# A COST/BENEFIT ANALYSIS OF HISTORIC DISTRICTING IN TUCSON, ARIZONA

By

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# Abstract

The process of historic districting is often credited with stabilizing neighborhoods and thus increasing property values. For over twenty-five years city officials and academics have been conducting studies to determine if such a relationship actually exists. While early studies used a difference-on-difference methodology, recent studies have adopted hedonic modeling as a preferred method of determining the relationship between historic districts and property values. This study uses hedonic modeling together with a cost/benefit analysis to 1) determine if and to what extent historic districting impacts property values in Tucson, Arizona and 2) if the increase in the tax base outweighs the value of tax incentives granted within these districts.

This research assesses the fiscal impact of both historic districting and the Arizona State Historic Property Tax Reclassification Program (SPT) in Tucson. This report consists of four sections. The first is a literature review of the brief history of preservation in the United States, a look at the economics of historic districting, and an overview of similar studies by other authors. The methodology of this study is contained in the second section and the hedonic model results and cost/benefit analysis follows in section three. The final section contains two policy recommendations to both the City of Tucson and the State of Arizona preservation officials: 1) Decrease the current SPT tax deduction rate 2) Implement a tax incentive for local districts.

# I. Introduction

Historic designation is often used to protect properties from developers and users operating in an inefficient market that does not recognize the value or significance of these properties (Asabere and Huffman, 1994a). While this may be the altruistic and history-minded goal of designation, economic reasons offer a much sounder rationale. In today's world of tight municipal budgets and dynamic urban environments the economics of policy decisions generally trump all other considerations, and historic preservation is no exception. Advocates for preservation often cite increased property values, job creation, and the attraction of tourists to the city, of which all generate large sums of tax revenue, as preservation's economic benefits. However, this paper examines only the perceived increase in property values caused by historic district designation.

In addition to these benefits, strict architectural standards and upkeep provisions are often associated with historic designation, causing a regulatory hardship for owners of historically designated properties. Due to these hardships it is generally agreed that fiscal enticements in the form of tax incentives, loans, or other benefits may be critical in making historical designation palatable to property owners (Asabere and Huffman, 1995). For this reason, the Federal Government offers some fairly generous income tax credits to persons owning nationally recognized income-producing properties. Owner-occupied structures are ignored by federal incentives and are left to the mercy of state or local governments. Almost three-fourths (37) of state governments grant some form of tax

relief to the owners of nationally-recognized owner-occupied structures (Beaumont and Pianca, 2001). Among these states, Arizona is one of the most preservation-friendly. The Arizona State Historic Property Tax Reclassification Program (SPT) allows an up to 50% reduction in the assessed value of those contributing homes that are located in National Register Districts and comply with state rehabilitation and maintenance standards.

This paper takes an in-depth look at the economic impact of historic preservation within Tucson; a metro area of around one million and Arizona's second largest city. Tucson was chosen because the city has experienced recent National Register nominations and the entire Pima County Assessor's Department property database is electronically geo-coded and readily available through the Pima County GIS Department.

This study aims to quantify one of the many benefits of historic preservation, an increased property tax base. Other effects, such as job creation and cultural tourism are not considered in this report. In the same manner only one cost of historic preservation, the amount of tax deductions awarded, is examined. Cost of program implementation and enforcement as well as regulatory costs placed on property owners are avoided as well. Certainly each of these factors contributes to the overall economic balance sheet of historic preservation but is outside of the scope of this research's time and feasibility constraints.

A cost/benefit analysis of historic preservation within Tucson is conducted through a two-step process. First, hedonic price modeling is used to determine the amount of assessed value that location within a historic district adds or subtracts from a given structure's value. Hedonic modeling is a regression equation that calculates the impact on a multi-element good, such as housing of each characteristic (i.e. number of rooms, presence of pool, etc.) upon the value. Next, the current tax levy of the study districts is aggregated and compared to a simulated tax levy aggregation supposing the lack of historic district. This simulated aggregation is accomplished by discounting the assessed values of the properties by the percentages derived through the hedonic models. This difference in the tax levy aggregations is compared to the total value of property tax deduction awarded through the SPT program to determine if historic districting is fiscal benefit or cost to the City of Tucson.

# II. History and Economics of Historic Preservation

This chapter serves three purposes: 1) to give a brief background of the historic preservation movement and its current situation at a federal, state and local level 2) to explain the theories and economics involved in historic preservation 3) to highlight a review of previous studies regarding the marginal property value created by historic districting. Associated with this is a brief synopsis of the current situation of historic districting in the State of Arizona and Tucson specifically.

Historic preservation has been a legitimate governmental concern in the United States for nearly 150 years. However, over the last century and a half the rationale for preserving historic structures and places has changed greatly, often times mirroring the major ideological beliefs of the nation. Early preservationists in the 19$^{th}$ century were busy saving important structures in the name of creating a national identity. Preservation groups in the 1960's and 1970's attempted to create the concept of inclusion, for the nation's increasingly diverse population, through cultural history. The last twenty years economic benefits have increasing dominated the preservation decision-making process. These changing motives are reflected in not only the number of structures preserved, but also in the type of structures saved and the manner in which the preservation occurs. The following brief overview of the historic preservation movement in the United States shows the metamorphosis of rationales behind the movement.

## Overview of Historic Preservation in the United States

The nineteenth and early twentieth century saw the majority of the United States' energy and fervor directed towards increasing the young nation's geographic and economic clout. However, amidst the construction of a new empire, a number of foresightful communities and officials recognized the historic value to be found in the budding country's lands. Philadelphia's city council saved Independence Hall from the wrecking ball in 1816, thus marking the beginning of government-led historic preservation in the United States (Listokin, Listokin, and Lahr, 1998). Following the Civil War, the federal government placed under the protection of the War Department numerous famous battlefields in order to protect these historically significant sites from development pressure created by the railroads. The nation's westward expansion brought many Native American historic and prehistoric archeological finds under its control. Concerns for the historical value of these sites led to the passage of the Antiquities Act in 1906, aimed to protect such sites from civilian development (Glass, 1990).

While governments near the turn of the century continued to look favorably at preservation the bulk of preservation activities at this time were conducted by private sector elitist groups and other philanthropic entities. The Mount Vernon Ladies' Association, a group of preservation-minded women of Virginia's high society, purchased the old executive residence from Washington's grandson in 1860 (NMH Website, 2004). While John D. Rockefeller was rebuilding Colonial Williamsburg in the Roaring 20's, the Daughters of the American Revolution busily bought up old artifacts

and homes to restore to their original grandeur (Listokin, Listokin, and Lahr, 1998). Historic preservation was headed down an aristocratic, old money path until the onset of the Great Depression and FDR's New Deal Legislation.

The National Park Service (NPS) was created in 1916 as a component of the Department of the Interior. However, it was not until the early 1930's that the nation's historic forts and battlefields were placed under NPS's control. In 1933, President Roosevelt employed out-of-work architects to inspect and document historic structures under the Historic American Building Survey (HABS). The Historic Sites Act followed in 1935 and was the first congressional call for intergovernmental cooperation regarding preservation issues. While World War II put a temporary halt on the federal government's concern for preservation, the framework had been laid for future legislative action (Glass, 1990; Listokin, Listokin, and Lahr, 1998).

The 1930's also saw the creation of a new preservation tool, historic districting, that would allow the entire context of a neighborhood to be considered significant and thus protected under the legislation of historic preservation. Charleston, South Carolina, acting on a decades-old recommendation by Frederick Law Olmsted, dedicated the first local historic district in 1931. Five years later, New Orleans set aside the Vieux Carre, the Old French Quarter, as its first recognized district. Since then, almost every major city in the United States has designated at least some portion of its core as a historic district (Tyler 2000).

