

# **Public Investment Strategies: How They Matter for Neighborhoods in Philadelphia**

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## **I. Introduction**

This study focuses on place-based public investment strategies that can enhance the overall vitality of Philadelphia neighborhoods. Our purpose is to examine the economic impact on property values of a range of place-based public investments, including commercial-corridor improvements, vacant land management, neighborhood greening strategies such as green streetscapes, and “business improvements districts,” as well as quality-of-life interventions like public safety, school improvements, and access to transit in the City of Philadelphia. The study contributes to the evaluation of these strategies by measuring their impact on neighborhood quality using techniques developed by the Wharton School Geographical Information Systems (GIS) laboratory. While it is well understood in principle that investments in blighted areas raise property values and overall neighborhood quality, our research quantifies these benefits. Through econometric analysis and the integration of data from multiple city sources, we quantify the significant impacts of time- and place-based investment strategies aimed at improving quality of life and revitalizing disinvested urban neighborhoods in Philadelphia.

## **II. Methodology and Data**

This study contributes to our understanding of the determinants of how people value their neighborhoods by identifying the impacts on surrounding property values of place-based investments. The goal is to measure the impacts of community investments on the quality of life offered by neighborhoods in which investments occur. While the importance of neighborhood effects of community investment seems intuitive, many studies fail to find empirical evidence for such effects due to insufficiently precise measurements of the time and place where the investment occurred. Recent innovations in GIS technology have enabled us to precisely measure where and when place-based investments occur.

The Wharton School’s GIS Lab constructed the spatial database for the City of Philadelphia by combining value and attribute data (property parcel price, square

footage, and amenities of each unit) with geographic data (latitude and longitude) and information on public service areas and specific neighborhood interventions. These include school districts; police precincts; and “business investment districts (BIDs),” geographically defined, quasi-public agencies that provide collective public services and are financed by a special tax assessment. The study uses 200,000 property sale price observations from the period 1980 to 2004. The integration function of GIS allows the measurement of impacts for many place-based variables defined at several different geographical scales for neighborhoods and for the city as a whole.

The methodology begins with a “hedonic regression” model of the determinants of housing prices. Such models control for the other variables that affect property values, such as the physical characteristics of specific houses, the location and density of the surrounding neighborhood, and the time of sale. The integrated database makes it possible to measure the direct impact of public investments on “neighborhood value,” identified by how much people are willing to pay to live in neighborhoods.

The data are obtained by merging information from multiple sources: property-level characteristics of Philadelphia’s housing stock from the Board of Revision of Taxes; sales price data from Realist Incorporated and Hallwatch.org; social outcome data on neighborhood crime rates and school quality from the City of Philadelphia; public transportation station locations from SEPTA; information on BIDs from the City of Philadelphia’s website; greening data (the location of new tree plantings, streetscaping, and improved vacant lots), along with the proximities to transacting properties, from the Pennsylvania Horticultural Society; and data on the quality of commercial corridors in Philadelphia from the Philadelphia City Planning Commission. (Map 1 shows the location of the commercial centers, color-coded by their physical condition.)

### **III. Results**

To identify the impact of specific public investment strategies on how people value their neighborhoods, we need to hold constant other factors that impact prices. Home prices reflect values that individuals place on structural characteristics and location, as well as the state of the overall market (time).

Factors associated with relatively higher house prices include more square footage; a larger lot size; better physical condition; the presence of fireplaces, central air conditioning, and/or a garage; and being either in or relatively close to downtown. Factors associated with relatively lower house prices include a street-corner location, being renter-occupied, and being a multi-unit dwelling.

We also control for the state of the overall market. As shown in Figure 1, except for a period from 1988 to 1995, overall housing prices have gone up in Philadelphia over time. Indeed, in the most recent period, the Philadelphia market has outperformed housing trends for the region and nation. Our results control for overall market demand and supply conditions by including the time trend as a separate variable.

We control for these influences to identify the effects of community public investment strategies. In this first-time citywide effort to track important public investment impacts, we include data on commercial-corridor improvements, vacant land management, neighborhood greening strategies, and BID initiatives. We also measure, although less precisely, the impacts of public safety, school quality, and access to public transit. The results are summarized in Table 1.

### 1. Commercial Corridors

To our knowledge, this is the first study that demonstrates the importance of commercial- corridor maintenance and investment for surrounding residential neighborhoods. While studies have shown that the noise and congestion associated with being near a commercial corridor negatively impact home values, the effects of the condition of the corridor on surrounding home values have not been similarly studied.

