2013

The Social Effects of Preservation: Social Wellbeing and the Federal Rehabilitation Tax Credit Program in Philadelphia

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The Social Effects of Preservation: Social Wellbeing and the Federal Rehabilitation Tax Credit Program in Philadelphia

Abstract
This thesis was intended to begin to fill in a gap in preservation literature by beginning research in Philadelphia and evaluating how, if at all, historic preservation affects social wellbeing. By considering tax credit investment alongside various statistical measures of social wellbeing in Philadelphia census block groups, this study tested some hypotheses about the power of preservation in community revitalization. The primary hypothesis tested is that historic preservation activity improves social wellbeing in Philadelphia. More specific hypotheses include:

- Historic preservation improves the physical appearance of neighborhoods.
- Historic preservation reduces crime, especially building-specific crime such as arson and graffiti.
- Historic preservation preserves affordable housing.
- Historic preservation creates more educated communities.
- Historic preservation creates more walkable and transit-friendly communities.
- Historic preservation encourages more private and public investment.

Identifying and analyzing the social benefits of the federal historic rehabilitation tax credit program may provide another tool for preservation advocates to use when making the case for preservation planning in their community. If this thesis can prove that there is a demonstrable link between historic preservation and whole community revitalization, then preservation will likely play a more vital role in city planning and economic development plans.

Keywords
historic preservation, social wellbeing, philadelphia, rehabilitation tax credit, quality of life

Disciplines
Historic Preservation and Conservation

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THE SOCIAL EFFECTS OF PRESERVATION: 
SOCIAL WELLBEING AND THE FEDERAL REHABILITATION TAX CREDIT 
PROGRAM IN PHILADELPHIA

Ellis Miller Mumford

A THESIS 
in 
Historic Preservation

Presented to the Faculties of the University of Pennsylvania in Partial Fulfillment of 
the Requirements of the Degree of 

MASTER OF SCIENCE IN HISTORIC PRESERVATION

2013

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--To Philadelphia
Thank you to Randy Mason, my advisor, who encouraged me to think independently and find creative solutions for research problems. Also, thank you to Randy and Stephanie Ryberg for their previous research on RTCs and providing me with an exciting, interesting, and important thesis topic.

Thank you to Ira Goldstein, Scott Haag, and Al Parker from The Reinvestment Fund who helped me in developing methodology, finding and sorting data, learning GIS, and refining my research question.

Thank you to my colleagues at Penn who helped me with countless GIS questions and providing me good company in commiseration and laughter at the library and happy hour afterwards.

And thank you to my family, especially my sweet nieces, my best friends, near and far, and my wonderful partner, Jeff, for their unending humor, encouragement, love, support, and understanding.
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Chapter 1 - Introduction

Numerous studies have touted the economic benefits of historic preservation. Preservation stabilizes property values, is a cost-effective way to encourage development, and can help strengthen an entire local economy. Furthermore, it is widely recognized that the greenest building is the one already built. In preservation classrooms and conferences around the country, preservation advocates can list any number of economic and environmental benefits of preservation, rehabilitation, and adaptive reuse. Additionally, many community members can point to tangible (“the houses are simply look nicer”) and intangible (“we have a real sense of community”) rewards of historic preservation. As of yet, few studies of the social benefits of historic preservations exist which means that, while advocates can easily defend the economic and environmental perks of preservation, connecting preservation activity to complete community revitalization and health is difficult. Community revitalization includes tangible improvements in the economy (increased property values, new businesses,
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etc.) and social wellbeing (reduction in crime, increased educational attainment, better overall health, etc.). While this thesis may consider quantitative measures of revitalization, its main focus shall be qualitative social wellbeing measures of amenities and crime inter alia.

Because little research has been performed on the link between social wellbeing and historic preservation, this thesis hopes to begin to bridge that gap by beginning research in Philadelphia, a city that has seen both a lot of preservation and community revitalization in the past several decades. By considering rehabilitation tax credit (RTC) investment alongside various statistical measures of social wellbeing in Philadelphia census tracts, this thesis shall test some hypotheses about the power of preservation in community revitalization. The primary hypothesis being tested is that historic preservation activity improves social wellbeing in Philadelphia. More specific hypotheses include:

- Historic preservation improves the physical appearance of neighborhoods.
- Historic preservation reduces crime, especially building-specific crime such as arson and graffiti.
- Historic preservation preserves affordable housing.
- Historic preservation creates more educated communities.
- Historic preservation creates more walkable and transit-friendly communities.
- Historic preservation encourages more private and public investment.

Hypotheses being tested in this thesis are discussed in detail in Chapter Three.

This thesis utilized a multi-step methodology for analysis. First, a thorough and complete database of geolocated tax credit projects in the City of Philadelphia, including data on historic and adapted use, start and end date of the project, total project costs, and other details was compiled prior to the start of this report. Next a literature review (Chapter Two) of previous social impact studies, quality of life
studies, economic studies, inter alia, in order to identify proper methodology, testable hypotheses, and indicators to utilize was performed. Afterwards followed the first portion of analysis. Section one of the analysis chapter (Chapter Five) contains overall mapping of all tax credit projects as well as overall mapping of some amenities and National Register historic districts in the city. Section two of this chapter is a citywide inventory of block groups. This section describes how block groups with varying levels of tax credit investment fare according to several indicators. Patterns discerned here were mixed, but helped to guide the last section of analysis. Next, in section three of the analysis chapter, indicators related to amenities, health, crime, education, income, and housing affordability were mapped and charted across the city. Four exemplary block groups with rehabilitation tax credit investment were chosen along with three comparable block groups for each. These comparisons were mapped and indicators charted. Finally, after computing averages across all comparisons, some conclusions were made about the effects of historic preservation on social wellbeing in the city. Overall, results were mixed. Chapters five and six will describe these findings in detail.

Identifying and analyzing the social benefits of the federal historic rehabilitation tax credit program will provide another tool for preservation advocates to use when making the case for preservation planning in their community. Economic growth has its benefits and drawbacks and can sometimes be difficult for the average citizen to notice; improvements in social wellbeing, however, are almost immediately apparent. If this thesis can prove that there is a demonstrable link between historic preservation and whole community revitalization, then preservation will likely play a more vital role in city planning and economic development plans. Unfortunately, as will be noted in detail below, the results were not as groundbreaking or clear cut as
1. INTRODUCTION

hoped but may provide some guidance for future research on the same topic as some patterns have been clearly established in the findings of this report.
Chapter 2 - Review of Literature

The study of the social effects of historic preservation activity in Philadelphia begins with defining social effects and then determining the best methodology for measuring those effects. A review of literature was vitally important to whittling down the many definitions, indicators, and methodology for this thesis. The literature review chapter is broken into two sections. The first, “What is Social Wellbeing and Why Study it?”, looks to canonical literature about health and capabilities, social exclusion, and social wellbeing in order to assert the importance of social wellbeing as a metric of community success and to seek a working definition for social wellbeing for this thesis. The second section of this literature review, “Methodology”, looks to examples of social impact assessment, economic impact assessment, neighborhood effects, and other statistical models to determine the best method, or combination of methods, for this study.
What is Social Wellbeing & Why Study it?

Health and Capabilities

According to the constitution of the World Health Organization, “Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.”1 By this definition, health is not limited to the physical but, rather, a more holistic measure of physical, mental, and emotional wellbeing and stability. Barr, among others, measures health primarily using what is called the “Sociocultural Model”. This model states that health is measured by the extent to which an individual is “able to maintain a normal level of functioning within his or her social context”.2 To put it another way, health is the “state of optimum capacity of an individual for the performance of roles and tasks for which he has been socialized”.3

Nussbaum makes a similar argument, stating that health may be measured by one’s access to what she calls “central human capabilities”.4 Nussbaum’s ten central human capabilities are:

1. Life
2. Bodily health
3. Bodily integrity
4. Senses, imagination, and thought
5. Emotions
6. Practical reason
7. Affiliation
8. Other species
9. Play
10. Control over one’s environment (political and material)5

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2 Ibid., 19.
3 Ibid. Emphasis in the original.
5 Ibid. Nussbaum’s capabilities are described in further detail in a table of social wellbeing indicators located in the appendices.
Like the World Health Organization's definition above, Nussbaum's description of health is holistic, including capabilities of physical, mental, and emotional health. More specifically, one of Barr's measures of health is the capability of an individual to perform activities of daily living (ADL). As described by Barr, ADL are:

- Feeding oneself
- Bathing oneself
- Dressing oneself
- Being able to use the toilet without assistance
- Being able to transfer oneself without assistance (for example, from a bed into a chair)

Capability to perform ADL is required in order to be categorized as basically healthy. From the standpoint of a sociocultural model, an inability to perform any one of the

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7 Ibid.
ADL without assistance is in relatively poor health.\textsuperscript{a}

In the end, capabilities are at the core of measuring health for both Barr and Nussbaum. Tying into the scope of this thesis, measuring capabilities may not be possible; however, because of the strong relationship between other indicators and

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure3.3.png}
\caption{U.S. death rates for selected causes for adults ages 25–64, by education level and sex, 1995 \newline \textit{Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics (1998).}}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure2.2.png}
\caption{Source: Donald R. Barr, Health Disparities in the United States: Social Class, Race, Ethnicity, and Health, (Baltimore: Johns Hopkins Press, 2008).}
\end{figure}

\textsuperscript{a} Ibid.
health, the results of this study may be able to point to whole health. Barr states:

Lower-middle-class Americans are more mortal, morbid, symptomatic and disabled than upper-middle-class Americans. With each step down on the educational, occupational and income ladders comes an increased risk of headaches, varicose veins, hypertension, sleepless nights, emotional distress, heart disease, schizophrenia and an early visit to the grave.9

Barr’s research rather plainly states the relationship between low income and low educational attainment and poor health; consequently, any results from this study indicating low income or low educational attainment may, indeed, be a proxy for poor health [fig. 2.1-2.2].

Social Exclusion

Moving up in scale from health, another method for measuring wellbeing is through the standpoint of indices of social exclusion. Measures of social exclusion are broader and contain a wide swath of indicators. These measures get closer to indicating for social wellbeing (to be defined in detail later). In terms of this thesis, framing the study narrowly as social exclusion may provide an incomplete result or bias the study from the start. Regardless, these methodologies provide a solid backdrop for social impact assessment, especially in the determination of appropriate indicators.

According to a recent European Union study regarding poverty and social exclusion, social exclusion occurs when individuals are unable to enjoy regular participation in society, in activities that others take for granted.10 This definition relates to Barr’s description of an individual’s capability to perform activities for

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9 Ibid., 43.
which he or she has been socially conditioned. In other words, social exclusion measures indicators of an individual’s capacity to engage in the society for which he or she has been conditioned. More specifically, as defined by the European Council in 1975, social exclusion is:

[…] a process whereby certain individuals are pushed to the edge of society and prevented from participating fully by virtue of their poverty, or lack of basic competencies and lifelong learning opportunities, or as a result of discrimination. […] They have little access to power and decision-making bodies and thus often feeling powerless and unable to take control over the decisions that affect their day-to-day lives.

The social exclusion model gives less autonomy to the individual (or geographic unit) being measured. Individuals are “prevented” from attaining social inclusion. Socially excluded individuals are “powerless” and are distanced from opportunity. Framing the study in this way perhaps leads to making more generalizations to the community as a whole instead of to an individual.

Social exclusion may be measured at a national, community, household, or individual level. The European Union’s social exclusion measure includes the following:

* Income poverty
* Unemployment/Labor conditions
* Access to education, information, childcare, and health facilities
* Living conditions
* Social participation

In their study of poverty and social exclusion, the EU describes how each indicator

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12 Bento et al., *Combating Poverty and Social Exclusion*, 7.
13 Ibid.
14 Ibid.
15 Ibid.
contributes to social exclusion. According to a 1975 European Council definition “people are said to be living in poverty if their income and resources are so inadequate as to preclude them from having a standard of living considered acceptable in the society in which they live.” By this definition, poverty is the root of social exclusion. Poverty may lead to exclusion and is the result of unemployment. Poverty also puts individuals at a disadvantage in terms of access to education, information, and services. Low income often means low quality housing and, as stated above in the definition of social exclusion, impoverished individuals may feel powerless and, thereby, have minimal capability for social participation. Consequently, poverty is one of the most important indicators to measure in any social study. As described previously by Barr, it is the root of poor health as well. The EU points to poverty as the root of social exclusion.

Regardless, the other indicators listed in the EU study do a more thorough job of describing social inclusion beyond just poverty. Employment conditions play a major role in social exclusion. Unemployment can lead to poverty and, therefore, a myriad of other problems. Furthermore, unemployed individuals miss out on the social aspects of employment. Extended unemployment, especially, is a strong indicator for social exclusion. As the EU study states:

The longer a period of unemployment for an individual, the more entrenched that person generally becomes in social exclusion through their inability to afford material goods, services and housing, while their social contacts are often reduced (in part due to a lack of money for going out socially, or due to the stigma of being unemployed); this may lead to a lack of confidence and a reinforced sense of isolation.

16 Ibid., 6. They go on to say, “Because of their poverty they may experience multiple disadvantages through unemployment, low income, poor housing, inadequate health care and barriers to lifelong learning, culture, sport, and recreation. They are often excluded and marginalized from participating in activities (economic, social and cultural) that are the norm for other people and their access to fundamental rights may be restricted.”

17 Ibid., 63.
Because of the potential of entrenchment of the unemployed, it is especially important to encourage the long-term unemployed to re-enter the workforce and make it accessible to them through re-training, practice, and job search assistance.\textsuperscript{18}

Beyond unemployment, work schedules may affect social exclusion. Individuals with atypical work schedules, such as night shifts or evening work, may have reduced social contacts as a result because they operate on a different schedule than their peers. Additionally, some research indicates that these atypical work schedules may lead to health problems due to disrupted eating and sleeping schedules.\textsuperscript{19}

Access to education is important in combating social exclusion. Education provides skills, knowledge, and qualifications important to social and labor market inclusion.\textsuperscript{20} Low levels of education often mean unemployment or atypical employment and, therefore, social exclusion. Furthermore, education is positively correlated with income. Low educational attainment is associated with poverty and, as explained above, the negative social effects of indigence.\textsuperscript{21} Access to information is listed in the same category as education in the EU’s study. Technology may serve as proxy for information. According to this study, technology aids in integration because it provides access to widespread information and networks. Technology may also be said to be part of social participation.\textsuperscript{22}

Access to childcare and healthcare facilities are also listed in the same category as education and information in the EU study. According to the researchers, access to childcare is important to social inclusion because children raised solely by their parents until school age are deprived of interaction at daycare. Parents, additionally,

\textsuperscript{18} Ibid., 64. This study defines long-term unemployment as ten months or more. Individuals without work for greater than twenty-four months are said to be very long-term unemployed.
\textsuperscript{19} Ibid., 69.
\textsuperscript{20} Ibid., 63.
\textsuperscript{21} Ibid.
\textsuperscript{22} Ibid., 64.
are deprived of work and other social contacts. As stated in the previous section on health, poor health leads to a myriad of other problems. According to this EU study, “social exclusion can be triggered by poor health, and may also reinforce health problems, for example, where the form of social exclusion results in barriers to healthcare”. Consequently, individuals in poor health can be said to be socially excluded.

Living conditions are another important indicator of social exclusion, according to this study. The authors state that, “access to affordable accommodation of an acceptable quality may be considered as a basic human need”. The authors of this study describe homelessness and housing deprivation as “the most extreme examples of poverty and social exclusion”. Housing deprivation also contributes to other factors of social exclusion, such as health, education, and employment.