The post-WWII years brought many societal changes to the United States. One of the most influential was the proliferation of suburbs and the growing importance of the personal automobile. To help combat the abandonment left by suburbanites, Congress created in 1949 the National Trust for Historic Preservation as a non-profit organization aimed at facilitating preservation activities nationwide. The Housing Act of 1954 and the Federal Highway Act of 1956 also contained provisions to aid in preservation. Section 701 of the Housing Act allowed for limited preservation and rehabilitation using federal housing funds and the Highway Act required that highway construction avoid documented historic lands unless no 'feasible alternative' existed. The 1956 Act, however, was a double-edged sword as new urban freeways demolished thousands of undocumented historic homes usually located in low-income neighborhoods surrounding city cores. This destruction along with equally harmful Urban Renewal plans, albeit detrimental to historic preservation in the short run, angered enough preservationists to create the beginnings of new nationwide, often times grassroots, preservation movement (Glass 1990; Listokin, Listokin, and Lahr, 1998; National Register Website, 2004).

This growing preservation awareness was brought to the forefront in 1966 with the National Historic Preservation Act (NHPA). The passage of this Act, signed by President Lyndon Johnson, with considerable support from his wife Lady Bird, is often referred to as the beginning of modern historic preservation in the United States. Officially known as Public Law 89-665, its passage also owed a great deal of credit to Robert Utley, a

member of the National Park Service. Utley's testimony in front of The House of Representatives detailed exactly what the role of the Park Service would be and how the Act would affect historic properties. He proposed that the NPS would immediately create the National Register of Historic Places to catalog existing historic structures and process new recommendations for historic status. Soon after the House heard the plan for the NHPA, George Hartzog Jr. of the Department of the Interior took Utley's ideas to the Senate and both Congressional bodies passed the legislation and had it fast-tracked to Johnson's desk by the early fall of 1966 (Glass 1990).

In addition to the NHPA, 1966 also saw the Department of Transportation Act and the Demonstration Cities and Metropolitan Development (DCMD) Act, also known as the Model Cities Program, passed into law. The Transportation Act expanded the "no feasible alternative rule" of the 1956 Highway Act to include any NPS land and the Model Cities Program allowed Urban Renewal funds to be used for historic preservation projects (Listokin, Listokin, and Lahr, 1998).

The 1970's brought piecemeal improvement to the administrative and economic aspects of historic preservation. Executive Order 11593 (1971), the Archaeological and Historical Preservation Act and the Housing and Community Development Act, both of 1974, altered nomination and funding to favor rehabilitative procedures (Listokin, Listokin, and Lahr, 1998). The Tax Reform Act of 1976 allowed owners of historic, depreciable structures to reduce write-off schedules from 25-30 down to five years. The

first tax incentives to historic property owners were allocated in the Revenue Act of 1978. The 1978 Act offered a tax credit of 10% of rehabilitation costs on historic commercial and industrial buildings. A three-tiered (15, 20, and 25%) investment tax credit for historic structures was put into place in 1981 with the enaction of The Economic Recovery Tax Act (ERTA) (Asabere and Huffman, 1995).

This new three-tiered system made historic preservation profitable and a large number of investors and developers diverted funds to renovation and rehabilitation. The increase in tax credit claims brought with it serious abuse of the program. It is estimated that almost 20% of projects claiming credit were not eligible, and up to 40% of owners who sold properties before the five year holding period did not pay back cancelled credits. These abuses led to an increase in restrictions and a scaling back of credits with the Tax Reform Act of 1986 (Tyler, 2000)

President Clinton's administration generally left preservation law untouched, barring minor changes. Executive Order 13006 (1996) mandated that federal departments establish offices in urban areas and give first consideration to historic structures. Also, in 1996, the National Trust for Historic Preservation was cut off from federal funding and forced to rely on private donations. A national gentrification movement in the late 1990's brought business and residents back to historic structures and neighborhoods in central cities, but also raised concerns over displacement of lower-income residents.

## Economics of Preservation

According to its proponents, the greatest economic asset of historic preservation is its ability to raise property values in and around historic properties and districts. This increase in value benefits both the municipality through increased tax revenue and most owners by increasing the value of what is generally their single largest investment, their home. This rise in price or value is due to capitalization. Capitalization is a business and production term that the National Association of Independent Fee Appraisers, Inc. (NAIFA) defines as, "Any technique of converting an income stream into a capital sum." This technique works differently in real estate than in business and production but produces much the same result (NAIFA, 1974).

A house is a unique good in that it not only includes the actual structure, but the land and its location as well. Since houses are a geographically-fixed commodity, purchasing a house also requires purchasing the neighborhood, the view, and the rules and regulations of the municipal governing authority, etc. All of these factors contribute to the price or value of the home (Mulligan, Franklin, and Esparza, 2002). Much like location in a good school district or proximity to a river or lake influences the value of a home, so too does location within a historic district. The real estate market does not convert income streams, but rather home, neighborhood, municipal, and other characteristics into value.

As the market value of a property rises, city or county assessors, in order to maximize the municipalities' tax levy, update assessment values to best reflect what is believed to be

the current market value. George Bloom and Henry Harrison (1978) in a book written for the American Institute of Real Estate Appraisers, suggest that the factors affecting property value can be categorized into three groups: Physical, Social, and Economic. Physical characteristics are those that describe the home itself or its surrounding structures and street layout. Social factors are those that deal with the nearby residents, while Economic characteristics relate to restrictions, community growth, and public spending in the neighborhood[1].

Historic district status affects all three groups of factors. Districting influences the physical characteristics by helping maintain architectural conformity and building upkeep. The regulations put into place by historic zoning can affect the economic status of the property, while the demographic makeup of the residents, the social element, is often changed by two processes, gentrification and displacement, usually associated with historic districting.

Why does historic district designation, through capitalization, cause a rise in property value? Simply put, designation stabilizes neighborhoods, eventually leads to an increased interest in living in the area. Lockhard and Hinds (1983) explain the stabilization process best by comparing it to the classical game theory of "The Prisoner's Dilemma." Two property owners in an old neighborhood would each profit if both

[1] A complete list of the factors within each category can be found in Appendix A.

would rehabilitate their crumbling Bungalow-style home. However, if owner A spends $20,000 to fix his home and owner B does nothing, owner A's property value raise little because assessors and buyers alike take the condition of the surrounding neighborhood into consideration when pricing a home. Historic districting takes much of the guessing out of the game. Owners within these districts are encouraged to rehabilitate knowing that through historic zoning regulations, their neighbors are forced to retain, or improve the aesthetics of the area. In other words, historic district designation is a form of insurance for the property owner who wishes to upgrade his or her residence (Leichenko, Coulson, and Listokin, 2000)

National historic preservation expert Donovan Rypkema explains that renovation and preservation are catalytic activities, at an intra and inter-neighborhood scale. Within a neighborhood, as more homes are rehabilitated lenders are more willing to extend credit to owners and potential buyers interested in the neighborhood. This raises prices, extends equity, and eventually leads to a greater availability of credit (Rypkema 1994 as cited in Listokin, Listokin, and Lahr, 1998). This is the antithesis of the "redlining" that often killed many old neighborhoods with large minority populations in the 1950's and 1960's.

At an inter-neighborhood level, historic designation and renovation in one neighborhood often inspires adjoining areas to begin the process of rehabilitation and may entice leaders to begin to push for designation of their own neighborhood. The Benson and Klein (1988) study in Cleveland showed that most potential homebuyers preferred

properties located directly adjacent to historic districts to those within the districts. These buyers were looking to cash in on a positive externality, a stable, aesthetically pleasing neighborhood, without dealing with the design restrictions of the historic district.