We found that the negative effect of commercial corridors is reversed if the corridor is in “excellent” or “good” condition. The results indicate that being located within ¼ mile of a commercial corridor adversely affects house values by a 13% decline in overall house values, and that being located beyond ¼ mile but within ½ mile of a corridor negatively affects prices by -9%. By contrast, the coefficients on the variables measuring the condition of the commercial corridor suggest that maintaining or improving a corridor’s condition can actually increase the value of nearby dwellings. A condition of “excellent” is correlated with a 36% rise in value for those homes within ¼ mile, and a 20% rise for

those within  $\frac{1}{2}$  mile. The comparable numbers for a corridor in “good” condition are 17% and 6%, respectively.

These effects may be netted against each other to measure their total impact. For example, consider a house within  $\frac{1}{4}$  mile of a corridor classified as being in “excellent” condition. Although the general proximity to a corridor is linked to a 13% discount in the home’s value, this is more than offset by the 36% premium of the corridor’s condition, for a net gain to the owner of a dwelling within  $\frac{1}{4}$  mile of an additional 23% of value. For the owner of a dwelling in the range of  $\frac{1}{4}$  to  $\frac{1}{2}$  mile, the net impact is a still substantial gain of 11%.

## 2. Vacant Land Management

Vacant lots left in the wake of housing abandonment and demolition often have significant and adverse effects on a neighborhood’s quality of life, attracting refuse and vandals and creating a perception of impaired public safety. Our findings indicate that adjacency to a neglected vacant lot subtracts 20% of value from a home relative to comparable homes farther away from the site.

Recent public initiatives have worked to “stabilize” these sites through a process of cleaning and greening. This process involves the removal of discarded trash; grading and amending the soil; planting grass, trees, and shrubbery; and even adding such amenities as benches, sidewalks, and fences. Our results indicate that these efforts reverse the negative impact of adjacency to neglected vacant lots and impart an additional 17% of value to surrounding homes.

## 3. Neighborhood Greening

Investment in “neighborhood greening” is a general term to denote everything from adding parks to improving streetscapes to planting new trees in public spaces. As the results listed in Table 1 suggest, proximity to a greening event positively affects home values. Proximity to a new tree planting is associated with overall increase in house prices of 9%.

Streetscapes are part of the “green infrastructure” of the urban environment. A streetscape project represents horticultural treatments to a sidewalk or roadway that

improve the appearance of the area, making it a more attractive and pleasant place. Treatments can include tree plantings, container plantings, small pocket parks, parking lot screens, and median plantings. Streetscapes tend to focus on commercial corridors with high visibility and high levels of pedestrian and/or vehicular traffic. Our results indicate that streetscaping imparts a considerable increase in surrounding home values as well, on the order of a 28% gain in value relative to similar homes in comparable areas without streetscape improvements.

#### 4. Business Improvement Districts (BIDs)

Enabled by state statutes, BIDs are neighborhood-based, quasi-public agencies that provide services like trash removal and greening. They are primarily focused on improving the condition and safety of outdoor public spaces within their jurisdictions, as well as marketing the jurisdiction to outside businesses, residents, and tourists. The strategy of BIDs would seem to be validated by the housing market's reaction to their presence. Homes located in BIDs are valued 30% higher than comparable homes not located in BIDs. The first—and still largest—BID in Philadelphia is the Center City District (CCD). While CCD is the oldest and largest BID, our results hold for other BIDs as well; we explicitly tested for this by excluding data from CCD and re-estimating our results with similar outcomes.

#### 5. Quality of Life: Public Safety, School Quality, and Public Transit Access

Public services in a neighborhood clearly matter. While we lack direct data on new investment in important neighborhood public services, for example school and public-safety investment, we have limited data on the outcomes of these investments as identified by a measure of school quality (the high-school dropout rate) and a measure of public safety (an index of local crime). Our results indicate that higher crime rates are associated with lower home values on the order of about -14% for every 1% increase in the overall crime index. Further, a high dropout rate in high schools, after controlling for the high poverty rate of the student body, is also shown to be negatively correlated with house prices, by approximately -5%. Finally, the results suggest a positive relationship between house values and proximity to subway stops. Homes within walking distance (less than a 1/8 mile) of subway stops carry a price premium of 3% over those farther away.

In Table 1, we summarize the magnitude of the various estimated effects on house values from different public investments. “Percent Impact” shows the expected percent change in value from the base price.

#### **IV. Conclusion**

The ultimate goal of this work is to identify place-based investments in Philadelphia neighborhoods that can improve the quality and effectiveness of services and programs funded by the city government and public/private partnerships. The results suggest large-scale positive impacts on neighborhood quality of life from key public investment strategies.