Social participation is the final indicator of social exclusion used in this EU study. Social participation comprises involvement in society and interaction with others, especially fairly regular contact with family. Prisoners, for example, are in the most extreme state of exclusion in terms of social participation. In many instances, the previous indicators affect social participation as socializing depends, at least somewhat, upon money. As described previously, access to information and technology is an important metric of social exclusion. This is especially true when

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23 Ibid., 71.
24 Ibid., 76.
25 Ibid., 84.
26 Ibid., 64.
27 Ibid., 84. Housing deprivation is a measure of poor amenities and includes households with leaking roofs, no bath/shower, no indoor toilet, and inadequate light. Severe housing deprivation describes households with at least one of the above indicators of housing deprivation plus overcrowding. A household is overcrowded if it does not comprise a minimum number of rooms to accommodate one room for each couple, one room for each single person aged 18+, one room for two single people of the same sex between 12 and 17, one room for each person of a different sex between 12 and 17, and one room for two people under 12.
28 Ibid., 90.
measuring social participation. Internet use increases inclusion, as the authors state, “failure to make use of the internet creates exclusion in terms of access to an ever-growing stock of information and range of goods and services that are available online”.\textsuperscript{29}

Overall, social exclusion measures are important in understanding the interaction of a variety of indicators. Additionally, the EU study asserts that, in many instances, social exclusion may not entirely the fault of the individual; instead, the authors suggest, that society is the cause of many aspects of exclusion. This metric is valuable in providing standard indicators for measuring and furthering understanding of the catalytic effects of some indicators of exclusion, but may be too biased to the negative to be generally informative for this thesis.

\textit{Social Wellbeing}

In the end, measuring social wellbeing is the end goal of this thesis. The United States Institute of Peace defines social wellbeing as “an end state in which basic human needs are met and people are able to coexist peacefully in communities with opportunities for advancement.”\textsuperscript{30} Social wellbeing may provide the most complete indicator of growth, wellbeing, and success. As Karen Scott describes, Gross Domestic Product is not an adequate measure of success. Simple economic growth is not enough.\textsuperscript{31} Instead, social wellbeing measures should be more holistic and provide a more complete measure of the success, health, and happiness of individuals. When choosing indicators, it is important to remember that:

\begin{itemize}
\item \textsuperscript{29} Ibid., 93.
\end{itemize}
2. REVIEW OF LITERATURE

The things that get measured should evoke happiness when they are improving and unhappiness when they are getting worse – if the change doesn’t matter to the community, then you are not measuring the right thing.\(^{32}\)

Scott’s text provides a multitude of different methods and indicators to use for measuring social wellbeing and quality of life. Scott illustrates indicators from three different approaches (including Nussbaum, described briefly above) into a matrix that illustrates the most commonly used framework, indicators, and indices.\(^{33}\) This matrix is important in identifying which indicators are most important to use in this thesis. While the included matrix delves into social wellbeing at a depth beyond the scope of this thesis, the overlap among different indicator lists prioritizes the indicators to seek for this study.

Examples of Social Wellbeing & Community Impact Assessment Methodology

The chosen methodology for this thesis draws from multiple examples from various disciplines but all use indicators to study the relationship between specific policies or programs and social wellbeing. This final section of the literature review describes a handful of example impact studies that have proven inspiration to this thesis. These reviewed studies look at arts programs, municipal-level blight elimination efforts, and federal housing programs. Each analysis, though varied in scope and subject, all look at data in Philadelphia longitudinally in an effort to ascertain change over time with regards to the intervention being studied. Each takes a slightly different approach and utilizes different indicators, catered to the end goal of the research.


\(^{33}\) Scott’s complete matrix of indicators has been reproduced in Appendix A.
Community Impact Assessment

A community impact assessment of the Mural Arts Program (MAP) in Philadelphia was performed in an effort to determine whether it was fulfilling its mission. The MAP goal is “neighborhood-based mission of creating major works of public art through a collaborative community mural process and offering high-quality art education at no cost to youth throughout the city”. More specifically, the study hoped to discover how murals might affect communities. Stern and Seifert had to test the assumptions that MAP made about the social effects of its program. Previously, MAP had stated:

The creation of a mural can have social benefits for entire communities as well. Murals can bring neighbors together in new ways and often galvanize them to undertake other community improvements, such as neighborhood clean-ups, community gardening, or organizing a town watch. Murals become focal points and symbols of community pride and inspiring reminders of the cooperation and dedication that made their creation possible.

It then became Stern and Seifert’s task to test this hypothesis, in the same way that this thesis aims to test commonly held assumptions about preservation. At its core, MAP’s community design process is social capital building; as a result, this study aims to test whether or not murals generate social capital.

Stern and Seifert took a two-fold approach to assessing the community effects of MAP. First, the researchers developed a method to “measure the community impact of the murals”. This included the doing the following:

1. Develop a conceptual model of how murals might affect communities

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36 Ibid., 8. In this study, social capital is defined as the “value of networks of relationships on individual and group wellbeing”.

16
2. Review of Literature

2. Collect data on murals
3. Identify data sources and indicators for community outcomes
4. Examine mural context and use data to test hypothesis of community effects

Second, Stern and Seifert set out to “analyze the community leveraging potential of murals.” This phase of research took just two steps:

1. Document the level of community investment in murals made possible by City funding
2. “Identify and assign a dollar value to all community inputs in the mural process.”

According to Stern and Seifert, data limitations meant that they were forced to limit the scope of their research. The initial question of social capital building was simplified to “did neighborhoods with murals fare better than others?”. To measure neighborhood change, Stern and Seifert compared neighborhoods on the following indicators:

- Social disadvantage index (built from a factor analysis that included per capita income, poverty rate, unemployment rate, percentage African American, median-rent, and female-headed households as a percent of whole)
- Population change (where population increase means neighborhood improvement)
- Demographic diversity (where ethnic and economic diversity “can be thought of as a leading indicator of neighborhoods that are likely to undergo positive transformations in the near future”)
- Property values (using median sales prices of properties in each block group)

The researchers also mapped MAP projects across the city, overlaid on data about ethnic diversity to see if a pattern could be identified [fig. 2.3]. Stern and Seifert’s

37 Ibid., 4.
38 Ibid.
39 Ibid.
40 Ibid., 18.
41 Ibid., 18-9.
analysis of property values, however, was limited because of the many complicated factors associated. Consequently, few conclusions may be made about MAP’s influence on property values.

In the end, however, the researchers found it difficult to make concrete conclusions. Generally, Stern and Seifert concluded that:

[…] murals do not represent a silver bullet—that on their own—can transform a neighborhood. However, they often serve as an indicator of a neighborhood that has the ingredients to create revitalization, included a diverse population and a strong civic live. To the extent that murals serve as an expression of that transformation, we can say they have an impact in stabilizing and sustaining
processes of community transformation.\footnote{42 Ibid., 6. Emphasis in original.}

Stern and Seifert’s acknowledgement that the results of their study are incomplete is a welcome bit of academic honesty that may be replicated in this thesis if the data does not seem to point to a clear cut conclusion. Furthermore, their general conclusion that MAP may be an indicator of change rather than a change agent is a fascinating conceptual turn around. Perhaps, this is the conclusion that this thesis will be forced to make because of the difficulty in controlling for the many variables associated with community revitalization.

\textit{Difference-in-Differences Analysis}

A 2011 article from the \textit{American Journal of Epidemiology} analyzed the effects of a Philadelphia initiative to clean and green vacant lots on the health and safety of their surrounding communities.\footnote{43 Charles C. Branas et al, “A Difference-in-Differences Analysis of Health, Safety, and Greening Vacant Urban Space,” \textit{American Journal of Epidemiology} (2011): 1.} This study has proven quite useful in determining methodology for this thesis in its experimental design and data used, helping to clarify exactly how to effectively analyze comparables. Additionally, by juxtaposing this thesis against this \textit{Epidemiology} study, the results of this thesis may prove a more valuable advocacy tool. The majority of lots that are analyzed in this study are vacant because the City demolished the vacant buildings that once stood there rather than making an effort to stabilize and preserve them for future use. If this thesis can prove that there are greater positive neighborhood effects to be gained from preserving and reusing vacant buildings than are available through cleaning and greening vacant lots, perhaps municipalities could reconsider its blight clearance policies. Framing this thesis similarly to the \textit{Epidemiology} study will make this comparison clearer.
The purpose of this study about greening vacant lands was to test the hypothesis that “greening of vacant urban land may affect health and safety”. Two schools of thought regarding environmental determinism contributed to the formation of that hypothesis. First, two theories about the effects of deteriorated urban space: the broken windows theory and the incivilities theory. The broken windows theory suggests that physical deterioration visibly symbolizes that the neighborhood itself has deteriorated, that no one is in control, and that unsafe criminal behavior is welcome to process with little, if any, supervision. Similarly, the incivilities theory suggests that physical incivilities, such as abandoned vacant lots, promote weak social ties among residents and encourage crimes, ranging from harassment to homicide. The authors of this study suggest that criminals are emboldened to act in areas with greater physical disorder and that “residents are driven toward greater anonymity and are less willing or able to step in and prevent crime”. In light of this thesis, according to these theories, areas that have seen preservation activity that, perhaps, fixed up deteriorated buildings, could expect to see lower crime rates.

Second, the eco-epidemiology movement provided the backbone to this study. This movement encourages researchers to move beyond studies of individuals and lifestyle modification instead to environmental modification programs. Proponents of the eco-epidemiology movement assert that environmental modification can offer widespread protection and enhanced health “with less reliance of personal behavior change”. Environmental change, instead, relies on effective implementation of big picture change rather than on working with high-risk individuals who, the authors assert, will eventually be replaced by others. The authors suggest that individual-

44 Ibid.
45 Ibid., 2.
46 Ibid.
47 Ibid.
48 Ibid., 1.
focused efforts, at best, only offer short-term improvements; however, “programs that focus on places or structural changes, such as vacant lot greening, may have a greater influences on more people and for longer periods than programs that focus only on individuals”. This theory could be utilized to tout the benefits of RTC as well.

To study the effectiveness of this vacant lot greening program, the researchers designed a study based primarily on a difference-in-differences analysis method, a quasi-experimental approach that entails matched pairs analysis paired with regression modeling. The study considered various outcomes occurring on and around vacant lots before and after they were treated as compared to control vacant lots over the same period (1999-2008). Vacant lots chosen for comparison had no buildings on them and were to be greened by this City program between 1998 and 2008. These vacant lots were compared with control lots pulled from 2 pools. The first pool contained lots that had at least on open code violation. The second pool contained those lots that had at least some portion of their area within one eighth of a mile of a recreation center, K-12 school, park, playground, or commercial corridor. From each pool, three vacant lots were randomly selected and matched to one treated lot within the same section of the city. Lots were then compared using the following data, here organized by source:

- Office of Property Assessment, United States Postal Service, Department of Licenses and Inspections—vacant lots
- Police—arrests for the following:
  - Aggravated assaults
  - Aggravated assaults with guns
  - Robberies
  - Robberies with guns
  - Narcotics sales and possession
  - Burglaries
  - Thefts

49 Ibid.
50 Ibid., 2.
2. REVIEW OF LITERATURE

- Vandalism and criminal mischief
- Disorderly conduct
- Public drunkenness
- Illegal dumping

**Public Health Management Corporation, Southeast Pennsylvania Household Health Survey**—health data on the following, self-reported via phone surveys
  - Stress
  - High blood pressure
  - High cholesterol
  - Exercise frequency
  - “Poor health”

**Geolytics Incorporated (East Brunswick, New Jersey) and United States Census Bureau**—demographic data for each year of study, at block group level for the following variables:
  - Median age for residents
  - Unemployment: number of residents 16+ who are not working
  - Education: number of residents 25+ who had completed at least some college
  - Income: median annual household income
  - Race: number of black residents
  - Ethnicity: number of Hispanic residents
  - Poverty: number of residents living below 150% federal poverty level

After gathering the above data, in order to assess change in how it directly relates to proximity to vacant lots (greened and not greened), the researchers calculated the following in the surrounding area for all vacant lots in each year (1999-2008) of the study:

- Crime and health outcomes: tagged to tract centroids and used to calculate inverse-distance weighted, tract, and block group measures per lot
- Demographic measures: tagged to block group centroids and used to calculate inverse-distance weighted, tract, and block group measures per lot
- Area of the lots
- Centroid/geometric centers of the lots
- Any contiguous vacant lots
- Kernel density estimations of vacant lot clustering using point locations of crimes (where available)

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51 Ibid., 1-4.
52 Ibid., 4.
After those calculations, researchers performed unadjusted analyses using simple summary statistics, cross-tabulations, and nonparametric Wilcoxon rank-sum tests. Regression-adjusted analyses followed to confirm that multicolinearity was minimal. After extensive analysis, the researchers were able to confirm their hypothesis. The greening of vacant urban land does, indeed, positively affect health and safety. Safety improvements appeared most clearly in their analysis with clear evidence of a reduction of crime associated with greening. Additionally, health improvements are correlated with vacant lot greening. Residents nearby greened lots reported less stress, more exercise, and overall better health. Thorough statistical analysis using fairly easy to understand methodology and clear, unbiased experimental design make this study easy to understand and a good model for this thesis.

**Matched Pairs Analysis**

The United States Department of Housing and Urban Development (HUD) commissioned The Reinvestment Fund (TRF) to perform a study of the effectiveness of their Neighborhood Stabilization Program (NSP). This matched pairs analysis may provide the best methodological example for this thesis. While the data used in this study may not exactly match what will be used in this thesis due to a difference in the information sought in each study, the methodology can be almost identical. This HUD study is looking at place-specific investment and how it affects the surrounding neighborhood over a discrete period of time. The format of their presentation of the results is also legible and easily understood [tab. 2.1].

The methodology that TRF developed for this research was fairly simple.
groups that had been treated with NSP investment and those that had not. Each treated block group was matched with three comparables that:

- Are close by (1-2 miles) but not too close (at least 0.125 miles away)
- Have similar median home sale price
- Show similar home appreciation
- Show similar owner occupancy rates

Upon identifying three comparables for each treated block group, the four block groups are then compared using the following variables:

- Median home sale price
- Home sale appreciation
- Number of home sales
- Residential vacancy
- Demographic characteristics (indicated by percent change from 2000 to 2009)
  - Population, families, and households
    - Population
    - Families
  - Income
    - Median household income
    - Families in poverty
  - Race and ethnicity
    - Percent residents that are white
    - Percent residents that are African American
    - Percent residents that are Asian
    - Percent residents that are Hispanic
  - Education
    - Percent of population that has less than a ninth grade education
    - Percent of the population possessing at least a high school degree
    - Percent of the population possessing at least a bachelor’s degree
    - Percent of the population possessing degrees beyond a bachelor’s degree

Variables used reflect the source of the study, HUD. HUD especially wanted data that

1 Ibid.
2 See fig 2.4 for an example comparison
3 Ibid.
specifically related to their interests: housing. Additionally, NSP funds were frequently used in housing-related projects. Adapting this approach to this thesis would involve adding in more variables, perhaps more in line with the vacant lot greening study described above. In the end, TRF gave each NSP-treated block group a grade based on how they performed in regards to their matched comparables. These performance scores were given by each indicator category (education, income, home price, etc.). Grades are defined as:

A = beat all of its comparable markets
B = beat some of its comparable markets
C = beat one of its comparable markets
D = beat none of its comparable markets
N/A = insufficient data for any comparable to determine Performance Score

The final part of TRF’s analysis of NSP was to summarize the results in a straightforward manner. For example, TRF found that, in 20% of cases, the NSP-treated block groups received Performance Scores of A, indicating a lot of change. Basic summary of this sort will make the concluding portion of this thesis more meaningful.
Home Sale Performance Score

Vacancy Performance Score

See endnotes for an explanation of the performance scoring system.

Grantees
Dominant Allocation of NSP Investment
Total Properties Treated
Clearance and Demolition
Rehab

Philadelphia County PA NIC 5

City, Zip Code
Philadelphia, 19104
Philadelphia, 19131
Philadelphia, 19132
Philadelphia, 19131, 19139
Distance from NIC
1.13 miles
2.36 miles
1.74 miles

Area Statistics

NSP 1 Score
10
10
10
10

Median Home Sale Price (2008)
$20,935
$20,000
$25,000
$21,500

Home Appraisal (2008-09)
15.32%
11.11%
17.65%
24.03%

Owner Occupancy Rate (2010)
51.3%
47.6%
56.5%
49.6%

Number of NSP Investments
36
0
0
0

Source: TRF calculations of data from HUD, Boxwood Means home sales, and Census 2010 data on owner occupancy.