While the increase in tax base is the most often mentioned benefit of preservation, it is certainly not alone. Rehabilitation provides cost-effective low and moderate-income housing and uses existing infrastructure, thus reducing municipal spending for housing provisions. The rehabilitation of commercial and industrial property increases property taxes and also boosts sales tax collection, by preventing relocation of businesses to suburban locations, outside of the city's jurisdiction (Leithe and Tigue, 2000). Historic preservation has also created new jobs for architects, tax-shelter attorneys, and other specialists involved primarily with rehabilitation and its subsequent funding avenues (Bauer and Black, 1986)

The construction process involved with renovation greatly enhances the local community's economy. Rehabilitation job costs are estimated to be 60-70% labor, while traditional, new structures spend around 50% of costs on the labor component. This higher percentage of labor equates to more construction jobs generally filled by local workers (Leithe and Tigue, 2000). In a 1989 speech given to the New Jersey Historic Sites Council, Rypkema stated his finding that if $1 million is spent on renovation rather than new construction it will keep an extra $120,000 in the community through the

creation of an additional 5 to 9 construction jobs, 4 to 7 other jobs, and will increase municipal retail sales by $34,000 (Rypkema, 1989)

## Tax Incentives

Although historic preservation and historic districting have many positive attributes, downfalls exist as well. The increase in property values often forces out low-income residents, those residents who are financially least able to move and most reliant on local social networks. Residents who are able to maintain ownership may also experience hardships due to strict architectural regulations that reduce the possibility of useful conversion of structures to other more profitable uses. This inability to adapt a structure to its highest and best use may scare away potential buyers and thus limit the sale value of a property. Research also shows that complete renovation of an existing building can cost up to 15% more than new construction (Bauer and Black, 1986; Rypkema, 1989). Furthermore, Asabere and Huffman (1994) found in Philadelphia that historic districts had a negative impact on rental properties due to overbearing façade and design constraints.

In order to combat these economic burdens federal, state, and local governments offer tax incentives to owners whose structures meet certain rehabilitation criteria. These tax incentives are usually of one of three types; income tax credits, property tax deductions, and property tax freezes. Income tax credits subtract directly from the amount an owner owes on their income taxes, while a property tax deductions lowers the taxable assessed

value of a property. Tax freezes retain the current property tax for a specified number of years regardless of property value increases. However, governmental bodies that allocate these tax incentives must do so with the knowledge that other taxpayers make up the difference in revenue (Austin and Hays, 2000)

At the federal level, any income-producing property that is listed on the National Register is eligible for a 20% income tax credit on expenses incurred during renovation given that it follows the Department of the Interior's standards (see Appendix B). Properties over fifty years old but not listed on the National Register are eligible for a 10% income tax credit. An owner must retain ownership for five years after the credit is granted or be forced to pay back 20% of the tax credit for every year that he or she falls short of the five-year minimum (National Register Website, 2003).

Each state is also free to employ tax incentive programs to foster preservation within its borders. As of 2001, thirty-seven states offered some type of tax break, many with more than one type of incentive. Property tax abatements and freezes, effective at the local level since property taxes are generally paid to the county, were the most common of the three types. Thirty states offered abatements or freezes to owner-occupied residential buildings and twenty-four states offered these incentives to commercial structures. State income tax credits were slightly less popular with the number of offering states at

seventeen, for residential structures, and sixteen, for commercial structures (Beaumont and Pianca, 2001)[2].

## State-level preservation in Arizona

State-sponsored historic preservation in Arizona began in 1982 with the passage of the Arizona State Historical Preservation Act. This Act created the Arizona State Historical Preservation Office (SHPO), a new office of the Arizona State Parks Department. In November of 1996, the Arizona State Parks Board adopted the first Arizona Historic Preservation Plan, since updated in 2000. The updated plan discusses two major barriers to preservation in a high growth state, such as Arizona.

(1) The pressures of development on historic properties are certainly greater than the rate of deterioration of resources through time.

(2) In a state where citizens born outside of the state outnumber those born within, creating an appreciation of Arizona's historic properties and the threats to their preservation is a major challenge.

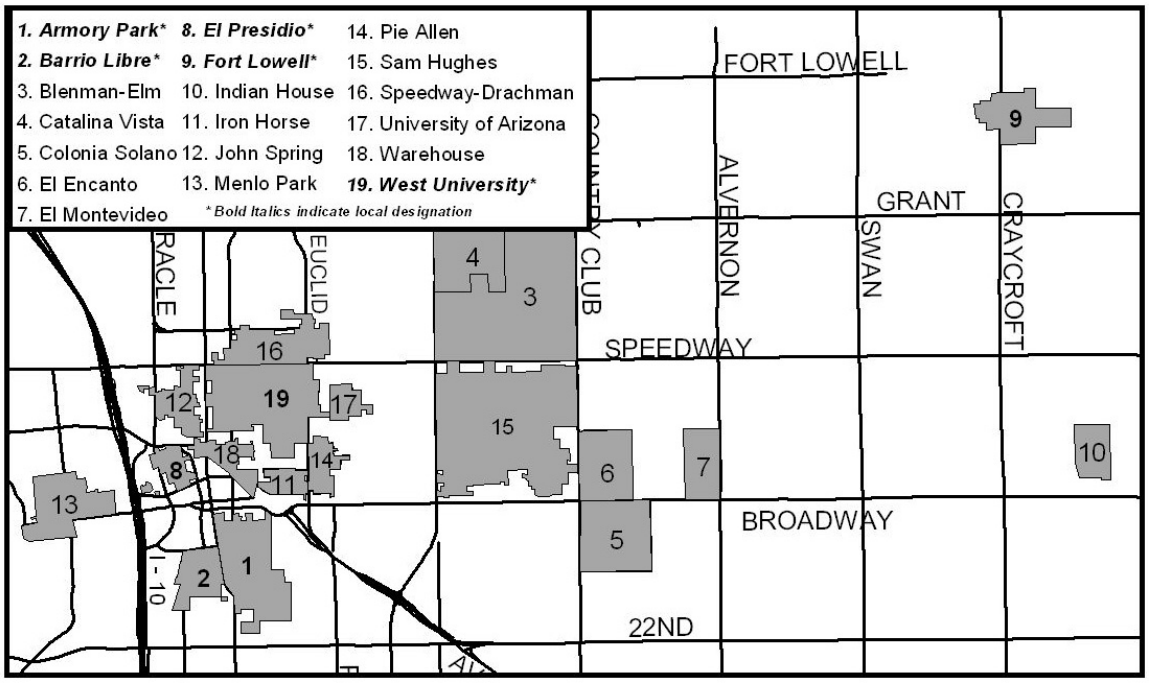
Regardless of the many difficulties associated with high growth, preservation activities in Arizona have been steadily growing. As of 2000, Arizona had 148 historic and archeological districts, comprising over 11,000 properties. Twenty-nine of these districts contain more than 100 properties (Arizona Historic Preservation Plan, Update 2000).

[2] For a complete chart of the detailed tax incentives see State Tax Incentives for Historic Preservation: A State by State Summary published by Constance Beaumont and Elizabeth Pianca for the National Trust, 2001.

The State of Arizona currently offers a property tax deduction to owner-occupied residential structures located within a National Register district through its State Preservation Tax Incentive (SPTI) program. This program, administered by the Arizona SHPO, allocates an up-to 50% reduction in assessed value for those homes judged contributing and that continue to maintain the Secretary of the Interior's standards. Owners must send an application along with two photos of the structure to the SHPO in order to enter into the fifteen-year contract (with an available fifteen-year extension for a 30-year total) for the tax deduction.