While we base our results on changes in home values, controlling for structural and neighborhood attributes, the findings result in an overall measure of neighborhood desirability and the impact of specific public investments on neighborhood quality. Not only do the benefits measured here accrue directly to homeowners, but also indirectly to the city as a whole, as homeowners and others reinvest in their properties and as neighborhoods revitalize. While homeownership in strengthening neighborhoods is a key wealth-building strategy, we also need to be aware that price increases raise issues of affordability and access to homeownership, particularly in a time of extraordinary price appreciation due to overall market trends.

For policymakers, the results may help determine whether to undertake certain public investments. While the methodology and database demonstrate the contributions of various place-based public investments, the question of how the improvement in property values compares with program costs requires more empirical analysis. An understanding of program-specific costs, together with the measurement of benefits, may be critical to future decision making. Going forward, it would also be useful to enhance this effort by including more precise data on other key investment strategies for neighborhood quality, such as improvements in schools and public safety.

## **Comments from Professionals in Community Development**

“The Pennsylvania Economy League is committed to undertaking high quality research and analysis to support sound public policy and a more prosperous region. As we work to improve the quality of life and economic competitiveness of the region and its neighborhoods, we need to have the right information for sound investment decisions. In an age of limited resources, we need to be careful to examine the return on public investments. The Wharton School report prepared by Susan Wachter and Kevin Gillen gives us the ability to link outcomes to budgets, a strategy that can improve the quality and effectiveness of the services and programs funded by the city government.

Two recommendations come immediately to mind for how best to use this information. First, we need to continue to gather and update this information, so that we can build a dataset that becomes more robust and powerful and is available for use in future policy debates. Just as important, this information needs to be shared with private investors and developers, so as to leverage the knowledge and help encourage investments that can make a real difference in neighborhood transformation.”

*– Steven T. Wray  
Executive Director  
Pennsylvania Economy League, Southeastern PA*

“This report’s power lies in its ability to push an interest in greening beyond local residents and greening advocates. While the benefits of many community revitalization efforts are often difficult to prove, this uses a concrete measure, the value of real estate, to verify that public amenities do, in fact, matter. This study will enable local government to encourage investment in Philadelphia’s public amenities, be it safety, greened vacant lots, education, or streetscaped commercial corridors.”

*– Patricia L. Smith  
Director, Special Initiatives  
The Reinvestment Fund  
(Former Director, Neighborhood Transformation Initiative,  
City of Philadelphia)*

“The findings of *Public Investment Strategies: How They Matter for Neighborhoods in Philadelphia* offer an important agenda for Philadelphia and a valuable opportunity for some of its more challenged neighborhoods. The evidence that public investments can have a positive impact on property values suggests that strategic use of public funds for these improvements can enhance not only the quality of life of neighborhoods but their economic value as well. These are tools that can support neighborhoods suffering from disinvestment and can attract and leverage private investment in areas often abandoned by developers, as well as encourage home-saving personal investment by homeowners.

For the Greater Philadelphia Urban Affairs Coalition, which has a strong commitment to building wealth in underserved communities, this represents a useful anti-poverty strategy. At the same time, we need to ensure that the impact of these improvements is well communicated to lower-income communities and that the residents are in a position to benefit from the subsequent property value increases and not be threatened by an increased cost of living that can lead in some cases to displacement.

Advocacy for public investments like greening and commercial-corridor enhancement needs to be accompanied by a communications strategy that informs residents how to use increases in home values for their personal benefit.”

– *Lucy Kerman*  
*Director of Strategic Initiatives*  
*Greater Philadelphia Urban Affairs Coalition*

“The visual and psychological impact of even the simplest of streetscape improvements, such as planting a tree or installing a sign, makes a huge impact on creating a quality environment and defining a place. There is no question that streetscape improvements increase housing values and make the public environment more appealing. Philadelphia should recognize and invest heavily in these improvements or offer incentive programs. It is also important to remember that before engaging in any improvements there must be an effective maintenance plan in place to protect these investments.”

– *Nancy Goldenberg*  
*Vice President of Planning*  
*Center City District*



“The new strategy of NeighborhoodsNow calls for finding innovative ways to strengthen Philadelphia neighborhoods and utilize new resources that make our initiatives more effective. This report is a great example of resources and research we can use to make decisions about public space investments that can enhance the market value of individual homes, but most important, contribute to the overall vitality of Philadelphia neighborhoods.”