Home Sale Statistics

Median Home Sale Price
2008 $20,935
2009 $12,198
2010 $18,667
2011 $19,375

Home Sale Appreciation
2008-2009 (A) -41.73%
2009-2010 (D) 36.63%
2010-2011 (A) 16.25%
2008-2011 (C) -7.45%

Number of Home Sales
2008 32
2009 12
2010 15
2011 16

Source: TRF calculations of home sale data provided by Boxwood Means, Inc. See endnotes for an explanation of performance scoring system

Residential Vacancy Statistics

2008 January-June 14.89%
2009 January-June 13.34%
2010 January-June 14.47%
2011 January-June 11.74%
Change 08-09 (A) -11.23%

The Neighborhood Investment Cluster (NIC) in this report was identified based on the density of NSP investment clustered in the area. The NIC may contain between 1-4 block groups. The comparables used in this report are block groups with similar characteristics as the NIC. The following criteria were used to identify comparable markets: proximity to NIC, NSP 1 score, 2008 owner occupancy rate, 2008 average home sale price, and home appreciation between 2006 and 2008. The comparables used in this report are:

421010111007, 421010168002, 421010095002

The NIC in this report was measured based on its typical sales prices in 2008, 2009, 2010 and 2011; those same measures were applied to its comparables. The NIC was also measured in terms of its residential vacancy levels, based on USPS data for 2008 (1st half), 2009 (1st half), 2010 (1st half), 2011 (1st half), and 2012 (1st half). For each of these measures, percent changes were calculated for the 2008/2009 period, the 2009/2010 period, and 2010/2011; as well as the 2011/2012 period for vacancy. The performance scores shown in this report reflect how home sale prices and vacancy rates in the NIC changed relative to each of its comparable markets. In order to “beat” a comparable, a NIC had to perform better than its comparable.

Performance Scoring: Scores of "A", "B", "C", "D" or "N/A" were assigned to each NIC to reflect how home sale prices and vacancy rates changed relative to its comparable markets.

"A"= a NIC beat all of its comparable markets for which there was home sale or vacancy data. If comparative data was available for all three comparables, and the NIC performed better than all three, it received an "A". If data was available for two comparables, and the NIC performed better than both of them, it received an "A". If data was available for one comparable, and the NIC performed better than it, it received an "A".

Chapter 3 - Testable Hypotheses

An examination of literature and popular culture writings about the benefits of historic preservation has generated a list of hypotheses to be evaluated and tested in the data analysis portions of Chapter 5. While most preservationists assumed that historic preservation activity produces many benefits in urban areas, it was important to assemble concrete hypotheses from preservation and urban revitalization literature and match those hypotheses with quality of life indicators with which to measure the social effects of preservation (described more in detail in Chapter 4). The primary, overarching hypothesis being tested is that historic preservation activity improves social wellbeing in Philadelphia. What follows is a brief overview of a handful of more specific hypotheses regarding the social benefits of historic preservation immediately followed by a list of indicators that were used in order to evaluate those hypotheses. The concluding chapter shall evaluate how data align with these hypotheses.
Historic preservation improves quality of life.

The above hypothesis is the major research question of this report. Numerous sources make similar statements regarding the effects of preservation on quality of life. Many of these same sources, however, fail to specify those benefits beyond economic improvements. Kerman and Kromer, for instance, state that the rehabilitation of vacant houses works to “improve neighborhood quality of life”. Similarly, a report about Virginia’s state tax credit program states that the program “enhances quality of life and social capital by preserving and restoring community fabric”. Furthermore, as quoted in a presentation at the 2011 Urban Affairs Association Conference, Bank of America asserts that tax credits “improve local residents’ quality of life”. No specific indicators to test quality of life are listed here; rather, the entirety of this report is testing that assumption.

Historic preservation improves the physical appearance of neighborhoods.

According to several sources, historic preservation activity helps to improve the appearance of neighborhoods by renovating otherwise unattractive buildings. Kromer and Kerman state that preservation activities “improve block appearance”. They go on to describe an example in which one renovation encouraged neighbors to better maintain their properties stating that, “this experience demonstrates how the transformation of a blighted property into a valued new asset may have a substantial “ripple” effect in stimulating the improvement of adjacent or nearby properties.”

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57 Virginia Department of Historic Resources, Prosperity Through Preservation: Virginia’s Historic Rehabilitation Tax Credit Program, 2.
59 Kerman and Kromer, 54.
Improving the physical appearance of a neighborhood may help to reduce crime or, at the very least, encourage community pride. Many scholars ascribing to the Broken Window Theory would suggest that dilapidated buildings have a negative perceptive effect on a given area, suggesting a lack of investment and rule of law. Taylor, Shumaker, and Gottfredson detail these sorts of deterioration that can have harmful effects on communities, labeling them as “physical incivilities”, including vacant or dilapidated housing, vacant lots, litter, and graffiti. They go on to state that the presence of such “incivilities” indicates that “agents of public order”, including police, are powerless to change things. Thaler goes further, stating that abandoned buildings “invite crime”.

Indicators to measure physical improvement and the effects of removing incivilities include all of the crime indicators chosen, especially those concerning buildings specifically, such as vandalism, trespassing, illegal dumping, and graffiti. To prove this hypothesis true, neighborhoods with RTCs ought to have lower crime rates, especially those related to buildings than neighborhoods that lack RTCs.

_Historic Preservation preserves affordable housing._

There are many examples in the literature supporting the assertion that historic preservation preserves affordable housing, especially when rehabilitation tax credits are used in conjunction with low-income housing related funding sources, such as the Low Income Housing Tax Credit. Preserving and creating affordable housing through preservation is an effective means to prevent displacement. Kerman and Kromer state that, “maintaining a supply of reasonably priced rental housing is the most direct
way to address the threat of displacement of lower-income residents.” The Virginia Department of Historic Resources’s report asserts that tax credits improve and create affordable housing stock and generate a “broader range of housing stock”. Both the National Park Service and the National Trust for Historic Preservation agree that rehabilitation tax credits create affordable housing.

To measure the presence of affordable housing, the following analysis shall consider measures of cost burden. A burdened renter or homeowner pays more than 30% of his or her income on housing. A severely burdened renter or homeowner pays greater than 50% of his or her income on housing. To prove this hypothesis true, neighborhoods with RTCs should have lower rates of burdened and severely burdened renters and homeowners than neighborhoods without RTCs.

**Historic Preservation creates more educated communities.**

Rypkema and Wiehagen’s report on the economic benefits of historic preservation in Philadelphia asserts that historic neighborhoods are neighborhoods of choice for well-educated Philadelphians. They state that, though historic neighborhoods (as defined by neighborhoods within National Register historic districts) only make up 6.3% of the entire city’s population, they are home to over 24% of the city’s population of college graduates.

Indicators to measure this in the following analysis concern educational achievement. The below analysis includes a count of the population with a college degree, as well as a count of the population with only a high school diploma. To
prove this hypothesis true, neighborhoods with RTCs ought to have more college-educated residents and fewer with just a high school diploma than neighborhoods lacking RTCs.

_Historic Preservation creates more walkable and transit-friendly communities_

Historic neighborhoods are typically located in walking-friendly districts, often close to public transportation. The Virginia Department of Historic Resources claims that historic preservation reduces automobile dependence, stating that, “by locating business, commercial, and residential uses in a central area, redevelopment projects reduce dependence on automobiles.”\(^{67}\) Enhanced walkability and transit access have been linked to improved quality of life and, therefore, make for a good indicator for this report. This report has also included bike-friendliness, which, like walkability, may have quality of life implications.

Indicators for this section include WalkScore and TransitScore, both created by the WalkScore company as well as maps of bike lines and trails. In order to prove this hypothesis true, neighborhoods with RTCs ought to have higher WalkScores and TransitScores as well as more bike lanes and trails than neighborhoods without RTC.

The following analyses in Chapter Five shall examine how neighborhoods with RTCs fared in comparison with comparable neighborhoods that lack RTC by making comparisons within the indicators described above. The concluding chapter (Chapter Six) shall evaluate how the above hypotheses were validated or not by this study. Furthermore, suggestions for future studies regarding these hypotheses will be made in the final chapter.

\(^{67}\) Virginia Department of Historic Resources, 33.
Chapter 4 - Methodology

This thesis is an examination of the social effects of historic preservation in Philadelphia. Social wellbeing is the subject of this research because an in-depth study of preservation activity on social wellbeing has yet to be undertaken. Based on research and inventory performed in recent years by Randall Mason and Stephanie Ryberg, “preservation activity”, in this thesis, shall refer to federal rehabilitation tax credit projects. Tax credit projects provide a good proxy for general preservation activity because they demonstrate a concentrated investment and interest in historic preservation. Additionally, rehabilitation projects, especially those returning vacant white elephant buildings to productive use, ought to be able to have a major effect on the surrounding neighborhood. Using RTC activity as a proxy for all preservation certainly does have its limits. RTCs represent just a small part of preservation activity as a whole. Furthermore, because RTCs can only be used for income-producing uses, they fail to reflect rehabilitation for other uses, such as residential. On the other
hand, RTCs remain the best available proxy because of their long-term existence, widespread use, variety of project types and scales, and readily available data. Furthermore, Philadelphia provides an excellent case study because it is home to a plethora of historic buildings of various types and ages as well as forty-five National Register historic districts.\textsuperscript{68}

The analysis portion of this thesis is comprised of several sections. First, a review of existing literature defining social wellbeing, detailing the practices of social impact assessment, as well as a handful of research methodological strategies and social wellbeing indicator lists was conducted and comprises the preceding literature review chapter of this thesis (Chapter Two). Second, an examination of literature and popular culture writings about the benefits of historic preservation generated a list of hypotheses to be evaluated and tested in the analysis portion of this thesis (Chapter Three).

Chapter Five contains the bulk of analysis for this report. First, an inventory of rehabilitation tax credit projects in Philadelphia was taken and mapped using GIS software in an effort to demonstrate areas of concentration and trends over time. This effort is described in the first section of Chapter Five, “Rehabilitation Tax Credit Projects in Philadelphia.” This initial analysis helped to identify the next steps of analysis as well as further understanding of how RTCs have spread across the city.

The next step in analysis is described in the second section of the following chapter, “Citywide Analysis”. For this, six indicators were identified across all 1800+ block groups in the City of Philadelphia. These block groups were then divided into categories:

- Block groups with no RTCs

\textsuperscript{68} Information regarding National Register districts in Philadelphia is from the National Park Service online database. <http://www.nps.gov/nr/research/>
4. METHODOLOGY

- Block groups with between one and nine RTCs
- Block groups with ten or more RTCs

Ten is the break point between categories of block groups with RTCs because the vast majority of block groups with RTCs have fewer than ten. Consequently, block groups with fewer than ten RTCs represent a prototypical condition of preservation activity. Block groups with greater than ten RTCs are in the minority and, therefore, represent exceptional levels of preservation investment. Averaging the indicators across these block group categories and calculating standard deviation allowed for a few overarching conclusions to be made about how RTCs may be related to various indicators. This analysis then informed the last analytical section, “Comparative Analysis”.

The final research step for this thesis was a block level comparative analysis. Layers of indicators were mapped in the City of Philadelphia. Much of the data for this section came from the 2010 Census, the Census Bureau’s American Community Survey, Pennsylvania Spatial Data Access (PASDA), and Philadelphia’s Office of Property Assessment. Researchers at The Reinvestment Fund in Philadelphia helped to access and sort data from the Office of Property Assessment.

First, a handful of block groups that have seen preservation activity were identified, hereafter referred to as “treated block groups”. The term “treated”, familiar in experimental design discussions, in this study, serves as a proxy for block groups that have documented RTC activity. These block groups will be based on the 2000 boundaries because, in 2010, the US Census Bureau changed the borders on almost all block groups in Philadelphia. Consequently, data is more easily found that aligns with 2000 block group boundaries. Block groups are a good geographical unit for analysis because they are small enough (600-3000 residents) to provide fine grain
analysis but not too small to not illustrate any effect.\textsuperscript{69} Additionally, most datasets that are readily available are at the block group level. Block groups with preservation activity were chosen to represent a variety of circumstances including the following:

- High concentration of tax credit projects over time [Comparison 1];
- Tax credit projects several years ago but none since (concentration pre-1990) [Comparison 2];
- Recent tax credit projects but none earlier (concentration post-1990) [Comparison 3]; and
- Low concentration of tax credit projects from any time period [Comparison 4].

1990 was chosen as a natural break because of overall trends in rehabilitation tax credit activity. After major changes to the regulations in 1986, RTC activity plummeted nationwide, only to rebound in the late 1990s.\textsuperscript{70}

Next, three comparable block groups, hereafter referred to as “untreated block groups” or, more simply, “comparables”, were found for each previously identified treated block group. These untreated block groups were identified through the following criteria:

- Comparable block groups should have no tax credit activity.
- Comparable block groups should have similar historic resources as treated block group (within National Register historic district or in possession of similar number of National Register Historic Sites).
- Comparable block groups should have similar median sale prices as treated block group in order to account for market demand.
- Comparable block groups should be adjacent or nearby to treated block group (within 1-2 miles of block group boundary). If a comparable is not found nearby, comparable block group must meet other determination criteria.

4. METHODOLOGY

- Comparable block groups should be similar in size to treated block group.

It proved more difficult than anticipated to satisfy all of the above criteria for each indicator. Consequently, those criteria were prioritized. First, all comparables lacked RTCs and were at least partially within National Register historic districts. Second, comparables are all fairly close in total size to the treated block groups. Adjacency was the next priority, though it proved quite difficult to identify comparables that were very nearby the treated block groups. Median sale price was the lowest priority of the above criteria simply because it became nearly impossible to identify comparables that satisfied all criteria and sales prices seemed to have the least effect on whether or not a block group was available for RTCs. The above criteria were selected to act as controls, isolating the social indicators in an effort to get clearer results. Median home sale price likely has a rather large effect upon many other indicators, but was difficult to control for. Consequently, disparities in sale price are acknowledged throughout analysis.

After identifying comparables, a table was created for each treated block group and its accompanying comparable untreated block groups. This table compared the treated block group with the untreated block group on the following social wellbeing indicators:

- Access to amenities (bike trails, hospitals, libraries, recreational trails, playgrounds, parks, farmers markets, walkability, etc.) [Pennsylvania Spatial Data Access]
- Educational attainment (high school, university) [US Census American Community Survey]
- Income & Housing affordability (poverty and burden) [US Census American Community Survey]
- Crime (personal and property crime) [University of Pennsylvania Cartographic Modeling Lab, Philadelphia CrimeBase]
A “findings” section following each comparison describes how the comparables were chosen and how they relate to the treated block group based on the criteria used for identifying comparables. Furthermore, this section details how the comparable block groups performed in relation to the treated block groups based on the social wellbeing indicators listed above. Finally, all indicators were averaged across all comparisons in an effort to understand aggregate differences between all of the treated and untreated block groups. At the end of this analysis, an attempt was made to draw conclusions about the social effects of historic preservation in Philadelphia. Specifically, the “conclusions” chapter of this thesis describes how, if at all, the findings from the comparables confirm the testable hypotheses listed previously.

This thesis takes a descriptive statistics and indicators approach, rather than aiming to statistically measure correlation through inferential statistics. Through establishing a geographic framework and establishing a baseline of indicators and statistics, this thesis is a preliminary step toward the application of more sophisticated statistical tests. The concluding chapter shall describe, in detail, based on the findings of this report, recommendations for future analyses.

The primary limitations of this thesis lie in data access and reliability. Data for Philadelphia can be difficult to find, access, and geocode for analytic purposes. Additionally, some of the data found, such as information about National Register Historic Districts in Philadelphia, were lacking vital information. For instance, the National Park Service had only seven of Philadelphia’s forty-four historic districts geocoded, and incompletely at that. The author generated polygons using GIS software of the other thirty-seven districts and double-checked the boundaries of the seven provided, though they still are not as precise as desired. As described above, the establishment of controls for the comparative analysis proved harder than
expected and may have therefore tainted some of the results. Additionally, not all data was available with precision, some given just as ranges, thereby making it difficult to come to clear conclusions.