## City Preservation in Tucson

The City of Tucson, despite its characteristically post WWII auto centric growth, has many rich historic structures and neighborhoods. There are currently nineteen National Register districts in the city, with one addition pending and five more neighborhoods eligible. City preservation officer Mary McCune also notes that many post-WWII neighborhoods will soon be reaching the fifty-year minimum and will be eligible for National Register consideration in the next five to ten years (McCune, 2004). Five of the National Register districts (Armory Park, Barrio Libre, El Presidio, Fort Lowell, and West University) also have city designation. Figure 1 shows the location of the National Register and local districts within Tucson.




*Source: Pima County PCLIS Data Layers*

***Figure 1 – National and Local Districts***

Local districting in Tucson involves an owner-initiated process that requires petition signatures from at least 51% of the property owners within the proposed district. Along with an increased sense of prestige, Tucson's local districting also brings with it a set of rather strict design and demolition guidelines. These guidelines along with the owner petition requirement have kept local designation to only five districts, with none designated since the late 1970's (McCune, 2004).

Although local designation has been an underused planning tool in Tucson as of late, the City's Preservation Office works extensively with neighborhoods in order to facilitate National Register nomination. In addition to helping manage the nomination paperwork, the city offers a program that trains residents to properly identify their neighborhood's

historic resources, offers volunteers for information gathering, and refers interested groups to willing consultant firms specializing in district nominations.

## Previous Studies of the Impact of Historical Districting on Property Values

Academics and real estate analysts have been conducting studies to determine the impact of historic designation on housing values for nearly thirty years. Papers published in the late 1970's and early 1980's used a difference-on-difference method to compare designated and similar non-designated properties. This method, first used by Heurdorfer (1975), and Scribner, (1976), simply compares percentage changes in house values over a set time period between the designated and non-designated study neighborhoods. Their work drew considerable interest from lawmakers and historians alike and led to similar studies by the New York Landmarks Commission in 1977, and the first multi-city study conducted by the United States Advisory Panel on Historic Preservation in 1979 (Leichenko, Coulson, & Listokin, 2000).

Concurrently, an economist, Sherwin Rosen was incorporating a new method, hedonic modeling, developed by Kelvin Lancaster, to the urban studies field. Hedonic modeling allows for statistically significant calculation of the marginal price of any attribute found in a multi-attribute good, such as housing, using regression modeling (Clark and Herrin, 1997; Mulligan, Franklin, and Esparza, 2000).

In 1989, Deborah Ford published the first study to use hedonic modeling to examine the effect of historic districting upon housing values in The American Real Estate and Urban Economics Association Journal. Ford (1989) used a parsimonious model, limited to seven independent variables, to show a significantly positive relationship between historic district designation and housing prices within the city of Baltimore. Ford's work set the standard for future studies aimed at determining the marginal impact of historic designation as nearly all published studies since 1989 have utilized the hedonic model method over difference-on-difference calculation (Leichenko, Coulson, and Listokin, 2000).

Throughout the 1990's similar research took place in many of the nation's largest cities. While the basic framework of each study was similar, each study added a unique component to the work. Asabere and Huffman conducted three studies in the mid 1990's in Philadelphia, focusing on renter-occupied historic properties. In 2000, Haughley and Basulo examined New Orleans' National Register historic districts and compared them to those districts designated at the local level. Finally, also in 2000, Leichenko, Coulson, and Listokin published a multi-city hedonic-based study of the performance of historic districts in nine Texas Cities. A number of other studies took place in Cleveland, Staunton, VA, Sacramento, and Georgia (Benson and Klein, 1988; Rypkema 1995 in Haughley and Basulo, 2000; Clark and Herrin, 1997; Leithe and Tigue, 2000).

Most studies examining the impact of national historic designation on owner-occupied structures observed a positive impact of designation, a few specialized studies, however, present exceptions. Asabere and Huffman (1995) found that designation had a negative impact on renter-occupied structures in Philadelphia. Haughley and Basulo found that in New Orleans, national district designation positively affected property values; however local designation had the opposite effect. Both of these studies blame the loss of property value on overbearing design regulations employed by local regulations.

Coulson and Leichenko (2001) conducted the first study to use a cost/benefit analysis to determine the impact of historic structures on a municipality's finances. Their research, done in Abilene, TX, used hedonic modeling to determine the percentage increase in property value of historically designated structures and the adjacent buildings. This increase in the local tax base was then weighed against the total tax credits awarded to these designated structures to determine the financial impact of historically designated structures in the city. This study found that the City of Abilene's preservation program raised property taxes $17,000 more than the aggregate of the tax credits awarded.

These recent studies showing the measurable economic gains contributed by historic preservation, coupled with the aforementioned intrinsic and cultural importance place on preservation activities constitute historic preservation as a major component in current and future planning issues. The addition of preservation into the American planning

ethos will save many significant structures and districts, as well as increase city revenues for many years in the future.

# III. Data and Methods

This paper presents a cost/benefit analysis of historic districting in Tucson, Arizona by weighing the positive outcomes derived from an increase in tax base against the aggregate value of the State Historic Property Tax Reclassification Program (SPT) tax deductions awarded in the City of Tucson. Other benefits, such as job creation and cultural tourism, and other costs, such program implementation and enforcement as well as regulatory costs placed on property owners will not be considered in the cost/benefit analysis. The tax analysis was chosen over the others due to the availability of data and clarity of existing policy.

While conducted in the same manner as much of the previous work in this field, this research, most closely resembling Coulson and Leichenko's 2001 study in Abilene, TX, offers some notable differences. Due to Pima County's excellent GIS database and through the use of assessment data rather than sales data, this study works with the complete data set of properties, whereas most studies utilize samples of the whole. Relying on previous studies, this research expects to find that historic preservation, while certainly an aesthetically and environmentally plus, is also an economic benefit to the City of Tucson.

Following similar cost/benefit studies, this research utilizes a two-step process. First, the marginal property value of location within a National Register district, a local district,

and participation in the SPT is computed using three separate hedonic models. Then, the aggregate amount of tax levy created by these preservation activities, the benefit, is totaled. Secondly, this figure is compared to the total amount of property tax deductions granted under the SPT, the cost, to determine if the SPT is a budgetary net cost or benefit to the City of Tucson.

## Data Collection

The data assembled for this study were downloaded from the Pima County GIS Department Website FTP Server (http://www.dot.co.pima.az.us/gis/data/ftp/), Pima County Assessor's website (www.asr.co.pima.az.us), and the United States Census Bureau Website (www.census.gov). The Census Data and the Assessor's website data are available to the public while in order to access the GIS FTP server the Pima County GIS Department must be contacted for permission[3]. All census data used in this study are from the 2000 decennial census, while the remainder of the data are 2004 property tax data.

