasant’s arriving businesses. Although these houses do not experience a spillover from the historic district, they may experience an increase in property value because of increased demand for houses contingent to Mt. Pleasant.

The “Gross Rent” variable for 1990 follows this argument. Rent in 1990 declines faster as one leaves the historic district, but there was also an increase in the historic district in 1984 (noted in Data section). This expansion could explain why rent declines from the historic district to the non-historic contingent district. Some of the rental

properties that were non-historic contingent in the 1980 data set are now historic properties, and there is a larger difference between these newly historic properties (which were not significantly different in value in 1980) to newly non-historic contingent rental properties.

In the 2000 data set, the “Value” variable is similar to the findings in the 1980 data set, with significant differences between the values of historic homes within the historic district and those in contingent and non-contingent non-historic tracts. This does not support the argument that there is a positive spillover from the historic district to these tracts, and suggests rather that property value increases are contained within the historic district. As noted in the examination of the 1990 data set, the increase in the historic district may be partially accountable. This expansion in the district area ate up some of the contingent tracts that were not significantly lower in property values than the historic district. Therefore, previously non-contingent tracts are now contingent tracts, so that they are still significantly lower in property values in 2000 as they were in 1990. Since the 2000 census was taken only 5 years ago, more time may be needed to draw conclusions to determine how these changes will affect the area.

The “Income” variable is not significant in comparing the historic to non-historic contingent tracts, but is significant between the historic and non-historic non-contingent tracts. Values for the “Gross Rent” variable in 2000 are significantly similar to the values in 1980, suggesting the demand for housing closer to a suburb (Mt. Pleasant) increases rent prices in the same way that historic designation increases the rent prices within the historic district.

Also, the values for the “Year Moved Into Unit” variable demonstrate that there are significant differences between when homeowners moved into the historic district as those that moved into contingent and non-contingent tracts. This may suggest that historic homes between 1990 and 2000 were more attractive to prospective buyers than those in the surrounding tracts, which may be at least partially explained by increases in property value.

Finally, the “Percent White” variable is significant in almost all cases, in all the data sets. This suggests that there is significantly higher percentage of white people in the historic district than in the contingent and non-contingent tracts. This suggests a kind of economic segregation that may be due to the higher property values experienced by households located within the historic district.

Conclusion

What conclusions can be drawn from these results? The hypothesis that there are positive spillovers from the historic district in Charleston, SC is not supported by the census data collected. Between 1970 and 2000 in Charleston, SC, positive spillover did not consistently occur from the historic district to the surrounding neighborhoods. Even so, this result does not mean that historic designation cannot be used to revitalize inner cities. Rather, it suggests that spillovers may not be a benefit from historic designation. The houses within the historic district were found to be significantly higher in value, so while these benefits did not accrue to other homeowners, the homeowners of historic homes benefit from historical designation.

Another interesting finding is that there is not a statistically significant difference in the average ages of the homes in any of the census tracts. This means that not only the houses in the contingent tracts to the historic district, but also the houses in the non-contingent tracts that are located further from the historic district are also approximately the same age. Could city planners then extend the historic district to include more and more of these contingent areas so that more people could experience the increase in property value? Since there is no positive spillover found in this study, for homeowners to experience positive benefits from the historic district, they would have to live within it. Measuring gentrification costs would be difficult, but only when accurate depictions of gentrification's effects are found can historic designation be put to a true cost and benefits test. Until then, the continued existence of historic districts suggests that there must exist a constituency of people in Charleston receiving some form of benefit from the historic district.

The speculated impact of the growth of suburbs as business centers suggests another area of research. How does the historic district, a center of business, compete when another center of business is introduced? The introduction of Mt. Pleasant as a viable location for jobs may have drawn people from the non-historic contingent tracts even further out, to the non-historic non-contingent tracts so they may live closer to Mt. Pleasant. The increases in rent prices may be an indicator that between 1970 and 2000 that there was an increased demand in housing in these non-historic non-contingent tracts (which are closer to Mt. Pleasant). The question then arises, do people value living near historic districts, or is it that these historic districts are also where the jobs are, and the

jobs are what primarily draw people to live in these areas? This answer to this question is left for further research.

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Table 1

Source: Coulson and Leichenko (2001)

Table 1. Results of previous empirical studies

| Study | Location | Method | Impact of designation on property values |
|---|--|--------------------------|--|
| Heudorfer (1975) | New York City | Difference-on-difference | Neutral |
| Scribner (1976) | Alexander, VA | Difference-on-difference | Positive |
| Rackham (1977) | Washington, DC | Difference-on-difference | Positive |
| New York Landmarks Conservancy (1977) | New York City | Difference-on-difference | Neutral |
| US Advisory Panel on Historic Preservation (1979) | Alexandria, VA; Galveston, TX; Savannah, GA; Seattle, WA | Difference-on-difference | Positive |
| Samuels (1981) | Washington, DC | Difference-on-difference | Neutral |
| Ford (1989) | Baltimore, MD | Hedonic | Positive |
| Gale (1991) | Washington, DC | Difference-on-difference | Neutral |
| Schaeffer and Millerick (1991) | Chicago, IL | Hedonic | Mixed |
| Asabere and Huffman (1994a) | Philadelphia, PA | Hedonic | Positive |
| Asabere and Huffman (1994b) | Philadelphia, PA | Hedonic | Negative |
| Asabere <i>et al.</i> (1994) | Philadelphia, PA | Hedonic | Negative |
| Clark and Herrin (1997) | Sacramento, CA | Hedonic | Positive |
| Coulson and Leichenko (2001) | Abilene, TX | Hedonic | Positive |

1990 and 2000 Map

(Map 3)



Tracts 1-8 Historic

Tracts 9-11 Non-Historic Contingent

Tracts 12, 13, 17 and 18 Non-Historic, Non-Contingent