4. METHODOLOGY
Chapter 5 - Analysis

Rehabilitation Tax Credit Projects in Philadelphia

The first task of this project was to analyze rehabilitation tax credit projects in Philadelphia. Between 1976 and 2010 (the years for which data is available for this project), 810 rehabilitation tax credit projects have been approved and completed.

<table>
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<tr>
<th>Year</th>
<th>Completed Projects</th>
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<tbody>
<tr>
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<tr>
<td>1977</td>
<td>0</td>
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<tr>
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</tr>
</tbody>
</table>

Table 5.1: Number of completed rehabilitation tax credit projects by year in Philadelphia
The Social Effects of Historic Preservation: Ellis M. Mumford

Data available: 1976 - present

Pending projects (through Part 2):
- No. of Part 3s Denied: 8
- No. of Part 3s Submitted: 837
- No. of Part 2s Approved: 1032
- No. of Part 2s Denied: 26
- No. of Part 2s Submitted: 1114
- No. of Part 1s Approved: 1107
- No. of Part 1s Denied: 24
- No. of Part 1s Submitted: 1153

Number of projects reviewed:
- 1979 - 9
- 1978 - 11
- 1976 - 0

Number of projects (Part 2 approved) by year:
- 1979 - 7
- 1978 - 1
- 1977 - 0
- 1976 - 0

Number of completed projects (Part 3 approved) by year:
Program dates: 1976 - present
- Total number of completed (Part 3 approved) projects: 829

Federal Rehabilitation Investment Tax Credit

WHY PHILADELPHIA? Philadelphia, PA

Concentrated in three neighborhoods, primarily [fig 5.2]. First, the Old City area to occur in the years since the late 1980s.

2004 [fig 5.1]. Because of these two spikes, the greatest social change seems likely to occur in the years since the late 1980s.

The first forty-three rehabilitation tax credit projects, from 1976-1980, are concentrated in three neighborhoods, primarily [fig 5.2]. First, the Old City area of Philadelphia, surrounding East Market Street, from, roughly, Fourth Street to the [tab. 5.1]. The majority of these projects are residential, with mixed use and commercial or office space taking second and third respectively [tab. 5.2]. The years between 1985 and 1991 saw the greatest concentration of tax credit projects with an additional significant spike between 2003 and 2004 [fig 5.1]. Because of these two spikes, the greatest social change seems likely to occur in the years since the late 1980s.

All graphs and maps from this first section (figures 5.1-5.11) come from Ryberg and Mason 2012.

Figure 5.1: Number of completed rehabilitation tax credit projects by year in Philadelphia

Table 5.2: Number of completed rehabilitation tax credit projects by post-rehab use in Philadelphia

<table>
<thead>
<tr>
<th>Use</th>
<th>Number</th>
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<tbody>
<tr>
<td>Residential</td>
<td>364</td>
</tr>
<tr>
<td>Mixed use</td>
<td>115</td>
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<td>Comm./Office</td>
<td>99</td>
</tr>
<tr>
<td>Low-income residential</td>
<td>21</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
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</tbody>
</table>

*pre-1997 projects only (so far)

5.ANALYSIS

71
west and the Delaware River to the East seems to have the highest concentration of new projects in these first five years. Second, the Market East and Washington Square West neighborhoods also have a fair number of projects within their bounds, south of Market Street, North of South Street, between Broad and Eighth Streets. Finally, a third concentration of projects lies in the Art Museum Area, north of Spring Garden Street, just east of the Art Museum. Other rehabilitation tax credit projects are scattered around Center City near City Hall and Society Hill as well as in West Philadelphia in Powelton Village and, finally, in northwest Philadelphia, along Germantown Avenue. This first round of projects in the early years of the tax credit program appear to be mostly concentrated in what could perhaps be categorized as expected neighborhoods—areas of the city that are home to a lot of historic fabric within National Register and Philadelphia Register districts.

The next five years, 1981-1985, saw a tremendous increase in tax credit projects. Three hundred nineteen projects were completed, up from forty-three in the previous segment [fig 5.3]. As before, rehabilitation tax credit projects concentrate in Old City and the Art Museum Area but have generally spread out to cover all of Center City Philadelphia. Several more projects appear in several neighborhoods in West Philadelphia, but are especially concentrated in the neighborhoods adjacent to University of Pennsylvania and Drexel University such as Powelton Village, Spruce Hill, and Woodland Terrace. Additionally, Germantown Avenue and its surroundings in Northwest Philadelphia see an increased number of new projects. New projects also appear in a few new parts of the city, such as the Brewerytown and Parkside neighborhoods that flank Fairmount Park to the east and west, respectively. Broad Street sees more activity during this time period, including as far south as Passyunk.

Nearly three hundred new rehabilitation projects were completed between
1986 and 1990 [fig 5.4]. These projects are located in most of the same neighborhoods as previous projects, especially in Center City, the Art Museum area, and West Philadelphia, near the universities. Several new projects do, however, scatter north along Broad Street, in the Germantown neighborhood, farther west into West Philadelphia, and along the Schuylkill River in Manayunk. A few other rehabilitation tax credit projects appear in various spots around the city, seeming almost random in their location.

Construction slowed considerably between 1991 and 1995, after that late 1980s peak [fig 5.5]. Just seventy-one new projects scatter round Center City, the Art Museum area, Powelton Village, and in some of the neighborhoods flanking Fairmount Park, Parkside and Brewerytown. This slow down is perhaps the result of changes in the tax code in 1986 that led to an overall decrease in new RTCs nationwide.

One hundred sixteen rehabilitation tax credit projects were completed in Philadelphia from 1996 to 2000 [fig 5.6]. Almost all of these projects lie in Center City, especially in the area surrounding City Hall. Old City and the Art Museum area, as before, also see increases in tax credit projects. Additional projects are located on North Broad Street, in West Philadelphia in the Parkside and Powelton Village neighborhoods as well as in Brewerytown. A few other projects are isolated in other areas that are farther from Center City.

Between 2001 and 2005, one hundred seven buildings were rehabilitated using federal tax credit funds [fig 5.7]. These new projects are located almost exclusively in the same neighborhoods as previous years with the exception of the Art Museum area that sees no new projects during this time period. Clusters of projects are readily recognizable in Old City, the City Hall area, Spruce Hill in West Philadelphia, and
Parkside. As before, projects scatter around the city in Germantown and Frankford in North Philadelphia as well as farther west toward Cobbs Creek. This map also illustrates the beginnings of work at the Navy Yard in extreme south Philadelphia, a former naval installation that was closed in 1995 and recently converted to an office park.\textsuperscript{72}

One hundred twenty-seven rehabilitation tax credit projects were completed between 2006 and 2010, continuing the upward trend since the late 1990s [fig 5.8]. This time period sees concentration of projects primarily along Broad Street. Many projects crowd Broad Street around Center City as well as in the Art Museum area and north toward Temple University. At the far south end of Broad Street, the Navy Yard becomes home to another tax credit project. Additionally tax credit projects are located in Old city, Graduate Hospital, Germantown, Manayunk, Woodland Terrace, Brewerytown, and Frankford.

When mapped by census block groups, clusters of rehabilitation tax credit projects are evident [fig 5.9]. Old City shows the highest concentration by far. Other block groups with high concentrations of projects are located in the following neighborhoods: Art Museum area/Fairmount/North Broad, Market East, Washington Square, Society Hill, Parkside, Spruce Hill, and Manayunk, inter alia. This map also demonstrates that the vast majority of tax credit investment is located in central Philadelphia, with the majority of block groups in the city lacking projects altogether. Most of the block groups that appear on this map only hold one or two rehabilitated buildings. The task, then, for later analyses is to take into account how many projects are within a given block group as well as the time period during which that block group experienced the most investment. By acknowledging the different levels of

\textsuperscript{72} “History,” The Navy Yard, Philadelphia website, accessed February 2013. <www.navyyard.org/history>. 45
Figure 5.2: Rehabilitation tax credit projects from 1976-1980 in Philadelphia
Figure 5.3: Rehabilitation tax credit projects from 1976-1985 in Philadelphia

Legend
- City Limits
- Census Tracts
  - 1981-1985 319 Projects
  - 1976-1980 43 Projects
Figure 5.4: Rehabilitation tax credit projects from 1976-1990 in Philadelphia

Legend
- City Limits
- Census Tracts
- 1986-1990 296 Projects
- 1976-1985 362 Projects
Figure 5.5: Rehabilitation tax credit projects from 1976-1995 in Philadelphia

Legend
- City Limits
- Census Tracts

- 1991-1995  71 Projects
- 1976-1990  658 Projects
Figure 5.6: Rehabilitation tax credit projects from 1976-2000 in Philadelphia

Legend
- City Limits
- Census Tracts
- 1996-2000 116 Projects
- 1976-1995 729 Projects
Figure 5.7: Rehabilitation tax credit projects from 1976-2005 in Philadelphia

Legend
- City Limits
- Census Tracts
- 2001-2005 107 Projects
- 1976-2000 845 Projects
Figure 5.8: Rehabilitation tax credit projects from 1976-2010 in Philadelphia

Legend
- City Limits
- Census Tracts
  - 2006-2010 127 Projects
  - 1976-2005 952 Projects
investment, the analyses performed later in this thesis shall attempt to draw conclusions about how that investment affects and has affected the surrounding neighborhood.

**Citywide Analysis**

Before embarking on a comparison of individual block groups (appearing in the following section) a citywide analysis was performed. This analysis was intended to attempt to better understand the scope distribution of RTC and discern patterns in indicators citywide. The following section shall go into greater detail with many more indicators, examining social wellbeing at a block group level. This section shall look at the City of Philadelphia along with just six indicators [tab. 5.3].

By way of introduction, according to 2000 Census boundaries, the City of...
Philadelphia has 1,816 block groups. Of those block groups, the vast majority, 1,605, or eighty-eight percent, lack RTCs. Conversely, RTCs are located in 211 block groups, just eleven percent of the total. To break this down even more, block groups with RTCs were divided into two categories. First, the largest category of treated block groups contains those that have between one and nine RTCs. The majority of block groups have fewer than ten RTCs, many just have one. Block groups with fewer than ten RTCs make up roughly nine percent of the total. An even more exclusive category contains block groups with greater than ten RTCs. This category contains several exceptional block groups, a handful with over thirty RTCs, the highest concentration being fifty-six RTCs in one block group. This small category makes up just over two percent of total block groups in the city. By dividing the treated block groups in this way, making assertions regarding the effects of RTCs may be easier. Perhaps high concentrations of RTC have the greatest effect on social wellbeing.

<table>
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<tr>
<th>BGTYPE</th>
<th>COUNT</th>
<th>% OF TOTAL</th>
<th>AVERAGE</th>
<th>STDEV</th>
<th>SALEPRICE</th>
<th>HEALTH</th>
<th>INST/CULT</th>
<th>OUTDOOR</th>
<th>SRSPERS</th>
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<td>88.38</td>
<td>$103,566.38</td>
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<td>0.50</td>
<td>0.28</td>
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<td>30.39</td>
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<td>0.25</td>
<td>9.25</td>
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<td>1.30</td>
<td>0.25</td>
<td>10.78</td>
<td>89.33</td>
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<td>ALL RTC</td>
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<td>11.62</td>
<td>$260,781.02</td>
<td>0.50</td>
<td>1.30</td>
<td>0.25</td>
<td>10.78</td>
<td>89.33</td>
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<td></td>
</tr>
</tbody>
</table>

Table 5.3: Block groups-based analysis of several variables, categorized by presence of RTC.

To perform this analysis, averages and standard deviations were calculated for each field. The indicators for this analysis were chosen because they are aligned with versions of indicators used in the next part of analysis (“Block Level Comparative Analysis” in the following section of this chapter). The indicators examined here, at the city scale, are:
5. ANALYSIS

- Median home sale price for 2011
- The total count of health-related amenities (hospitals, ambulatory surgery centers, community mental health centers, farmers markets, healthy corner stores)
- The total count of institutional or cultural amenities (libraries, public schools, private schools, universities, theaters)
- The total count of outdoor amenities (recreation centers, playgrounds, pools or spraygrounds)
- The 2009 count of all serious personal crime (robbery, aggravated assault)
- The 2009 count of all serious property crime (burglary, theft, auto theft)

The following analysis shall look at each indicator and determine if there seems to be a pattern, citywide, between block groups with and without RTC activity.

The median sale price for block groups with RTCs was higher than those that lack RTC. The average median sale price for RTC block groups for 2011 was $260,781.02, more than twice the average for block groups without RTC, at $103,566.38 and also slightly higher than the average for all block groups, $258,132.54. Furthermore, the standard deviation for untreated block groups is smaller than treated block groups, indicating that the range of sale prices is smaller and clustered around the average in block groups that lack RTC investment. The standard deviation for treated block groups is rather large, the larger than the overall average of all block groups and twice that of untreated block groups, thereby indicating that treated block groups have a wider range of home values. This would seem to indicate, as claimed by some in the previous hypotheses chapter, that historic preservation provides housing at a range of prices, including affordable housing. Interestingly, the average home sale price for block groups with fewer than ten RTCs was roughly fifty thousand dollars higher than the share of block groups with ten or more RTCs though the standard deviation for both categories is similar, suggesting that home values are highest in block groups with lower levels of preservation activity.
Treated block groups also seem to have more health-related amenities, on average (0.50), than untreated block groups (0.43) and the overall average (0.43). In this case, block groups with greater than ten RTCs have more health-related amenities (0.50) than those with fewer than ten (0.42). Block groups with RTC tend to have greater numbers of hospitals, farmers markets, and healthy corner stores especially.

Institutional and cultural amenities are much more common in treated block groups than untreated. Block groups with RTCs average 1.30 institutional or cultural amenities as opposed to just 0.50 on average in untreated block groups and 0.55 on average in all block groups. Block groups with at least ten RTCs have more institutional and cultural amenities than those with fewer than ten (1.30 v. 0.78). The standard deviation for these amenities is greater in block groups with RTC, perhaps indicating that some block groups may feature a lot of these amenities and others may have none. These findings could indicate that preservation activity encourages institutions and cultural assets to locate or remain in these neighborhoods. Some of these amenities are RTCs themselves, such as theaters that have rehabilitated historic buildings for their own use.

On the other hand, there does not seem to be a clear pattern for outdoor amenities. They average similarly across all block groups with almost identical standard deviations. Preservation activity seems to have little effect on investment in these sorts of amenities.

Incidences of serious personal crime are scattered across all block groups and do not present a clearly defined pattern. On average, block groups with RTCs average more serious personal crime incidents (10.78) than block groups without RTCs (9.35) and all block groups as a whole (9.32). Examining this data closer, however, the picture becomes muddied. Block groups with between one and nine RTCs have
lower arrest numbers for serious personal crime (8.67) than all other categories of block groups.

Serious property crime arrests present a clearer, but concerning picture. On average, block groups with RTCs have almost three times the arrest rate for serious property crime than those without RTCs (89.33 v. 30.39). This count is also much higher than the citywide average of 33.05. The bulk of these incidents are in block groups with at least ten RTCs, though the large standard deviation for this category likely indicates that property crime is concentrated in a few block groups and absent in others in this category. The count of serious property crimes in treated block groups with fewer than ten RTCs is 44.87 with a smaller standard deviation.

An attempt to discern citywide patterns in a handful of indicators, keeping RTC count in mind produced mixed results. The above analysis seems to indicate a few things clearly. First, block groups with RTCs tend to have more health-related and institutional and cultural amenities. Block groups with the highest concentrations of RTCs also have the highest number of these amenities. On the other hand, outdoor amenities seem unrelated to preservation activity. Averages for these amenities were roughly the same across all block groups. Third, on average, crime rates seem higher in treated block groups, a fact that may be concerning to preservationists. Serious property crimes occur at nearly three times the rate in block groups with greater than ten RTCs. Perhaps the disparity in crime is the result of differing police enforcement strategies. Maybe property crime is a greater problem in block groups with RTCs because property values are higher, therefore providing a more enticing environment for thieves and burglars. While this citywide analysis has begun to establish some patterns among the block groups of Philadelphia, further clarification might be beneficial to more strongly make the case for the social benefits of historic
5. ANALYSIS

preservation. The following section contains an analysis of individual comparable block groups, examined on many more indicators than this analysis. That analysis in concert with this one shall help elucidate any patterns between preservation and social wellbeing indicators.