The GIS server was used to assemble basic GIS layers of Tucson, such as the location of roads and individual parcels. Structure-specific data, (i.e. age, size, existence of pool), was collected from the Assessor's website. Information regarding the demographics of the city's census blocks was obtained from the U.S. Census's online database. These

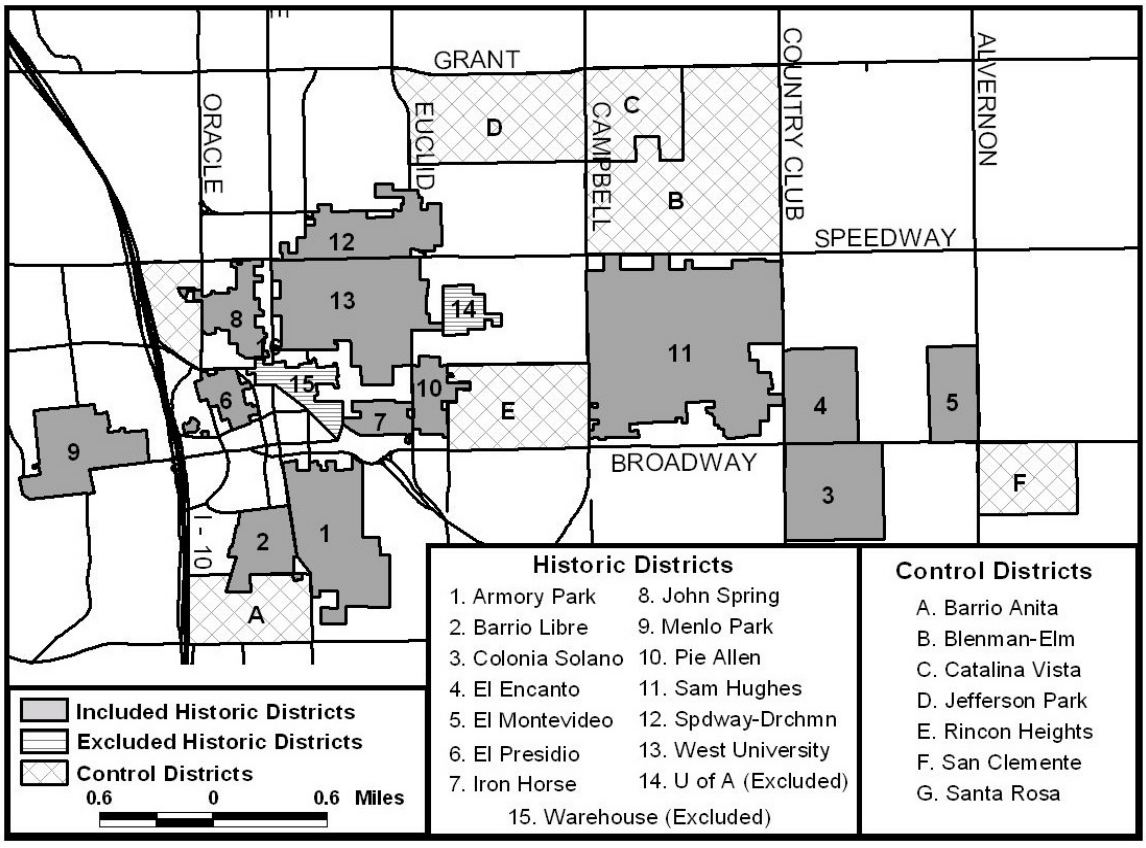
[3] Potential users must fill in a form promising not to use the data for commercial purposes. After the waiver is received, an applicant is emailed a username and password allowing access to the available online GIS coverages.

data were combined in a GIS layer using ArcView 3.2 software and converted to database files (.dbf's) for use in Microsoft Excel.

The 19 National Register Historic Districts within Tucson are primarily located south or east of the central business district. For the purposes of this study 13 of these districts are examined. The two newest districts, Blenman-Elm and Catalina Vista are excluded because they have yet to complete a year on the records and therefore no tax deductions are available to properties within their boundaries. The University of Arizona (none) and the Warehouse District (four) were also omitted because of a lack of residential structures. Finally, Fort Lowell and Indian House have been eliminated due to their isolated locations on the fringe of the city proper. Although the Fort Lowell district, locally as well as nationally designated, is a rather large district with a fair number of residential structures, the distance of it from the remainder of districts created data issues in the hedonic models and therefore was omitted.

Tucson's five eligible districts, along with pending San Clemente and newly designated Blenman-Elm and Catalina Vista are used as control districts in this study. These districts were chosen as controls because their eligibility signifies that each area has a considerable number of houses over 50 years of age as well as similar architectural design qualities. In addition, previous studies (Ford, 1989; Clark and Herrin, 1992) used the same methodology in choosing control districts. The control, included, and excluded districts of this study are shown in *Figure 2 – Study Districts* on the following page.

Using the Pima County Assessor's land use codes imbedded in the PCLIS parcel layer all the owner-occupied residential dwellings, 6648 in all, were selected from the GIS layer. These land use codes also denote which properties are receiving the SPT tax deduction and to what extent (1%-50% reduction) they are receiving it.




*Source Pima County PCLIS Data Layers*

***Figure 2 – Study Districts***

## Data Set

For all three models, the natural log of the 2004 Full Cash Value Assessment is used as the dependent variable. NATDES, LOCDES, and PARTIC, are the three independent dummy variables used to determine the impact of historic district designation on assessed

values. NATDES refers to location within a National Register District, LOCDES refer to location within a local district, and PARTIC denotes if the property is currently participating in the SPT program.

Home characteristics are also represented through the use of two additional structurally related dummy variables, AIRCON, to account for the presence of refrigerative cooling and POOL, to account for the presence of a pool.

Four quantitative variables are also used in the three models. SQFT is the square footage of the main structure, STRAGE represents the age of the structure in years and GARAGE indicates the number of parking spaces located in the property's enclosed or semi-enclosed garage. DISCBD indicates the distance (in feet) that the property lies from the central business district. Two census block variables, PERBLH and PEROWN, are utilized to indicate the percent of black and Hispanic residents and the percentage of owner-occupied structures in the census block within which the property lies. These quantitative variables along with the aforementioned dummy variables are listed in *Table 1 – Descriptive Statistics*.

***Table 1 – Descriptive Statistics***

| Name | N | Type | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|---|
| **NATRES** | 6648 | Hist- Dummy | 0.00 | 1.00 | 0.56 | 0.50 |
| **PARTIC** | 6648 | Hist- Dummy | 0.00 | 1.00 | 0.14 | 0.34 |
| **LOCDES** | 6648 | Hist- Dummy | 0.00 | 1.00 | 0.13 | 0.33 |
| **SQFT** | 6648 | Structural | 240.00 | 11665.00 | 1529.85 | 724.80 |
| **STRAGE** | 6648 | Structural | 2.00 | 127.00 | 60.15 | 19.43 |
| **AIRCON** | 6648 | Str-Dummy | 0.00 | 1.00 | 0.35 | 0.48 |
| **POOL** | 6648 | Str-Dummy | 0.00 | 1.00 | 0.11 | 0.32 |
| **GARAGE** | 6648 | Structural | 0.00 | 6.00 | 0.91 | 0.85 |
| **DISCBD** | 6648 | Locational | 1514.80 | 21737.40 | 10321.35 | 4674.83 |
| **PEROCC** | 6648 | Census | 0.03 | 0.98 | 0.48 | 0.22 |
| **PERBLH** | 6648 | Census | 0.05 | 0.97 | 0.46 | 0.34 |
| **2004 ln FCV** | 6648 | Dependent | 9.71 | 13.94 | 11.70 | 0.48 |

## Quantifying the Benefits of Historic Districts in Tucson

Measuring the impact of historic designation upon a property's assessed value is accomplished through the use of hedonic modeling. In the case of a house, a number of factors contribute to the assessment value, as discussed previously. A hedonic regression model shows to what extent each factor contributes to the assessed value of the property. This study uses three different hedonic models to examine the current state of historic preservation in Tucson. Each model is used to isolate the impact of a single variable, *Model One – National Register Designation, Model Two – Local District Designation,* and *Model Three – Participation in SPT.*

Hedonic models are calculated using one of three methods; linear, log-linear, or semi-log. This study's three models use the semi-log form to estimate the impact of housing

characteristics on the properties assessed value. A semi-log regression calculates the percentage effect, rather than the dollar amount, that a characteristic influences the assessed value of the property. These models differ from traditional linear models by transforming the dependent variable into its natural log form. The basic formula for the hedonic models used in this study is:

$$\ln \text{Assessed Value} = \beta_0 + \beta_1 (\text{NATRES, LOCDES, or PARTIC}) + \beta_2 \text{SQFT} + \beta_3 \text{STRAGE} + \beta_4 \text{AIRCON} + \beta_5 \text{POOL} + \beta_6 \text{GARAGE} + \beta_7 \text{DISCBD} + \beta_8 \text{PEROCC} + \beta_9 \text{PERBLH} + \varepsilon$$

Three models are run with SPSS software using this formula with each model substituting the appropriate Historic Preservation Dummy Variable (NATRES, LOCDES, or PARTIC) into the equation.