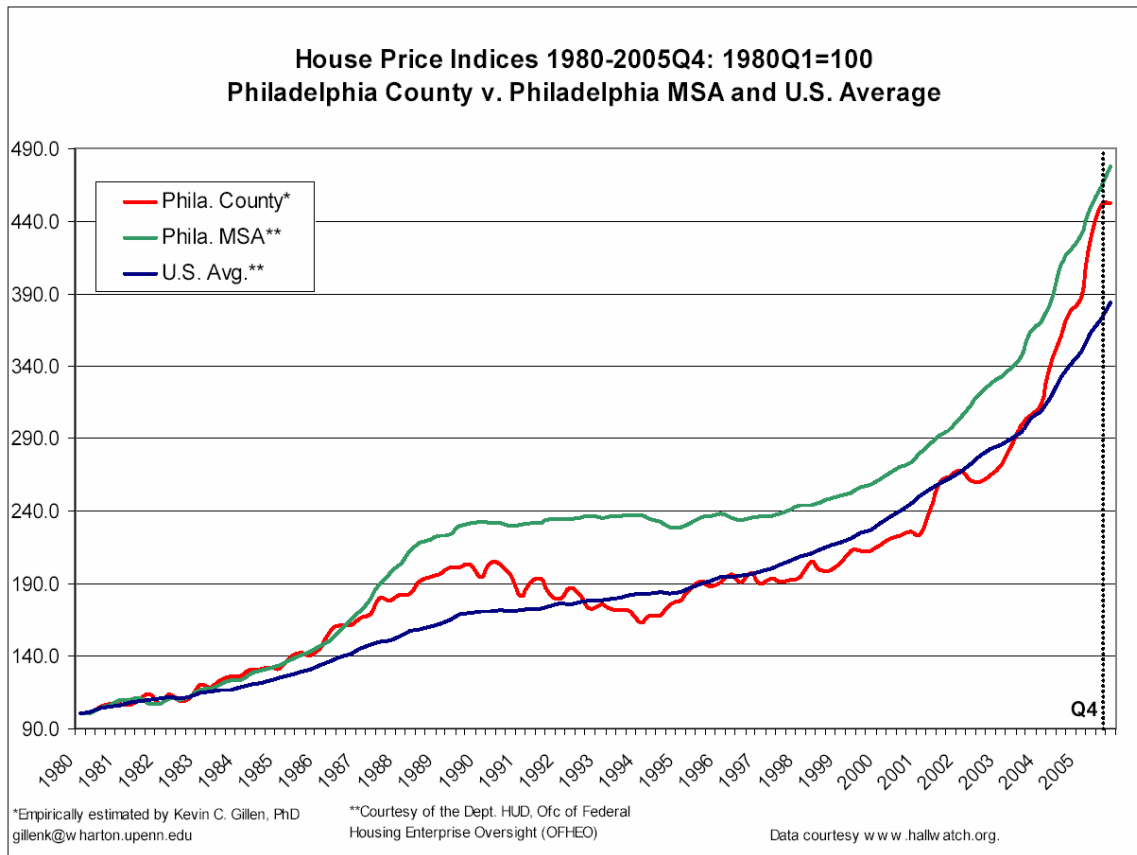
– *Beverly Coleman*  
*Executive Director*  
*NeighborhoodsNow*  
*(Formerly Philadelphia Neighborhood Development Collaborative)*

## V. Appendix

<b>Table 1*</b> <b>Summary of Estimated Impact on House Value,</b> <b>Based Upon the 2004 Median Priced Philadelphia home of \$82,700</b>		
<b>Variable</b>	<b>Percent Impact</b>	<b>Dollar Impact</b>
<= ¼ mile to a commercial corridor in “excellent” condition (net impact)	23%	\$19,021
¼ to ½ mile to a commercial corridor in “excellent” condition (net impact)	11%	\$9,097
Near a new tree planting	9%	\$7,443
Improvements to streetscapes	28%	\$23,156
Adjacent to vacant lot	-20%	(\$16,540)
Adjacent to a stabilized and greened lot	17%	\$14,059
1% increase in crime index	-14%	(\$11,578)
High-school dropout rate	-5%	(\$3,970)
Located in a business improvement district	30%	\$24,397
<=1/8 mile to a subway station	3%	(\$2,481)

\*The above table summarizes the magnitude of the various estimated effects on house values from different public investments. “Percent Impact” shows the expected percent change in value, while “Dollar Impact” shows the expected dollar change in value when the percent impact is multiplied times the median value of a typical Philadelphia home, which was **\$82,700** in 2004.

**Figure 1.**



Map 1.

# Commercial Corridors by Quality of Public Space