Block Level Comparative Analysis

As described in the Methodology chapter, the block level comparative analysis portion of this thesis is composed of four comparisons. Each comparison examines one block group with rehabilitation tax credit projects (RTCs) in comparison with three comparable block groups that do not have any RTCs. The comparisons are intended to examine different types of RTC investment situations. Those considered here are:

1. Many RTC projects over time
2. Only RTC projects completed before 1990
3. Only RTC projects completed after 1990
4. Few RTC projects over time

The following summary of findings shall describe each comparison in some detail, evaluating how each block group compared in the chosen categories and indicators. Additionally, an examination of overall averages from all of these comparisons will close out this section of analysis.

Comparison 1 – Many RTC Projects Over Time – Center City East (1414) [tab. 5.4 & fig. 5.10]

The first comparison considers block group 1414 in Old City. 1414 is exceptional in its concentration of rehab tax credit projects, forty-four in all and over one hundred other projects are located in immediately adjacent block groups.
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<td>Fishtown/Northern Liberties</td>
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**AMENITIES**

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**Table 5.4: Comparison 1 - Many RTC over time**
Thirty-one acres in size, 1414 lies within the Old City Historic District in the Center City East neighborhood and is bordered by Fourth, Second, and Arch Streets, and the Benjamin Franklin Bridge. The median home sale price for 2011 in 1414 was $210,000. The three comparables chosen for Comparison 1 were determined by their absence of RTCs, size, location within historic districts, similar median home sale price for 2011, and nearness to other RTCs.

Comparable 1 – Fishtown/Northern Liberties (1316) [fig. 5.11]

Comparable 1 is 1316, the only comparable block group adjacent to 1414 that does not have any RTCs. This part of the city, as demonstrated in the overall mapping portion that preceded this one in this chapter, is flush with rehabilitation activity, creating one of the densest concentrations of RTCs in the city. Consequently, finding a comparable for 1414 that was nearby but that also did not have any RTCs
was nearly impossible. Located in the Fishtown/Northern Liberties neighborhood, roughly one quarter mile from treated block group 1414, 1316 is an irregularly shaped block group bordered, roughly, by Third, Poplar, and Second Streets to the south of Spring Garden Street. Like all other comparables, 1316 possesses no RTCs but nineteen are present in adjacent block groups. The median home sale price for 2011 in 1316 was $305,000.

Treated block group 1414 outperformed comparable block group 1316 in eight indicators. First, under the amenities category, 1414 is home to a park that measures, approximately, one quarter acre while 1316 lacks any park facility. Some crime rates are lower in 1414 than its comparable, including aggravated assault, robbery (1.63 v. 10.99), vandalism, and loitering or prowling. Crime rates in this treated block group are much better than this comparable. Additionally, residents
of 1414 are, generally, better educated than those of 1316. More 1414 residents possess bachelor's degrees; however, roughly the same share of residents of each block group only hold high school diplomas. Finally, there are fewer burdened and severely burdened homeowners in 1414 than in 1316. These differences, when taken as a whole, do not yet seem to indicate a pattern except for, perhaps, the rather large differences in crime in the two block groups.

Comparable block group 1316 outperformed treated block group 1414 in six indicators. Under the amenities category, 1316 possesses one each of farmers markets and healthy corner stores, neither of which are present in 1414. Some streets within 1316 have bike lanes, a feature not present in 1414. Some crime statistics for 1316 are also better than 1414. 1316 has fewer instances of graffiti, vandalism, and burglary. Lastly, renters appear to be faring better in 1316. Fewer burdened and severely burdened renters reside in 1316 than in 1414.

These two block groups tied in twenty-one categories. 1414 and 1316 both lack several amenities including hospitals, ambulatory surgery centers, mental health centers, libraries, public or private schools, universities, theaters, recreation centers, rail trails, playgrounds, and pools or spraygrounds. Both block groups scored identically based on the Walkscore and TransitScore criteria, receiving a 97 in both categories. Additionally, crime rates and arrests for arson, trespassing, prostitution, and tenant or landlord violations were identical for 1414 and 1316. Economically, both block groups rate in the same ranges for families in poverty (0-16.75%) and median household income ($57,627.21-81,797.80). 1414 and 1316 are more alike than different; however, 1414 outperformed 1316 in more indicators. This is the only comparable in this first comparison that the treated block group outperformed the untreated in more categories.
Comparable 2 – University City/Spruce Hill (1484) [fig. 5.12]

The West Philadelphia Streetcar Suburb Historic District in University City/Spruce Hill is a rather large district that contains many tax credit projects. Because treated block group 1414 lies in a neighborhood so densely packed with RTCs, a comparable block group within this West Philadelphia district would seem logical. Comparable block group 1484 sits within this historic district; however, because this part of the city is less densely developed than Center City, there are fewer adjacent RTCs than 1414—just five that are immediately adjacent. 1484 is roughly three miles from treated block group 1414 and is several acres larger, coming in at approximately 39.28 acres. Though 1484 is more than eight acres larger than 1414, 13.75 acres of its size is comprised of Clark Park and is, therefore, undevelopable land. Effectively, the developable land of 1484 comes to, roughly, 26 acres. 1484 is irregularly shaped and bordered by Woodland, Kingsessing, and Baltimore Avenues, and Forty-First,
Forty-Third, and Forty-Fifth Streets. The median home sale price in 1484 for 2011 was $305,000, nearly $100,000 greater than that of 1414.

Treated block group 1414 outperformed comparable block group 1484 by just six indicators. 1414 is both more pedestrian- and transit-friendly than 1484, scoring ninety-seven versus ninety-three. 1414. In the crime category, 1414 has fewer lower rates of aggravated assault, and robbery as well as fewer narcotics arrests than 1484. Economically, 1414 has fewer families in poverty (less than 16.75% in 1414 v. between 16.75% and 33.5% in 1484) than 1484 as well as higher median household income ($57,627.21-$81,797.80 in 1414 v. $33,456.61-$57,627.20 in 1484). This difference may also be attributed to the high college student population in 1484 because students, on the whole, earn significantly less than working adults.

Comparable block group 1484, on the other hand, outperformed treated block group 1414 in seven indicators. Under the amenities category, 1484 has more farmers’ markets (1 v. 0), private schools (3 v. 0), parkland (13.75 acres v. 0.25 acres) and playgrounds (1 v. 0) than 1414. Additionally, 1484 has lower incidences of graffiti, vandalism, and burglary.

1484 and 1414 have twenty indicators in common. Both lack hospitals, ambulatory surgery centers, mental health centers, healthy corner stores, libraries, public schools, universities, theaters, and pools or spraygrounds. Their rates of arson, trespassing, and prostitution are the same as well (though those rates seem to be low in all examined block groups, perhaps indicating low incidences of all of these crimes). Illegal dumping and loitering or prowling both do not seem to be a problem in either block group, both boasting zero arrests in those categories. Residents of 1414 and 1484 have attained similar educational levels (0-497 residents with just a high school diploma and 910-1212 residents with a bachelors degree). Homeowner
and renter burden also falls in the same ranges for both block groups. As with the first comparable, 1414 and 1484 are more alike than different; however, the significant differences in personal crime rates between the two would seem to indicate a disparity in public safety. It is difficult to surmise how those differences may be attributable to a lack of RTCs in 1484.

![Figure 5.13: Comparison 1 - Comparable block group 578, Manayunk](image)

*Comparable 3 – Manayunk (578)* [fig. 5.13]

Comparable block group 578 is the farthest away and most different from treated block group 1414. Located in Manayunk, approximately six and a half miles from 1414, block group 578 is bordered, roughly, by Leverington Avenue, Green and Silverwood Streets, and an imaginary line east of Main Street. While it contains no RTCs within its bounds, eight lie in adjacent block groups. Measuring approximately 28.49 acres, roughly sixteen acres of 578 are within the Manayunk Main Street
5. ANALYSIS

Historic District. The median home sale price in 578 in 2011 was $202,500—the closest of all the comparables.

Treated block group 1414 outperformed comparable block group 578 in seven indicators, the most of any of the comparables in Comparison 1. Though it is small, 1414 is home to a park, unlike 578. Additionally, 1414 scores significantly higher for walkability and transit-friendliness than 578 (97 v. 81 and 97 v. 57 respectively). Block group 1414 also has a lower robbery rate than 578. On the whole, residents of 1414 are better educated and better paid than those of 578. More 1414 residents have bachelor’s degrees and fewer just have high school diplomas. Additionally, fewer 1414 families are impoverished and households report higher income.

578 is home to a few more amenities than 1414, including one public school and bike lanes. More importantly, 578 performs significantly better than 1414 in crime statistics, as with the previous comparables. 578 boasts fewer incidences of graffiti, illegal dumping, vandalism, aggravated assault, and burglary. Renters is 578 have also found it to be more affordable than 1414; fewer 578 renters are burdened than in 1414.

Comparable block group 578 and treated block group 1414 have twenty-two indicators in common. Both lack hospitals, ambulatory surgery centers, mental health centers, farmers markets, health corner stores, libraries, public schools, universities, theaters, recreation centers, rail trails, playgrounds, and pools or spraygrounds. The two block groups have both lack incidents of arson, illegal dumping, trespassing, narcotics, prostitution, and loitering or prowling. Both groups rate similarly for families in poverty as well as severely burdened renters and homeowners. Unlike the previous two comparisons, 578 has little in common with 1414 other than geographic size and sale price. 1414 is better educated and more economically secure while
578 has less crime. Each offers some amenities that the other lacks.

At the end of Comparison 1, the only patterns that can be seen lie in the crime data. Overall, treated block group 1414 has many more vandalism and graffiti arrests as well as a higher burglary rate than its comparables. 1414 does, however, have a lower aggravated assault rate than its comparables. Patterns in other indicator categories are not clear cut in this comparison.

Comparison 2 – Only RTC Projects Completed Before 1990 – Powelton (1397) [tab. 5.5 & fig.14]

Comparison 2 concerns block group 1397. 1397, the treated block group in this comparison, is in the Powelton/West Powelton neighborhood. Approximately 31.59 acres in size, roughly one third of the area is within the Powelton Historic District. Block group 1397 is home to eight rehabilitation projects. Eleven RTCs lie in adjacent block groups. As noted in the RTC in Philadelphia portion in this chapter, Powelton has seen a great deal of RTC activity, especially in the 1980s, during the peak of RTC investment in Philadelphia. The three comparables chosen for Comparison 2 were determined by their absence of RTCs, size, location at least partially within historic districts, similar median home sale price for 2011, and nearness to other RTCs. 1397 is adjacent to the campuses of University of Pennsylvania and Drexel University, making it home to many students from both universities. Market, 33rd, and 36th Streets, and an imaginary line south of Powelton Avenue, border Block group 1397. The median home sale price for 1397 in 2011 was $331,000. This sale price is much higher than the chosen comparables, but they are similar in other important ways.
### Table 5.5: Comparison 2 - Only RTC projects completed before 1990.

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### AMENITIES

#### HEALTH

- #HOSPITALS: 0
- WHICH HOSPITALS: 0
- #AMBULATORY SURGERY CENTERS: 0
- #MENTAL HEALTH CENTERS: 0
- #FARMERS MARKETS: 1
- #HEALTHY CORNER STORES: 0

#### INSTITUTIONS/CULTURE

- #LIBRARIES: 0
- #PUBLIC SCHOOLS: 0
- #PRIVATE SCHOOLS: 0
- UNIVERSITIES: 0
- #THEATERS: 0

#### OUTDOORS/TRANSPORTATION

- #REC CENTERS: 0
- STREETS/W.BIKE ACCESS: Y, Y, Y, Y
- #RAIL TRAILS: 0
- #PARKS: 0
- PARKS (ACRE): 0
- #PLAYGROUNDS: 0
- #POOLS/SPRAYGROUNDS: 0
- WALKSCORE: 77, 91, 78, 75
- TRANSIT SCORE: 96, 81, 66, 72

### CRIME

#### PROPERTY CRIME

- ARSONS: 0
- ILLEGAL DUMPING ARRESTS: 0
- VANDALISM ARRESTS: 0
- TRESPASSING ARRESTS: 3

#### PERSONAL CRIME

- AGGRAVATED ASSAULT RATE: 2.01
- BURGLARY RATE: 5
- NARCOTICS ARRESTS: 0
- ROBBERY RATE: 3.02
- TENANT/LANDLORD VIOLATIONS: 0

### EDUCATION

- JUST HIGH SCHOOL CNT: 0-497, 498-994, 498-994, 498-994
- BACHELORS DEGREE CNT: 0.303, 607-909, 0-303, 0-303

### ECONOMIC

- %FAMILIES IN POVERTY: 50.26-67, 16.75-33.5, 33.51-50.25, 33.51-50.25
- MEDIAN INCOME: 9286.00-33456.60, 33456.61-57627.20, 9286.00-33456.60, 9286.00-33456.60

### HOUSING

- %BURDENED RENTERS: 0.01-40, 20.01-40, 20.01-40, 20.01-40
- %SEVERELY BURDENED RENTERS: 20.01-40, 20.01-40, 20.01-40, 20.01-40
- %BURDENED HOMEOWNERS: 0.20, 0.20, 0.20, 0.20
- %SEVERELY BURDENED HOMEOWNERS: 0.20, 0.20, 0.20, 0.20
Comparable 1 – Pennsport (1606) [fig. 5.15]

The first comparable, block group, 1606, lies in the Pennsport neighborhood of South Philadelphia. 1606 is approximately 29.58 acres in size, about half of which is within the Southwark Historic District. 1606 is two and one quarter miles from treated block group 1397. 1606 is bordered by Federal, Sixth, Christian, and Fourth streets. There are nineteen RTCs in adjacent blocks. The median home sale price for 2011 in 1606 was $162,500, roughly half that of treated block group 1397.

Treated block group 1397 outperformed comparable block group 1606 in nine indicators, a larger share than many of the other comparisons. 1397 is home to one farmers’ market (versus none in 1606) and outscores 1606 in the TransitScore metric (96 v. 81). Additionally, crime rates in 1397 are significantly lower than in 1606. 1397 has fewer incidences of vandalism, aggravated assault, burglaries, substantially fewer narcotics arrests, robberies, and loitering or prowling. Finally, fewer residents
of 1397 possess just a high school diploma than those of 1606.

On the other hand, 1606 outperformed 1397 in nine indicators. This is the first comparison thus far in which the treated block group has outperformed the comparable in more indicators. One public school, one recreation center, one five-acre park, and one playground lie within the bounds of 1606. Additionally, 1606 has a significantly higher WalkScore than 1397 (91 v. 77). 1606 has lower incidences of trespassing than 1397 as well. Finally, economically, residents of 1606 are more secure. Fewer 1606 families live in poverty (between 16.75% and 33.5% of 1606 families v. between 50.26% and 67% in 1397). Between 60% and 80% of 1397 renters are severely burdened, a 40% greater share of renters than in 1606. The higher proportion of low-income students within that block group may explain the low income and high renter burden in 1397.

1397 and 1606 have seventeen indicators in common. Both lack hospitals,
ambulatory surgery centers, mental health centers, healthy corner stores, libraries, private schools, universities, theaters, rail trails, and pools or spraygrounds. The incidences of arson, graffiti, illegal dumping, and prostitution are also similar between the two block groups. Additionally, similar shares of renters and homeowners are severely burdened. Overall, 1606 and 1397 are rather different; however, on the whole the treated block group has outperformed its comparable, especially in crime indicators.

Comparable 2 – Germantown (457) [fig. 5.16]

The second comparable, block group 457, is the farthest away from the treated block group, 1397. Few block groups near 1397 without tax credit activity are present, so it became necessary to look far afield, as far as five miles away in
Germantown in North Philadelphia. Block group 457 is almost identical in area to 1397 with a slightly larger share of its area within the Colonial Germantown Historic District. Thirteen RTCs have been completed in block groups adjacent to 457. The median home sale price for 457 in 2011 was $126,000, less than half of that in 1397.