The degree to which a hedonic regression model successfully explains the dependent variable is measured by an $r^2$ value, the percentage of variance in value explained by the model. The values for similar studies in both historic preservation studies and housing studies within Tucson have been generally located in the .7 to .8 range: Fik, Ling, & Mulligan, 2002 (.807,.775,.834), Mulligan, Franklin, Esparza, 2002 (.838,.775), Coulson & Leichenko, 2001, Leichenko, Coulson, & Listokin, 2000 (.777,.809,.784), and Ford, 1989 (.61, .67)

Before presenting the results of the three models, it should be noted that semi-log hedonic model dummy variable coefficients are believed to present a slight systematic error. Halversen and Palmquist acknowledged this error in 1980 when they noticed that multiplying a semilog coefficient by 100 did not result in the proper percentage impact. One year later Kennedy published a paper containing a convenient correction method to help eliminate most of the error associated with these types of hedonic models. The correction formula is as follows (von Garderen & Shah, 2002):

$$\mathbf{Exp}^{\text{(coefficient - ½ (standard deviation))}} \mathbf{- 1}$$

Although this method only minutely changes the coefficient values, all dummy variable coefficients in this study have been corrected according to Kennedy's formula.

# IV. Empirical Results

## Hedonic Model Results

All three models, *Model One – National Register Designation, Model Two – Local District Designation,* and *Model Three – Participation in SPT,* all use the same eight independent variables and the same dependent variable, ln 2004 FCV. In addition, each of these models contains one of the historic preservation variables, identifiable by the model's name. Results of these three semilog hedonic models are found in Table 2. All coefficients are expressed in raw percentage form due to the use of semilog hedonic models. Multiplying each coefficient by 100 gives the percentage change in the assessed property value associated with an increase of one unit in the independent variable. In the instance of a dummy variable, the percentage indicates the premium associated with the presence of that dummy variable. For example, in Model One, the presence of refrigerative air conditioning, AIRCON, creates a 5.5% increase in assessed value.

**Table 2 – Hedonic Model Results**

| | | Model 1 | | Model 2 | | Model 3 |
|---|---|---|---|---|---|---|
| **Constant** | | **10.603**<br>*(-600.02)* | | **10.594**<br>*(594.83)* | | **10.655**<br>*(596.99)* |
| **NATDES** | | **0.059** | | | | |
| | | *(6.99)* | | | | |
| **LOCDES** | | | | **0.069** | | |
| | | | | *(6.43)* | | |
| **PARTIC** | | | | | | **0.128** |
| | | | | | | *(12.99)* |
| **SQFT** | | **0.0004** | | **0.0004** | | **0.0004** |
| | | *(80.54)* | | *(80.96)* | | *(79.99)* |
| **STRAGE** | | **0.0005** | | **0.0005** | | **0.0005** |
| | | *(3.28)* | | *(3.01)* | | *(0.83)* |
| **AIRCON** | | **0.055** | | **0.057** | | **0.055** |
| | | *(7.62)* | | *(7.90)* | | *(7.72)* |
| **POOL** | | **0.103** | | **0.106** | | **0.101** |
| | | *(9.34)* | | *(9.57)* | | *(9.25)* |
| **GARAGE** | | **0.074** | | **0.076** | | **0.074** |
| | | *(18.79)* | | *(19.23)* | | *(18.83)* |
| **DISCBD** | | **0.00003** | | **0.00003** | | **0.00003** |
| | | *(23.92)* | | *(23.71)* | | *(23.94)* |
| **PEROWN** | | **-0.0014** | | **-0.0011** | | **-0.0013** |
| | | *(-6.23)* | | *(-5.11)* | | *(-6.05)* |
| **PERBLH** | | **0.0008** | | **0.0012** | | **0.0011** |
| | | *(6.54)* | | *(11.61)* | | *(10.18)* |
| **Adj $R^2$** | | **0.737** | | **0.737** | | **0.726** |

**Values in bold** are significant at the .05 level.
Underlined values are utilized in the cost/benefit analyses.

The underlined coefficients exhibit the current situation of historic districting and its effect on assessment values in Tucson, Arizona. Model One indicates that location within one of the 13 National Register districts, NATRES, in this study adds 5.9% to the assessment value of a property, while location within a local district, LOCDES, derived from Model Two, adds an additional 6.9% to the assessment value. Model Three shows that those properties participating in the SPT program, PARTIC, incur, in addition to the one or both of the previous two premiums, an extra 12.8% increase in assessment value. Therefore, an SPT participating property, within a national and local district is assessed at

a 25.6% higher value than the same property if it were located in a non-designated neighborhood. The following table, *Table 3 - Percentage of assessment value attributed to Historic Districting*, shows the historic districting assessment premium associated with each of the four types of historic properties in this study.

**Table 3 – Percentage of assessment value attributed to Historic Districting**

| National | Local | SPT Participant | % |
|---|---|---|---|
| X | | | 5.9 |
| x | X | | 12.8 |
| X | | x | 18.7 |
| X | X | x | 24.6 |

Although they are not used in the following cost/benefit analyses, the remaining variable coefficients reflect characteristics of the housing market in these historic districts. All three models show that the presence of racial diversity, PERBLH, distance from downtown, DISCBD, and structure age, STRAGE, increase assessment values, while the percentage of owner-occupiers, PEROWN, decreases assessment values. In addition, each garage space, GARAGE adds around 7%, a pool, POOL, contributes a 10% premium, and refrigerative air conditioning, AIRCON, increases assessment values an additional 5%.

## Cost/Benefit Analysis

A cost/benefit analysis was conducted on the 13 National Register historic districts in Tucson, Arizona utilizing the underlined coefficient values found in Table 2, page 35.

This analysis is used to determine if historic districting in Tucson is a budgetary benefit or cost by weighing the amount of SPT deductions against the value of additional taxes created by increased property values. This analysis considered only at the tax levying effect, disregarding other impacts such as cultural tourism and rehabilitative construction benefits.

Measuring the tax levying effect of historic districting requires first calculating how much is currently collected from the 13 study districts and comparing that to an estimate of how much would be collected if no historic districts were present in Tucson. In order to calculate these two tax levies, the assessed value of each property was extracted from the PCLIS parcel coverage. Tax formulas and rates used in Pima County for the 2004 tax year were obtained from Ms. Laurie Molina, of the Pima County Assessor's Office.

Property taxes in Pima County are composed of two separate values, Primary Tax and Secondary Tax. In the same manner, property assessments contain two values, Full Cash Value (FCV) and Current Limited Value (CLV). Full Cash Value is the assessor's estimation of the market value of the property and has no percentage of increase per year ceiling. Current Limited Value, on the other hand, can only increase 10% of the previous year's CLV or 25% of the difference between FCV and CLV each year. For these reasons the CLV is generally 90-95% of the FCV.