Treated block group 1397 outperformed comparable block group 457 in nine categories. 1397 has a farmers’ market while 457 has none. Additionally, 1397 has a much higher TransitScore than 457 (96 v. 66). Some crime levels are also lower in 1397 than 457. There are fewer instances of illegal dumping, vandalism, much fewer aggravated assault rate, burglary, many fewer narcotics arrests, and robberies in 1397. Additionally, fewer 1397 residents hold just a high school diploma.

457 outperformed 1606 in just five indicators. Comparable block group 457 has very similar amenities to 1397, only scoring very slightly higher in walkability (78 v. 77). Only one type of crime is slightly lower in 457: trespassing. As with the previous comparable, 457 truly outperformed 1397 economically, with fewer residents living in poverty and fewer burdened renters and homeowners. Again, as above, the high student population in 1397 may explain these economic differences. 457 is the second comparable block group analyzed so far that has not fared as well as its comparable treated block group.

457 and 1397 have twenty-four indicators in common. Both lack a hospital, ambulatory surgery center, mental health center, healthy corner store, library, public or private school, university, theater, recreation center, rail trail, park, playground, and pool or sprayground. Both do, however, possess bike lanes. The two block groups have similar rates of arson, graffiti, prostitution, tenant or landlord violations, and loitering or prowling. A similar share of the population in both block groups has earned college degrees and both have a low median income.
Comparable 3 – Cobbs Creek (1453) [fig. 5.17]

Comparable block group 1453 is the closest comparable block group to treated block group 1397, just one and a half miles away. 1453 is also in West Philadelphia, but in the farther west neighborhood of Cobbs Creek. Fiftieth, Fifty-Second, Cedar, and Pine Streets make the borders of this block group that is completely within the large West Philadelphia Streetcar Suburb Historic District. At 29.16 acres, 1453 is very close in size to 1397. Only one RTC is adjacent to 1453. The median home sale price in 1453 for 2011 was just $91,250, significantly lower than that of 1397.

Treated block group 1397 outperformed comparable block group 1453 in twelve indicators, the most so far. 1397 has a few more amenities than 1453, including a farmers’ market and bike lanes on its streets. Additionally, 1397 has a higher WalkScore (77 v. 75) and TransitScore (96 v. 66) than 1453. In many categories,
1397 reports lower crime including illegal dumping, vandalism, aggravated assault, burglary, many fewer narcotics arrests, robbery, and tenant or landlord violations.

1453 has a few more amenities than 1397, including two healthy corner stores, and an eight-acre park with a playground. 1453 reports fewer arrests for trespassing than 1397. As with the other comparables, 1397 seems less economically stable than 1453. Fewer 1453 residents live in poverty and rents are more affordable. As before, the high proportion of students living in 1397 may explain this difference.

1453 and 1397 have twenty indicators in common. They similarly lack a hospital, ambulatory surgery center, mental health center, library, public school, private school, university, theater, recreation center, rail trail, and pool or sprayground. Both have similarly low rates of arson, graffiti, prostitution, and loitering or prowling. Median incomes of both block groups fall within the same range ($9,286.00-$33,456.60). The same share of homeowners in both block groups are burdened or severely burdened.

Overall, in contrast to Comparison 1, in Comparison 2, the treated block group outperformed its comparables in more categories. While some of this may be attributable to the higher property values or university presence, perhaps some credit may be given to the preservation of historic structures in treated block group 1397. Crime rates seem to be the greatest difference between the treated block group and its comparables, though no clear pattern has emerged yet.
## 5. ANALYSIS

### Table 5.6: Comparison 3 - Only RTC projects completed after 1990.

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| CRIME | Table 5.6: Comparison 3 - Only RTC projects completed after 1990. |
Comparison 3 – Only RTC Projects Completed After 1990 – Strawberry Mansion (988) [tab. 5.6 & fig. 5.18]

The third comparison examines treated block group 988 in the Strawberry Mansion neighborhood near Fairmount Park. 988 is exceptional in its rather small size, adjacency to the Fairmount Park, and its rather dire economic conditions. 988 is approximately 24.18 acres in size, roughly 5 acres of which lie within the West Diamond Street Townhouse Historic District. Nineteen RTCs have been completed within 988 along with sixteen in adjacent block groups. Thirty-Third and Thirty-First Streets, Susquehanna Avenue, and an imaginary line south of Diamond Street form the borders of this block group. The median home sale price in 988 for 2011 was just $10,300. Finding comparables to this block group was difficult as there were no other similarly sized block groups within historic districts that had such low property values. Additionally, finding nearby comparables was nearly impossible.
because there are few historic districts in this area. Consequently, the comparables in Comparison 3 are rather far from 988 and all have much more valuable property.

**Comparable 1 – Wharton/Hawthorne/Bella Vista (1583) [fig. 5.19]**

Comparable block group 1583 in South Philadelphia is similar in size to 988. Eleventh, Broad, and Christian Streets and Washington Avenue border this irregularly shaped block group with just three RTCs in adjacent block groups. Roughly half of its area is within the Washington Avenue Historic District. Located three miles away from 988, 1583 has much more valuable property. The median home sale price for 2011 was $237,500.

Treated block group 988 outperforms comparable block group 1583 in just one indicator. Fewer homeowners in 988 are burdened, though this may be attributable
to the extraordinarily low property values in this block group.

On the other hand, 1583 outperforms 988 in a remarkable twenty-two indicators, the greatest disparity so far. 1583 boasts more amenities, including a public school, a recreation center, and two one-acre parks. 1583 is also more walkable (91 v. 61 WalkScore) and more transit friendly (81 v. 63 TransitScore). 1583 has lower crime rates in almost every category including arson, graffiti, vandalism, aggravate assault, burglary, narcotics arrests, prostitution, robbery, tenant or landlord violations, and loitering or prowling. Furthermore, 1583 residents are better educated and higher paid, resulting in fewer impoverished families and burdened renters than in 988.

988 and 1583 have few similarities, just fourteen, though both lack a hospital, ambulatory surgery center, mental health center, farmers’ market, healthy corner store, library, private school, university, theater, and rail trail. 988 and 1583 have identical rates of illegal dumping and trespassing as well. In this comparison, the comparable is in much better shape than the treated block group.

**Comparable 2 – Cedar Park/Walnut Hill (1474) [fig. 5.20]**

Comparable block group 1474 is a quarter mile nearer and a bit closer in size to treated block group 988 than the first comparable. 1474 lies wholly within the West Philadelphia Streetcar Suburb Historic District in the Cedar Park neighborhood. Five RTCs are situated in adjacent block groups. The median home sale price in 2011 for 1474 was $358,000. Forty-Fifth and Forty-Eighth Streets, Baltimore Avenue, and an imaginary line south of Pine Street form the borders of 1474.

Remarkably, treated block group 988 outperforms comparable block group 1474 in just two indicators. There are fewer graffiti arrests in 988. Additionally, a
smaller share of 988 homeowners is burdened than in 1474. All other indicators show disadvantage or a tie with 1474.

On the other hand, block group 1474 fares better than 988 in sixteen indicators. 1474 boasts five healthy corners stores (v. 0 in 988) and one theater. Additionally, 1474 is more walkable (90 v. 61) and transit-friendly (82 v. 63) than 988. Crime is much less of a problem in 1474, with lower rates of arson, illegal dumping, aggravated assault, burglary, many fewer narcotics arrests, prostitution, tenant or landlord violations, and loitering or prowling. 1474 residents are also better educated and wealthier.

988 and 1474 have twenty-five indicators in common. Both lack a hospital, ambulatory surgery center, mental health center, farmers’ market, library, public or private school, university, recreation center, rail trail, park, playground, and pool or sprayground. Both block groups have similar rates of vandalism, trespassing, robbery,
burglary as well as burdened and severely burdened renters. As indicated with the previous comparable, treated block group 988, in most instances, fares worse than its comparables.

Comparable 3 – University City/Spruce Hill (1413) [fig. 5.21]

Comparable block group 1413 is the closest comparable, but is still two miles away from 988. It is also the closest in total area at approximately 25.36 acres (v. 24.18 acres of 988). 1413 is wholly within the West Philadelphia Streetcar Suburb Historic District and is bordered by Thirty-Ninth, Forty-First, Market, and Sansom Streets. Adjacent block groups contain seven RTC projects. Though the 2011 median home sale price is unknown for 1413, the 2009 price was $160,000, still quite a bit larger than that of 988.

Treated block group 988 outperforms comparable block group 1413 in just
two indicators. 988 boasts lower rates of trespassing than 1413. Additionally, fewer homeowners in 988 are burdened, likely a result of the low property values in the area.

1413, on the other hand, has more amenities, generally lower crime, and a more well off population. 1413 boasts two private schools and one theater. Walkability (93 v. 61) and transit access (93 v. 63) are also much better in 1413 than in 988. Furthermore, for the most part, 1413 is home to less crime, with lower rates of arson, graffiti, illegal dumping, vandalism, aggravated assault, burglary, narcotics arrests, prostitution, robbery, tenant or landlord violations, and loitering or prowling. 1413 residents are also better educated and fewer families live in poverty, though the median income is no higher than 988. Renters and homeowners in 1413 seem to have little trouble in affording their housing.

988 and 1413 have eighteen indicators in common. Both lack a hospital, ambulatory surgery center, mental health center, farmers’ market, healthy corner store, library, public school, university, recreation center, rail trail, park, playground, and sprayground. Both do have bike lanes, however. Additionally, income for both block groups is within the same range ($9,286.00-$33,456.60) as is the share of burdened and severely burdened renters and severely burdened homeowners.

Overall, treated block group 988 fared much worse than all of its comparables in almost every category. As described above, 988 is exceptional in its fairly small size and very low property value. Additionally, it is the only block group in this study in which prostitution has been reported. Narcotics and vandalism arrests in 988 are also fairly high, but similar rates are seen in other studied block groups. Overall, comparison 3 does not suggest an improvement trend with the presence of RTC.
### Table 5.7: Comparison 4 - Few RTC projects completed over time

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### AMENITIES

#### HEALTH
- HOSPITALS: 0 0 0 0
- AMBULATORY SURGERY CENTERS: 0 0 0 0
- MENTAL HEALTH CENTERS: 0 0 0 0
- FARMERS MARKETS: 1 0 0 0
- HEALTHY CORNER STORES: 0 2 0 0

#### INSTITUTIONS/CULTURE
- LIBRARIES: 0 0 1 0
- PUBLIC SCHOOLS: 0 2 1 0
- PRIVATE SCHOOLS: 0 3 5 1
- UNIVERSITIES: 0 0 0 0
- THEATERS: 1 1 3 0

#### OUTDOORS/TRANSPORTATION
- REC CENTERS: 0 0 0 0
- STREETS: W.BIKE ACCESS N N Y N
- RAIL TRAILS: 0 0 0 0
- PARKS (ACRE): 0 2.5 1 0
- PLAYGROUNDS: 0 1 0 0
- WALKSCORE: 78 71 78 70
- TRANSIT SCORE: 66 65 66 51

### CRIME

#### PROPERTY CRIME
- ARSON RATE: 0 1 1 0
- GRAFFITI RATE: 1 1 1 1
- ILLEGAL DUMPING ARRESTS: 1 0 0 0
- VANDALISM ARRESTS: 7 26 17 5
- TRESPASSING ARRESTS: 0 0 1 0

#### PERSONAL CRIME
- AGGRAVATED ASSAULT RATE: 0 20.81 4.04 0
- BURGLARY RATE: 22 13 10 10
- NARCOTICS ARRESTS: 5 41 1 0
- PROSTITUTION ARRESTS: 0 0 0 0
- ROBBERY RATE: 2.36 21.97 9.09 6.25
- TENANT/LENSOLED VIOLATIONS: 1 6 0 1
- LOITERING/PROWLING ARRESTS: 0 0 0 0

### EDUCATION

- JUST HIGH SCHOOL CNT: 498-994 1989-2485 498-994 0-497
- BACHELORS DEGREE CNT: 910-1212 6-301 0-303 910-1212

### ECONOMIC

- %FAMILIES IN POVERTY: 0-16.75 30-52.67 16.76-33.5 0-16.75
- MEDIAN INCOME: 33456.61-57627.20 9286.00-33456.60 9286.00-33456.60 81797.81-130139.00

### HOUSING

- %BURDENED RENTERS: 40.01-60.0 40.01-60.0 40.01-60.0 40.01-60.0
- %SEVERELY BURDENED RENTERS: 0.20 20.14-40.0 20.01-40.0 20.01-40.0
- %BURDENED HOMEOWNERS: 20.01-40.0 20.01-40.0 20.01-40.0 20.01-40.0
- %SEVERELY BURDENED HOMEOWNERS: 0.20 0.20 0.20 0.20

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82
Comparison 4 – Few RTC Projects Over Time – Germantown (410) [tab. 5.7 & fig. 5.22]

Comparison 4 considers treated block group 410 in Germantown. 410 is the largest of the block groups considered in this report at approximately 56.51 acres, making it rather difficult to find comparables of similar size. Most of 410 lies within a historic district, either the Colonial Germantown Historic District or the Tulpehocken Station Historic District. 410 boasts four RTCs within its bounds and five in adjacent block groups. Germantown Avenue and Washington, Green, and Harvey Streets mark the boundaries of 410. The median home sale price for 2011 in 410 was $230,000. The entire stretch of Germantown Avenue that is within the Colonial Germantown Historic District has seen RTC activity since the beginning of the program, though not nearly at the density seen in Center City. Because of this relative lack of RTC density, finding comparables in the surrounding neighborhood was fairly easy for this
comparison. Consequently, block groups in this comparison may be more similar.

*Comparable 1 – East Germantown (406) [fig. 5.23]*

Comparable block group 406 is immediately adjacent to treated block group 410, just on the other side of Germantown Avenue, its other borders formed by High, Baynton, and Morton Streets. Because 406 is on the east side of Germantown Avenue, it is technically in the East Germantown Neighborhood. 406 is very close in area to 410 at approximately 58.9 acres. The Colonial Germantown Historic District covers roughly two thirds of its area. Nine completed RTCs surround 406 in adjacent block groups. Though very nearby, property values in 406 are much lower than those is 410. The median home sale price in 2011 for 406 was just $32,088.

Treated block group 410 outperforms comparable block group 406 in eleven indicators. 410 boasts one farmers’ market while 406 is without one. Additionally, 410 is marginally more walkable (78 v. 71) and transit friendly (66 v. 65) than 406,
though neither truly excel in either category. Major differences between the two block groups are in crime and economic conditions. 410 has lower rates of arson, and many fewer instances of vandalism, aggravated assault, narcotics arrests, robbery, and tenant or landlord violations. 410 residents are also better educated. Many fewer 410 families are below the poverty line (less than 16.75% of 410 families are impoverished as opposed to 50.26%-67% of 406 families) and the median income is higher (between $33,456.61 and $57,627.20 in 410 v. $9,286.00 and $33,456.60 in 406). Consequently, fewer renters in 410 are severely burdened than in 406.

406 does, however, outperform treated block group 410 in six indicators. 406 contains more amenities including two healthy corner stores, two public schools, an one two-and-a-half-acre park with a playground. 406 also has lower rates of illegal dumping and burglary.

The two block groups have eighteen indicators in common. Both lack a hospital, ambulatory surgery center, mental health center, recreation center, university, rail trail, and pool or sprayground. Each has three private schools and one theater. Neither have bike lanes on its streets. They have similar rates of graffiti, trespassing, prostitution, and loitering or prowling. Still, on the whole, treated block group 410 features more amenities and safer, better-educated, better-paid residents.

Comparable 2 – Germantown (501) [fig. 5.24]

Comparable block group 501 is also in Germantown, just one-quarter mile from treated block group 410. Its borders are Germantown Avenue, and Coulter, Chelten, and Wayne Streets. Larger than 410 at approximately 63.08 acres in size, roughly half of 501 is within the Colonial Germantown Historic District. Adjacent block groups contain nine RTCs. The median home sale price for 2011 in 501 was
$260,000, the closest to 410 of any of its comparables.