The Primary Tax formula is as follows: **CLV x Assessment Ratio x Primary Tax Rate**

The Assessment Ratio for ordinary residential properties is 10%, while those participating in the State's Preservation Tax deduction program have a ratio ranging from 5% to 10% (depending upon level of compliance). The Primary Tax rate for 2004 is 13.0715%

The State of Arizona's Aid to Education tax law must also be considered when determining Primary Tax levies. The law states that for an owner-occupied residential structure the total Primary Tax levy may be no more than 1% of its Current Limited Value. For those properties the formula is: **CLV X .01**

The Secondary Tax (2004 rate of 4.4246%) is not affected by the Aid to Education deduction and is calculated as: **FCV x Assessment Ratio x Secondary Tax Rate**

Using the above three tax formulas, an Excel spreadsheet calculated current tax levy of all of the owner occupied residential structures within the thirteen National Register districts for the 2004 tax year to be $6,390,008. This same spreadsheet is used to calculate the estimated levy assuming that there were no historic districts, and therefore no SPT program, within the City of Tucson. This estimated levy, using the coefficients found in Models One, Two, and Three, was done by discounting the assessed value of each property by the percentage of its value attributed to historic districting. *Table 3 - Percentage of assessment value attributed to Historic Districting*, page 31, shows the

property types and their corresponding deduction amounts. It should also be noted that in the estimated tax calculation the assessment ratio of all properties was returned to 10% because the simulated lack of historic districts eliminates the SPT assessment reduction.

This new tax levy calculation shows that without any form of historic districting within the City of Tucson, these same 3716 properties would generate $6,515,920 worth of property taxes, a difference of $125,911. This analysis shows that the current SPT program along with historic districting, while certain aesthetically beneficial, is financial burden on the city. The following table, *Table 4 - Cost/Benefit Results*, shows the current tax levy along with the simulated tax levy and the difference for the 2004 tax year.

**Table 4 – Cost/Benefit Results***

| Model | 2004 Tax Levy | Impact |
|---|---|---|
| Current | $6,390,008 | ---------- |
| w/o Historic Districting | $6,515,920 | -$125,911 |

*It should be noted that this number is not the exact impact because only 13 of the 17 districts eligible for tax incentives in 2004 were used. However, these 13 districts include 3716 of 3819 (97.3%) total single-family residential properties available for tax deductions. Thus, inclusion of the remaining four districts would have a minimal impact and therefore for policy considerations the above results are sufficient.

## Conclusion

This study found that location within both National Register districts (5.9%) and local districts (6.9%) produce a significant increase in property assessment value. Participation in the Arizona State Historic Property Tax Reclassification Program (SPT) is also shown to cause an increase (12.8%) in assessment value. These findings are in line with similar studies conducted across the nation in the last decade and most likely come as no surprise to preservationists and city officials. However, the Cost/Benefit Analysis shows that the rise in the property tax base created by these historic districts and the SPT program are not enough to offset the deduction awarded to historic home owners in these districts in the year 2004.

# V. Recommendations

## Policy Recommendations

This report's findings show that at the current time historic districting and the SPT program, while contributing to an increase in property values, is nonetheless a financial burden on the City of Tucson. These results suggest that lenient districting and over-generous tax incentives have caused historic districting in Tucson to have a negative budgetary impact. This report, therefore, makes two recommendations for city and state officials regarding historic districting and the SPT program.

1. **Reduce the SPT tax incentive to National Register District properties.** The fiscal imbalance of the SPT program in Tucson is due in large part to the generous deductions awarded compliant historic homeowners in National Register districts. Arizona's SPT program allows for a maximum 50% reduction in assessed value of participating structures, the most generous owner-occupied residential structure incentive in the country. Decreasing an individual's property tax burden by nearly 50% (the existence of the Aid to Education benefit renders most savings near 40%) is a great benefit to historic property owners but also constitutes equity issues. The lack of strict guidelines associated with National Register districts allows an owner of a $200,000 bungalow in the historic Sam Hughes Neighborhood to pay the same taxes as an owner of a $100,000 manufactured home in Sunnyside while having to bear little if any infringement of property rights.

Equity issues aside, this research has shown that the deductions greatly outweigh the tax base increase and steps should be take to reduce the tax incentive. This reduction could take place at either the state level or local level. At the state level the legislature could change the enabling legislation of the SPT program to lower the rate of deduction. This legislation, however, does not require the City to implement the entire maximum 50% reduction in the assessment value of contributing properties. In lieu of state action, the Tucson City Council could mandate an across the board reduction in the deduction rate for the entire City of Tucson

2. **Enact a tax incentive for local districts**. This research shows that properties within Tucson's local historic districts are assessed nearly 7% higher than similar properties outside of these districts. An increase in the number of local districts would further raise the tax base, thus helping to eliminate the current fiscal burden imposed by historic districting programs. While the City Preservation Office actively encourages local designation, which is an owner-initiated process, there has not been a new designation since 1980. This lack of enthusiasm over the City's programs is because local designation is a hard sell to neighborhood residents. With local designation comes increased design and demolition guidelines, however, no incentives to local designation, save greater prestige, exist. In order to entice more neighborhoods to initiate designation and to increase the equity of historic districting in Tucson, a local district tax incentive must exist.

Historic districting is one of easiest and most efficient methods of stabilizing a declining neighborhood, thus maintaining the current tax base. This stabilization is one of historic districting's crowning achievements and should not be overlooked; however, in the present situation the costs of districting outweigh the benefits. There are currently five districts in the City of Tucson eligible for the National Register, with another, San Clemente, currently awaiting national approval. In addition, in the next decade a large number of Post WWII suburban neighborhoods will be reaching the National Register's 50-year criteria for enlistment. The near future could see a substantial increase in the number of National Register districts, and thus a large number of properties gaining eligibility for the SPT program, in the City of Tucson.

Barring a change in the tax incentive rate, as described in recommendations 1 and 2, additional district nominations will continue to decrease the equity of historic districting in Tucson and push the SPT program in Tucson farther into the red. The City may wish to limit future district designations until the property tax deduction rate is decreased to a profitable level. Once the SPT rate has been properly reduced, historic districting will become financially beneficial to the city and planners and preservations should continue with increased effort to preserve Tucson's historically significant neighborhoods through National Register and local designation.

## Simulated Rate Changes

In order to demonstrate the necessary changes in policy that would need to be done to make the SPT program and a potential local historic district tax incentive economically beneficial to the City of Tucson, four simulated tax levy aggregations have been computed. Using changes suggested in the first two policy recommendations the previous Cost/Benefit Analysis has been recalculated using a reduction of the SPT deduction from its current rate of 50% to either 30% or 40% and, in the final two simulations, a new local district property tax deduction of 10%. *Table 5 – Simulated Impacts Using Altered Deduction Rates* shows the simulated impacts for the 2004 tax year if the new percentage deductions were to be implemented.

***Table 5 – Simulated Impacts Using Altered Deduction Rates***

| Model | SPT Rate | City Rate | Impact |
|---|---|---|---|
| Current | 50% | 0% | -$125,911 |
| Simulation 1 | 40% | 0% | $131,531 |
| Simulation 2 | 30% | 0% | $388,967 |
| Simulation 3 | 40% | 10% | $21,994 |
| Simulation 4 | 30% | 10% | $274,722 |

These simulations show that, in 2004, with a small reduction in tax incentives for National Register districts, historic districting in Tucson, Arizona could continue to preserve culturally significant properties, as well as become a fiscal generator for the city. As Simulations 3 and 4 suggest, factoring in a 10% property tax deduction for properties located within local historic districts would not only increase the equity in historic

districting, but also help to facilitate an increase in local district designation in Tucson, while still producing a profit.

## Future Research Recommendations

As with all research, the work produced more questions than answers. Time and data constraints limit the scope of research, often with the effect of keeping one's work concise and manageable. While this report demonstrates the economic impact of historic preservation districting and the SPT program within Tucson, Arizona, many new avenues of study should be pursued.

Future research should consider the impacts of districting on properties adjacent to the districts to determine if a "spillover" effect occurs and examine whether assessment values change over time (i.e. examine if the number of years a district has been on the National Register influences the assessed value of individual properties). Future research such as this could help local government determine the immediate and the long-term impacts of future National Register as well as local designations.

A neighborhood specific study, looking at the individual impact of each neighborhood on assessment values, would also prove valuable in understanding the historic district housing market in Tucson. This research would show which types of districts, i.e. large vs. small, contiguous vs. detached, are most adept at increasing the local tax base.

# Appendices

## Appendix A – Appraisal Factors

Bloom and Harrison's List of Factors Affecting a Property's Value

Physical

- Location within a community
- Barriers and Boundaries
- Topography/Soil/Drainage/Climate
- Services and Utilities
- Proximity to supporting facilities
- Street Patterns
- Pattern of land use
- Conformity of structure
- Special Amenities
- Nuisances and Hazards
- Age and condition of residence

Social

- Population Characteristics
- Community and Neighborhood Associations
- Crime Level

Economic

- Relation to Community Growth
- Public and Private restrictions
- Schools
- Planning and Subdivision Regulations

# Appendix B – Secretary of the Interior's Standards for Rehabilitation

### The Secretary of the Interior's Standards for Rehabilitation

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.

2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.

3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.

4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.

5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.

6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match

the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.

7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.

8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.

9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

# References

Arizona Historic Preservation Plan, Update 2000. Arizona State Parks

Asabere, Paul and Forrest Huffman.1995. Real Estate Values and Historic Designations. *The Illinois Real Estate Letter,* (Winter/Spring), 11-13.

Asabere, Paul and Forrest Huffman. 1994. Historic Designation and Residential Market Values. *The Appraisal Journal* 62: 396 – 401.

Austin, Michael, CAE. & Donna Moore Hays. 2000. Historic and Scenic Property Exemptions Raise Question. *Assessment Journal* May/June: 39-42.

Bauer, Betsy & Robert Black. 1986. Taking the Past and Building the Future. *U.S. News and Report*, Nov. 3, 1986, 58-59.

Beaumont, Constance & Elizabeth Pianca. 2001. *State Tax Incentives for Historic Preservation: A State-by-State Summary.* Washington D.C.: National Historical Trust.

Benson, Virginia & Richard Klein. 1988. The Impact of Historic Districting on Property Values. *The Appraisal Journal* Apr 88': 223 – 232.

Bloom, George & Henry Harrison. 1978. *Appraising the Single Family Residence.* Chicago: American Institute of Real Estate Appraisers.

Clark, David & William Herrin. 1997. Historical Preservation and Home Sale Prices: Evidence from the Sacramento Housing Market. *The Review of Regional Studies* 27: 29-48.

Coulson, Neil & Eric Bond. 1990. A Hedonic Approach to Residential Succession. *The Review of Economics and Statistics.* Vol 72 No. 3: 433-444.

Coulson, Neil, & Robin Leichenko. 2001. The Internal and External Impact of Historical Designation on Property Values. *Journal of Real Estate Finance and Economics*

Ford, Deborah A. 1989. The Effect of Historic District Designation on Single Family Home Prices. *Journal of the American Real Estate and Urban Economics Department* 17: 353-362.

Glass, James. 1990. *The Beginnings of a New National Historic Preservation Program, 1957 to 1969*. Nashville, TN.: American Association for State and Local History.

Grief, Constance. 1977. *The Historic Property Owner's Handbook*. Washington D.C.: The Preservation Press.

Haughey, Patrick & Victoria Basulo. 2000. The Effect of Dual Local and National Register Historic District Designations on Single Family Housing Prices in New Orleans. *The Appraisal Journal* July.

Halvorsen R. & R. Palmquist. 1980. The Interpretation of Dummy Variables in Semilog Equations. *American Economic Review* 70: 474-475.

Hardesty, Donald & Barbara Little. 2000. *Assessing Site Significance: A Guide for Archaeologists and Historians.* Walnut Creek, CA.: Altamira Press.

Kennedy, P.E. 1981. Estimation with correctly interpreted dummy variables in semilogarithmic equations. *American Economic Review* 71.

Kilpatrick, John, 1999. *Historic Districts are Good for Your Pocketbook: The Impact of Local Historic Districts on House Prices in South Carolina.* South Carolina Department of Archives and History.

Leithe, Joni & Patricia Tigue. 2000. Profiting from the Past: The Economic Impact of Historic Preservation in Georgia. *Government Finance Review* April: 37-41.

Leichenko, Robin, N. Edward Coulson, & David Listokin. 2000. Historic Preservation and Residential Property Values: An Analysis of Texas Cities. *Urban Studies*, Vol. 38, No. 11: 1973 – 1987.

Listokin, David, Barbara Listokin, & Michael Lahr. 1998. The Contributions of Historic Preservation to Housing and Economic Development. *Housing Policy Debate*, Vol 9 Issue 3, 431-478

Lockhard, William Jr. & Dudley Hinds. 1983. Historic Zoning Considerations in Neighborhood and District Analysis. *The Appraisal Journal* 51: 485-497.

Mackintosh, Barry. 1986. *The National Historic Preservation Act and The National Park Service: A History.* Washington D.C.: Historic Division, National Park Service, Department of the Interior.

McCune, Marty. 2004. Personal Interview, January 29, 2004, City Historic Preservation Office, 345 E. Toole Ave, Tucson, AZ

McLendon, Timothy, and JoAnn Klein. No Date. *Comparative Property Values Analysis; Use of GIS Mapping to Review Property Appraisal Data.* Center for Governmental Responsibility: University of Florida Levin College of Law

Mulligan, Gordon, Rachel Franklin & Adrian X. Esparza. 2002. Housing Prices in Tucson, Arizona. *Urban Geography* 23.5: 446 - 470

National Association of Independent Fee Appraisers, Inc. 1974. *Real Estate Appraisal: Techniques of Capitalization*. St. Louis, MO.: NAIFA.

National Historic Preservation Act of 1966. Statute 915, 16 U.S.C. 470.

National Register Website. 2003. www.nr.nps.gov Viewed September 2003

Reynolds, Judith. 1982. *Historic Properties: Preservation and the Valuation Process.* Chicago.: American Institute of Real Estate Appraisers

Rypkema, Donovan. 1989. *Preservation Under (Development) Pressure*. Speech delivered to NJ Historic Sites Council Conference. May 12, 1989

State of Arizona Historic Preservation Office Website (2003). www.pr.state.az.us/partnerships/shpo/shpo.html Viewed September 2003.

Tyler, Norman. 2000. *Historic Preservation: An Introduction to its History, Principles, and Practice.* New York.: W.W. Norton & Company.

Varady, David. 1986. *Neighborhood Upgrading: A Realistic Assessment*. Albany, NY.: State University of New York Press.

Von Garduren, K.J., & C. Shah. 2002. *Exact interpretation of dummy variables in semilogarithmic equations***.** University of Amsterdam Discussion Paper. Department of Quantitative Economics. Nov