Treated block group 410 fares better than comparable block group 501 in ten indicators. 410 is home to one farmers market while 501 lacks one. The crime statistics are the most telling, however. 410 has lower rates of arson, vandalism, trespassing, aggravated assault, and robbery than 501. Furthermore, more of 410’s residents have earned college degrees. Fewer families in 410 are impoverished and the median income is also higher than in 501. Additionally, fewer renters are severely burdened in 410.

The biggest advantage that 501 has over 410 is its amenities. 501 is home to a library, a public school, five private schools (as opposed to three in 410), three theaters (as opposed to one in 410), a recreation center, bike lanes, and a one-acre park. 501 also has lower rates of illegal dumping, burglary, narcotics arrests, and tenant or landlord violations. Outperforming 410 in eleven indicators, the greatest
The third and final comparable, block group 104, is within the Chestnut Hill Comparable 3 – Chestnut Hill (104) treated block group 410 fared better in this analysis than 501. 410 and 501 match one another in fourteen indicators. Both lack a hospital, ambulatory surgery center, mental health center, healthy corner store, university, rail trail, playground, and a pool or sprayground. Both feature private schools and theaters, though in different amounts. The two block groups scored identically for walkability (78) and transit access (66). They also indicate similar rates of graffiti, prostitution, and loitering or prowling. A similar share of residents in both block groups only possesses a high school education. For the most part, renter and homeowner burden are similar between the two areas. Though the two have many similarities, overall, treated block group 410 fared better in this analysis than 501.

Figure 5.25: Comparison 4 - Comparable block group 104, Chestnut Hill

Comparable 3 – Chestnut Hill (104) [fig. 5.25]

The third and final comparable, block group 104, is within the Chestnut Hill
neighborhood and the Chestnut Hill Historic District, bordered by Wissahickon Valley Park, Cresheim Valley Drive, and the Water Tower Recreation Center to the east of Ardleigh Street. 104 is roughly 59.87 acres in area. Surrounding block groups are home to four RTCs. The median home sale price for 2011 in 104 was $365,000, quite a bit higher than treated block group 410.

Treated block group 410 outperforms comparable block group 104 in just six indicators. For amenities, 410 has a farmers’ market as well as three private schools (as opposed to just one in 104). Additionally, 410 is more walkable (78 v. 70) and transit-friendly (66 v. 51) than 104. There are fewer advantages as the analysis continues. The only crime indicator that is lower in 410 than 104 is robbery. Economically, the only indicator that gives 410 the advantage is severely burdened renters.

Comparable block group 104 has no more amenities than 410, but many of its crime rates are lower including illegal dumping, vandalism, burglary, and narcotics arrests. Economically, the median household income in 104 is significantly higher than that in 410, ranging between $81,797.81 and $130,139.00, as opposed to $33,456.61-$57,627.20 in 410.

104 and 410 are more alike than similar, matching one another in twenty-five indicators. Both lack a hospital, ambulatory care center, mental health center, health corner store, library, public school, university, recreation center, bike lanes, rail trails, park, playground, and pool or sprayground. The rate the same for arson, graffiti, trespassing, aggravated assault, prostitution, tenant or landlord violations, and loitering or prowling. Similar shares of the populations of both block groups have college degrees. Fewer than 16.75% of the families in either block group are impoverished and, for the most part, renters and homeowners demonstrate the same burden rate.
### Overall Averages [tab. 5.8]

The average number of tax credit projects in the treated block groups examined above is 18.75. 36.25 RTCs are in adjacent block groups on average. The average area for the treated block groups is 35.82 acres. The 2011 median home sale price for all treated block groups, on average, was $197,325. None of the comparable block groups had RTCs but, on average, had 8.5 RTCs in adjacent block groups, many fewer than adjacent to the treated block groups, suggesting that RTCs tend to cluster. The average area of the untreated block groups examined above is approximately 36.86 acres. The average 2011 median home sale price for the
untreated block groups was $218,594.79, somewhat higher than the treated block groups.

When examining averages of all of the indicators, the treated block groups outperform the untreated comparable in five indicators that fall in all indicator categories. Treated block groups, on average, have more farmers’ markets and better transit access than untreated block groups. They also report, on average, lower rates of aggravated assault, narcotics arrests, and robbery. More residents in treated block groups have college degrees. Fewer homeowners in treated block groups are burdened or severely burdened.

On the other hand, untreated block groups, on average, have the advantage in twenty-four indicators. On average, untreated block groups have more healthy corner stores, libraries, public and private schools, theaters, recreation centers, bike lanes, parks, playgrounds, and pools or spraygrounds. They also tend to be more walkable. Comparable block groups, on average, have lower rates of arson, graffiti, illegal dumping, trespassing, burglary, prostitution, tenant or landlord violations, and loitering or prowling. Fewer residents of these block groups possess just a high school diploma. Families of these block groups are less likely to live in poverty and, on average, have higher median incomes. Finally, fewer renters in untreated block groups are burdened, on average.

When looking at averages, treated and comparable block groups have six indicators in common. This is because the answers for these indicators were the same for all block groups examined, though not purposefully. None of the examined block groups have a hospital, ambulatory surgery center, mental health center, university or rail trail. The vandalism rate average is the same for both treated and comparable block groups. The rate of severely burdened renters averages out to 15.01%-35% for
conclusions from the preceding analysis and recommend next steps.
both treated and untreated block groups. The following chapter shall attempt to draw

This thesis was intended to begin to fill in a gap in preservation literature by beginning research in Philadelphia and evaluating how, if at all, historic preservation affects social wellbeing. By considering tax credit investment alongside various statistical measures of social wellbeing in Philadelphia census block groups, this study tested some hypotheses about the power of preservation in community revitalization. The primary hypothesis tested is that historic preservation activity coexists and may be related to social wellbeing in Philadelphia. Identifying and analyzing the social benefits of the federal historic rehabilitation tax credit program may provide another tool for preservation advocates to use when making the case for preservation planning in their community. If this thesis can prove that there is a demonstrable link between historic preservation and whole community revitalization, then preservation will likely play a more vital role in city planning and economic development plans.
5. CONCLUSIONS

Unfortunately, as shall be described in the following paragraphs, this study has not proven very strong correlations between RTCs and social wellbeing, at least, not consistently. Furthermore, some indicators, in fact, report that block groups with RTCs fare worse than their untreated counterparts. Some trends may begin to be evident, but more work is required. This report will end with recommendations for future research based upon the hurdles and shortcomings of this report.

The approach for this study was fairly straightforward. A review of literature guided decisions about experimental design, hypotheses to test, and which indicators to analyze. After gathering and examining information about rehabilitation activity in Philadelphia, a list of social wellbeing indicators was generated. Next, a handful of those indicators were charted alongside all of the census block groups in Philadelphia. Those block groups were divided into categories based upon the presence or lack of RTC. Six indicators were averaged across these categories in an effort to establish general notions of social wellbeing performance across the city.

The results from this citywide analysis were more straightforward and clear than the block level comparative analysis [tab. 6.1]. Of the six indicators examined

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Table 6.1: Matrix illustrating how treated and untreated block groups performed, overall, in the citywide analysis. An “X” indicates that that category of block group, overall, had the highest indicators.
for this analysis, treated block groups had the advantage in three: median home sale price for 2011, total count of health-related amenities, and total count of institutional or cultural amenities. The greatest difference between treated and untreated block groups was observed in sale price and institutional or cultural amenities. In both of these categories, as described in Chapter 5, treated block groups performed much better than untreated block groups and much better than the average across the city. Treated and untreated block groups tied in one indicator, total count of outdoor amenities, suggesting that preservation activity may not, in fact, leverage public investment in these sorts of projects.

Finally, contrary to popular assumptions, preservation activity seems to have no effect in crime reduction. In fact, block groups with the highest concentrations of RTCs also have the highest concentrations of both serious personal crimes and serious property crimes. These results may indicate differences in police enforcement tactics, reflect population density, or any number of other differences in social structure in a given area. Future research could better elucidate the causes of such high crime rates in treated block groups.

In the final phase of analysis, data for as many indicators as possible were mapped using GIS software alongside the locations of RTCs and National Register historic districts in Philadelphia. After analyzing these maps, four block groups were chosen that represented differing situations of RTC investment (lots of investment over time, investment only before 1990, investment only after 1990, little investment over time). These block groups were labeled “treated”. Next, three comparable block groups were selected to correspond with each of the four chosen treated block groups. The comparables lacked any RTC investment, were within National Register historic districts, and were of a similar geographic size as the treated block groups to
which they were being compared. After gathering data for all of these block groups, averages were computer to make understanding the results of the study simpler.

As indicated in the previous chapter, contrary to expectations, block groups with RTCs did not exhibit better social wellbeing indicators altogether than their RTC-lacking comparables [tab. 6.2]. The results were quited mixed. In fact, based on the indicators used, treated block groups only had the advantage in eight categories, as opposed to the twenty-four indicators that the comparables excelled in. Likely the result of a small sample size as well as such a wide variety of indicators, it is difficult to draw concrete conclusions about the above findings, especially since many of these findings are contrary to those found in the citywide analysis, which indicates that future studies should perhaps be wary of this sort of comparables analysis or, at least, attempt another comparison with better controls.

Treated block groups in the comparative analysis do seem to have reduced crime in some categories, including aggravated assault, narcotics arrests, and robberies. Reduced narcotics arrests could be related to the rejuvenation of vacant buildings that may have previously hosted drug-related activity. Lower rates of aggravated assaults and robberies in treated block groups may confirm the improving physical appearance hypothesis because it seems that there are fewer “incivilities” in treated block groups.

Additionally, as Rypkema and Wiehagen asserted, historic neighborhoods seem to be neighborhoods of choice for educated people. Treated block groups had, on average, higher rates of college educated population. Finally, as stated in several hypotheses in the preceding chapter, historic preservation does, indeed, preserve affordability, at least as far as homeownership is concerned. Treated block groups were home to fewer burdened or severely burdened homeowners than those that
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Table 6.2: Matrix illustrating how treated and untreated block groups performed, overall, in the comparative analysis. An “X” indicates that that category of block group, overall, had the highest indicators.
lack RTCs.

Other hypotheses were more difficult to confirm. While homeowners seem to find treated block groups more affordable, renters do not. Renters in treated block groups pay higher proportions of their incomes to live there. Some may point to gentrification as the cause of this phenomenon, but it is impossible to make any clear conclusions with the present data. It also seems that, perhaps rehabilitation projects do not leverage public investment as effectively as hoped. Untreated block groups tend to have move amenities than their treated counterpoints, though this may simply be a symptom of an incomplete list of amenities to inventory for this study.

Overall, this report failed to reveal clear relationships within the data about the social benefits of the rehabilitation tax credit program in Philadelphia, regrettably. At least, the findings described above are muddied and contradictory. While the citywide analysis indicated that, on the whole, block groups with RTCs outperformed those without, the comparative analysis indicated the exact opposite. Often, these two analyses were in direct opposition. According to the comparative analysis, treated block groups have fewer amenities. According to the citywide analysis, treated block groups have many more amenities than untreated. Were this report just to contain the citywide analysis, the findings would be optimistic and touted as yet another triumph of historic preservation. On the other hand, the block level comparative analysis paints a much less rosy picture of the effects of preservation. On the other hand, the block level comparative analysis paints a much less rosy picture of the effects of preservation. Taken together, these analyses don’t lead to clear conclusions; but, they do pave the way for a next round of studies using spatial statistics to explore these relationships. Before that is ventured, however, better data need to be assembled and constructed to represent preservation activity. It appears that the block groups chosen for the comparative analysis present an incomplete picture of the city and provide an inconclusive reading of the effects
5. CONCLUSIONS

of RTCs in Philadelphia.

Still, much can be learned from this study regarding the direction of future research. On the whole, greater statistical sophistication, access to more and better data, and more time would have, in all likelihood, produced more conclusive results. Additionally, in the future, a more focused approach may prove more fruitful. For instance, future research could focus on one indicator category, such as crime, and map it over time in conjunction with RTCs in the city. This research could include more crime indicators, have a better understanding of targeted enforcement practices that may skew data, and look at how crime statistics have changed over time, attempting to identify if there was significant change in those rates immediately following tax credit investment. Other categories, such as health or education, could be studied in more detail as well. Adding maps of food deserts for the city of Philadelphia may have indicated more thoroughly how much access to healthy food a given group of residents have. Considering the massive school closings, both public and parochial, in Philadelphia may indicate where the city is focusing, or not focusing, their educational investment. In order to identify if RTCs have a ripple effect on their neighbors’ property maintenance, an inventory of building licenses in the treated block groups may indicate an effort toward improvement. Comparison of contemporary conditions with some historic photographs could also prove enlightening. As done with the HUD study of NSP described in the literature review study, perhaps using RTC points as centroids and determining study area that way would prove more informative than using block groups as the geographic boundary. Better use of statistical controls, like the sophisticated methodology used in the Journal of Epidemiology study of vacant lot greening would likely have given more meaningful results.
Another approach for future research would be to consider more specific information about the rehabilitation tax credit projects themselves. Does a higher cost project always indicate better results? How do projects that combine rehabilitation and low-income housing tax credits fare? Does the square footage of an RTC project affect its success? Perhaps different types of end uses for rehabilitation tax credit projects have differing effects. Maybe apartment conversions reduce crime more effectively than office conversions. A more effective study may only consider rehabilitation tax credit projects that renovated previously vacant buildings, as one would assume that those projects might have a greater effect on the surrounding communities.

In an effort to bridge the gap between historic preservation and social wellbeing, this thesis was a good first step in laying the groundwork for future research. This study created a spatial framework for analysis, used the best available data on preservation activity, and gathered descriptive statistics that enable the formulation of more specific hypotheses down the road. Citywide trends seem to clearly indicate that block groups with RTCs have more amenities and higher valued property at a variety of level; however, this same scale indicates much higher crime in treated block groups. Comparative analysis presents a muddy, confusing picture that may need to be revised for accuracy or completely disregarded. RTCs may present a readily-available proxy for preservation activity as a whole, but do present limitations. A study based solely on RTCs neglects vital information regarding local regulation, building age, condition, and present use, and various other development incentives in Philadelphia. Though RTCs are the best source of citywide preservation data, they themselves cannot tell the whole story of preservation activity in Philadelphia. Additional research is clearly needed in order to more clearly assert the connection
between social wellbeing and preservation, if one exists, and provide an effective advocacy tool for preservationists around Philadelphia and the country.


*Prosperity through Preservation: Virginia’s Historic Rehabilitation Tax Credit Program*. Virginia Department of Historic Resources


United States Census Bureau. American Community Survey.


## Blyth Valley Wellbeing Framework

### Personal Qualities

**Who we are**
- Positive/thankful attitude to life
- Philosophical approach/realistic expectations

**Sense of humor**
- Being happy/content with life

**Emotional resilience/ adaptability**

**Self-esteem/ confidence**

**Initiative/ motivation**

**Being ‘other regarding’:**
- Honest
- Respectful
- Caring
- Understanding
- Sharing
- Generous

### Health: How we are

**General physical fitness and exercise**

**Healthy diet and healthy weight**

**Reducing serious illness:**
- Cancer
- Cardio-vascular diseases
- Respiratory diseases
- Diabetes

### Martha Nussbaum Central Human Capabilities

<table>
<thead>
<tr>
<th>4 Senses, imagination and thought.</th>
<th>Being able to... think and reason</th>
</tr>
</thead>
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<tr>
<td>6 Practical reason.</td>
<td>Being able to form a conception of the good and to engage in critical reflection about the planning of one’s life</td>
</tr>
<tr>
<td>9 Play.</td>
<td>Being able to laugh...</td>
</tr>
<tr>
<td>5 Emotions.</td>
<td>Not having one’s emotional development blighted by overwhelming fear and anxiety</td>
</tr>
<tr>
<td>7 Affiliation.</td>
<td>Having the social bases of self-respect and non-humiliation; being able to be treated as a dignified being whose worth is equal to that of others</td>
</tr>
<tr>
<td>4 Senses, imagination and thought.</td>
<td>Being able to use imagination and through in connection with experiencing and producing self-expressive works and events of one’s own choice</td>
</tr>
<tr>
<td>7 Affiliation.</td>
<td>Being able to live with and toward others, to recognize and show concern for other human beings [...] to be able to imagine the situation of another and to have compassion for that situation; to have the capacity for both justice and friendship</td>
</tr>
</tbody>
</table>

### Audit Commission Quality of Life Indicators

**Community Cohesion**
- The percentage of residents who thin that people being attacked because of their skin color, ethnic origin or religion is a very big or fairly big problem in their area

**Community Safety**
- The percentage of residents who think that a) Vandalism, graffiti, and other deliberate damage to property or vehicles; b) People using or dealing drugs; c) People being rowdy or drunk in public places is a very big or fairly big problem in their local area

**Aspirational**
- The percentage of people surveyed who feel that their local area is a place where people from different backgrounds get on well together

### Health and Social Wellbeing

| 1 Life. | Being able to live to the end of a human life of normal length, not dying prematurely |
| 2 Bodily health. | Being able to have good health, including |
| 31 Age-standardized mortality rate for a) All cancers; b) Circulatory diseases; c) Respiratory diseases |
| 32 Infant mortality |
| 33 Life expectancy at birth (male and female) |
| 34 The percentage of households with one or |

### Indicator Matrix

Help to alleviate the suffering caused by chronic pain/long-term illness

- Accessibility of alternative therapies
- Drug, smoking, alcohol reduction
- Mental health

Opportunity to rest, relieve stress, and recover in natural/tranquil surroundings

4 Senses, imagination and thought. [...] to avoid non-necessary pain

5 Emotions. Not having one’s emotional development blighted by overwhelming fear or anxiety, or by traumatic events of abuse or neglect

4 Senses, imagination and thought. [...] being able to have pleasurable experiences

8 Other species. Being able to live with concern for and in relation to animals, plants, and the world of nature

7 Affiliation. Having the social bases of self-respect and non-humiliation; being able to be treated as a dignified being whose worth is equal to that of others

Support for the elderly:

- Dignity and respect for individuals
- Quality and affordability of care for elderly
- Support for people to be cared for at home or with family

Support for carers

Quality of GP and health services

Quality of death and support for those bereaved

Activity

What we do

Keeping active and busy:

- Feeling challenged/stimulated
- Being absorbed in something
- Something to look forward to

Ability to pursue

Interests/hobbies/play

Provision of activities/facilities

Being able to enjoy ‘simple things’

Availability of jobs

Quality of job:

- Job satisfaction
- Being valued
- Good working relationships
- Less commuting
- Flexibility of hours/part-time work/homeworking

4 Senses, imagination and thought. Being able to use imagination and thought in connection with experiencing and producing self-expressive works and events of one’s own choice, religious, literary, musical, and so forth

9 Play Being able to laugh, to play, to enjoy recreational activities

7 Affiliation. In work, being able to work as a human being, exercising practical reason and entering into meaningful relationships of mutual recognition with other workers

10 Control over one’s environment. B. Material. Having the right to seek

Culture and leisure

10 The percentage of people who think that for their local area, over the past three years the following have gotten better or stayed the same [...] e.) parks and open spaces

Environment

30 a) The percentage area of land designated as sights of special scientific interest (SSSI) within the local authority area in favorable condition; and
b) The area of land designated as a local nature reserve per 1,000 population

Culture and Leisure

10 The percentage of people who think that for their local area, over the past three years, the following have gotten better or stayed the same

Economic Wellbeing

11 The percentage of the working-age population that is in employment

13 a) The total number of VAT registered businesses in the area at the end of the year
b) The percentage change in the

Indicator Matrix

Opportunities to train/progress
Opportunities and support for self-employment
Quality of education, including:
  • Life skills/social values
  • Numeracy and literacy for all
  • Supporting child’s interests
  • Accommodating child’s needs
  • Valuing practical skills
  • Academic achievement
  • Access to lifelong learning
  • Opportunities to (re)train employment on an equal basis with others

4 Senses, imagination and thought
[...] Adequate education, including, but by no means limited to, literacy and basic mathematical and scientific training

Income:
How we manage financially
Adequate income for:
  • Maintaining a comfortable home
  • Meeting family/social needs
  • Healthy diet and lifestyle
  • Meeting health/care needs
  • Leisure and culture pursuits
  • Annual holiday
  • Ability to plan for future life
  • Ability to provide for family
  • Ability to insure against misfortune
  • Ability to save

Economic security
Adequate income for:
  • Maintaining a comfortable home
  • Meeting family/social needs
  • Healthy diet and lifestyle
  • Meeting health/care needs
  • Leisure and culture pursuits
  • Annual holiday
  • Ability to plan for future life
  • Ability to provide for family
  • Ability to insure against misfortune
  • Ability to save

Economic wellbeing
12
  a) The number of Job Seekers Allowance claimants as a percentage of the resident working-age population;
  b) The percentage of those who have been out of work for more than a year

15 The proportion of the population living in the most deprived areas of the country
16 The percentage of the population of working age claiming key benefits
17 The percentage of:
  a) Children
  b) Population over 60 that live in households that are income deprived

5 Emotions. Being able to have attachments to things and people outside ourselves; to love those who love and care for us [...] (Supporting this capability means supporting forms of human association that can be shown to be crucial in their development)

Indicator Matrix
Ability to care for others/opportunities for voluntary work

Community spirit/compromise:
- Neighbors helping each other
- Quality/stability of relationships
- Sense of belonging
- Knowing lots of people in area
- Balance between privacy and support
- Ability to tolerate differences

General friendliness of area:
- Levels of trust
- Hospitality/helpfulness to strangers/visitors
- Cultural diversity celebrated
- Sense of identity and pride
Collective parenting/clear boundary setting for young people
Good intergenerational relationships/mutual respect
Mutual interest associations

Physical World:
How we relate to our surroundings
Clean water, air, and land

Tranquility/peace and quiet
Beauty and diversity (of built and natural world)
Opportunities to experience the natural world and other species, landscapes, flora and fauna, birdsong, pets

Comfortable and affordable homes for all (to rent or buy)
Housing security

7 Affiliation, Being able to live with and toward others, to recognize and show concern for other human beings, to engage in various forms of social interaction [...] (Protecting this capability means protecting institutions that constitute and nourish such forms of affiliation)

Community cohesion and involvement
3 The percentage of residents who think that for their local area, over the past three years, community activities have gotten better or stayed the same

Aspirational
The percentage of people surveyed who feel that their local area is a place where people from different backgrounds get on well together

Environment
22 The proportion of developed land that is derelict
27 Daily domestic water use (per capita consumption)
28 The percentage of river length assessed as:
   a) Good biological quality
   b) Good chemical quality
24 Levels of key air pollutants

8 Other species. Being able to live with concern for and in relation to animals, plants, and the world of nature

2 Bodily health. To have adequate shelter
10 Control over one’s environment. B. Material. Being able to hold property (both land and moveable goods), not just formally but in terms of real

30
   a) The percentage area of land designated as sights of special scientific interest (SSSI) within the local authority area in favorable condition; and
   b) The area of land designated as a local nature reserve per 1,000 population

Housing
36 The total number of new housing completions
37 Affordable dwellings completed as a percentage of all new housing completions
38 Household accommodation without central

Indicator Matrix
opportunity [...] and having property rights on an equal basis with others

Clean, peaceful, safe neighborhood

Heat

39 The percentage of residents who think that people sleeping rough on the streets or in other public places is a very big or fairly big problem in their local area

40 The percentage of all housing that is unfit

Community cohesion

2 The percentage of residents who think that people being attacked because of their skin color, ethnic origin, or religion is a very big or fairly big problem in their local area

Community safety

5 The percentage of residents who said they feel ‘fairly safe’ or ‘very safe’ outside

a) During the day
b) After dark

6 a) Domestic burglaries per 1000 households
b) Violent offenses committed per 1000 population
c) Theft of vehicle per 1000 population
d) Sexual offense per 1000 population

7 The percentage of residents who think that

a) Vandalism, graffiti, and other deliberate damage to property or vehicles;
b) People using or dealing drugs;
c) People being rowdy or drunk in public places

is a very big or fairly big problem in their local area

Environment

23 The proportion of relevant land and highways that is assessed as having combined deposits of litter and detritus

Culture and leisure

9 The percentage of the population within 20 minutes travel time (urban – walking, rural – by car) of different sports facility types

Aspirational

3 The percentage of people surveyed finding it easy to access key local services

Environment

29 The volume of household waste collected and the proportion recycled

Transport and access

42 The percentage of the resident population who travel to work

a) By private motor vehicle
b) By public transport
c) On foot or cycle

43 The percentage of the resident population traveling over 20km to work

44 The percentage of residents who think that for their local area, over the past three years

a) Public transport has gotten better or
<table>
<thead>
<tr>
<th>Environment</th>
<th>Community cohesion</th>
<th>Election turnout</th>
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<tr>
<td>Renewable energy/reduction in fuel poverty</td>
<td>2 The percentage of residents who think that people being attacked because of their skin color, ethnic origin, or religion is a very big or fairly big problem in their local area</td>
<td>45 Estimated traffic flows for all vehicle types (million vehicle km)</td>
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<tr>
<td>Fairness in how people are treated</td>
<td>Community safety</td>
<td>People and Place</td>
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<tr>
<td>Equality of opportunity:</td>
<td>b) Traffic congestion has gotten better or stayed the same</td>
<td>8 The number of</td>
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<tr>
<td>• Having life changes/confidence</td>
<td>a) Violent offenses committed per 1000 population</td>
<td>a) Pedestrian</td>
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<tr>
<td>• Access to resources and support to live the life one chooses</td>
<td>b) Sexual offense per 1000 population</td>
<td>b) Cyclist</td>
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<tr>
<td>• Accommodating different needs</td>
<td>Aspirational</td>
<td>road accident casualties per 100,000 population</td>
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<td>• Access to childcare</td>
<td>The percentage of people surveyed who feel that their local area is a place where people from different backgrounds get on well together</td>
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<tr>
<td>• Support for people with disability to access work</td>
<td>Community cohesion and involvement</td>
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*APPENDIX A*

Indicator Matrix
• Openness of decision-making
• Procedural fairness
• Opportunity/support for collective action
• Local control over budgets
• Women and minority groups represented

Promotion of and access to independent support, advice, and advocacy for addressing problems, injustices, and abuse

**10 Control over one’s environment.**
**Political.** Being able to participate effectively in political choices that govern one’s life; having the right of political participation, protections of free speech and association

**Aspirational**
The percentage of people surveyed who feel they can influence decisions affecting their local area

<table>
<thead>
<tr>
<th>Indicator Matrix</th>
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<tbody>
<tr>
<td>DISTRICT NAME</td>
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<tr>
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<tr>
<td>Elfreth's Alley Historic District</td>
</tr>
<tr>
<td>Drexel Development Historic District</td>
</tr>
<tr>
<td>Manayunk Main Street Historic District</td>
</tr>
<tr>
<td>Rittenhouse Historic District</td>
</tr>
<tr>
<td>Spring Garden District (Boundary Increase)</td>
</tr>
<tr>
<td>Washington Avenue Historic District</td>
</tr>
<tr>
<td>Overbrook Farms</td>
</tr>
<tr>
<td>Cobbs Creek Automobile Suburb Historic District</td>
</tr>
<tr>
<td>Garden Court Historic District</td>
</tr>
<tr>
<td>Haddington Historic District</td>
</tr>
<tr>
<td>Parkside Historic District</td>
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<tr>
<td>Powelton Historic District</td>
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**National Register District boundaries in Philadelphia**
<table>
<thead>
<tr>
<th>Historic District</th>
<th>Boundary Description</th>
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<tbody>
<tr>
<td>West Philadelphia Streetcar Suburb Historic District</td>
<td>Roughly bounded by the University of Pennsylvania campus, Woodlands Cemetery, Powelton Ave, 52nd St, and Woodland Ave</td>
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<tr>
<td>Broad Street Historic District</td>
<td>Roughly bounded by Juniper, Cherry, 15th, and Pine Sts</td>
</tr>
<tr>
<td>Center City West Commercial Historic District</td>
<td>Roughly bounded by Chestnut, 15th, Walnut, Sansom, and 21st Sts</td>
</tr>
<tr>
<td>Clinton Street Historic District</td>
<td>Bounded by 9th, 11th, Pine, and Cypress Sts</td>
</tr>
<tr>
<td>East Center City Commercial Historic District</td>
<td>Roughly bounded by 6th, Juniper, Market, and Locust Sts</td>
</tr>
<tr>
<td>Old City Historic District</td>
<td>Bounded by Spring Garden, 4th, Walnut Sts and Delaware River</td>
</tr>
<tr>
<td>Ramcat Historic District</td>
<td>Roughly bounded by Market, 23rd, and Bainbridge Sts and railroad yards</td>
</tr>
<tr>
<td>Society Hill Historic District</td>
<td>Bounded by Walnut and Lombard Sts, the Delaware River, and 8th St</td>
</tr>
<tr>
<td>Walnut-Chancellor Historic District</td>
<td>20th-21st, Walnut, and Chancellor Sts</td>
</tr>
<tr>
<td>Washington Square West Historic District</td>
<td>Roughly bounded by 8th, Locust, Broad, and Lombard Sts</td>
</tr>
<tr>
<td>Breweryton Historic District</td>
<td>Roughly bounded by 30th St, Girard Ave, 32nd St, and Glenwood Ave</td>
</tr>
<tr>
<td>Callowhill Industrial Historic District</td>
<td>Roughly bounded by Pearl St, North Broad St, Hamilton St, and Reading Railroad Viaduct</td>
</tr>
<tr>
<td>Fairmount Avenue Historic District</td>
<td>Fairmount Ave and Melon, North, 15th, 16th, and 17th Sts</td>
</tr>
</tbody>
</table>

National Register District boundaries in Philadelphia
| Girard Avenue West Historic District | West Girard Avenue, between North Taney and North 29th Sts |
| Girard Avenue Historic District | 1415-2028 Girard Avenue and 1700 block of Thompson St |
| Lower North Philadelphia Speculative Housing Historic District | Roughly bounded by North 15th St, Sydeham St, North 16th St, Montgomery Ave, North 18th St, Jefferson St, and Willington St |
| North Broad Street Mansion District | Roughly bounded by Broad, Jefferson, Willington, and Oxford Sts |
| Northern Liberties Historic District | Roughly bounded by Brown, Boone, Galloway, Green, Wallace, 5th, and 6th Sts |
| West Diamond Street Townhouse Historic District | 3008-3146, 3011-3215 Diamond St |
| Greenbelt Knoll Historic District | 1-19 Longford St, roughly bounded by Holme Ave and Pennypack Park Greenway |
| Awbury Historic District | Roughly bounded by Chew Ave, Avonhoe Rd, Devon Place, Haines and Ardleigh Sts |
| Chestnut Hill Historic District | Roughly bounded by Fairmount Park and Montgomery County Line |
| Colonial Germantown Historic District | Germantown Avenue between Windrim Ave and Upsal St, also 6500-7600 |
| Druim Moir Historic District | Bounded by Fairmount Park, Cherokee St, Hartwell Lane, and Valley Green Dr |

**National Register District boundaries in Philadelphia**
<table>
<thead>
<tr>
<th>Historic District</th>
<th>Location and Boundaries</th>
</tr>
</thead>
</table>
| Rittenhouse Town Historic District     | 206-10 Lincoln Dr
|                                        | Roughly bounded by McCallum St, West Walnut Lane, Penn Central railroad tracks, and West Tulpehocken St |
| Tulpehocken Station Historic District  | Roughly bounded by Shawmont Ave, Hagy’s Mill Rd, and the Schuylkill River                |
| Upper Roxborough Historic District     | Roughly bounded by Shawmont Ave, Hagy’s Mill Rd, and the Schuylkill River                |
| Wayne Junction Historic District       | Roughly bounded by West Berkley St, Roberts, Germantown, and Wayne Aves                  |
| South Front St Historic District       | 700-712 South Front St, Bainbridge St to Kenilworth St                                   |
| Southwark District                     | Bounded by Delaware, Washington Aves, 5th, Lombard, Front, and Catherine Sts              |

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