Greening Raises Values in Philadelphia

The Philadelphia Federal Reserve Bank Conference on

Reinventing Older Communities: People, Places, Markets

April 5-7, 2006 Philadelphia, Pennsylvania

Presenters:

Susan Wachter

University of Pennsylvania – The Wharton School

J. Blaine Bonham, Jr.

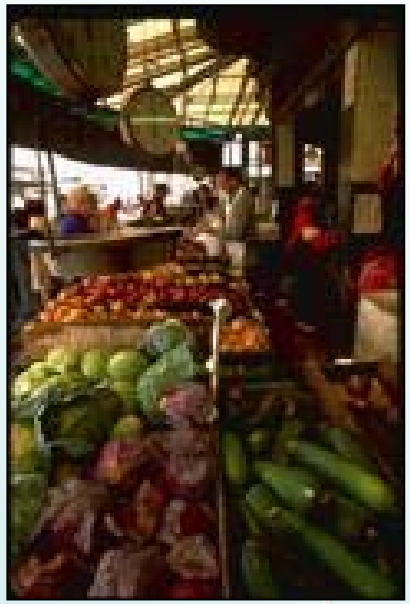
The Pennsylvania Horticultural Society

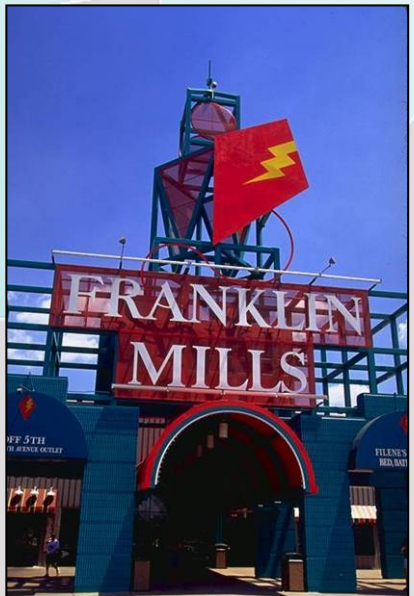
Philadelphia

Strategic East Coast Location

History, Arts & Culture

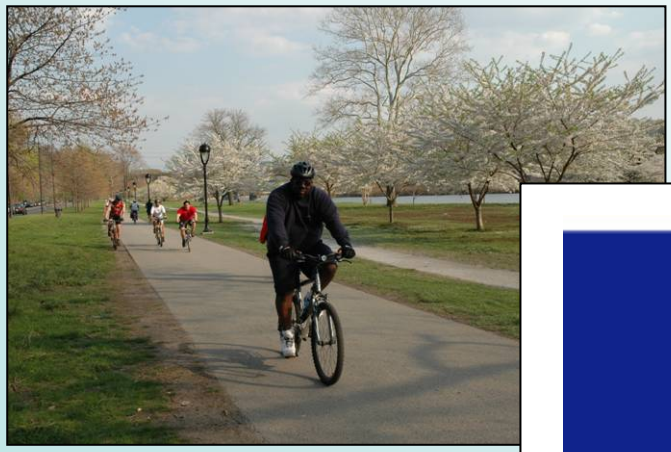
Thriving Business Districts





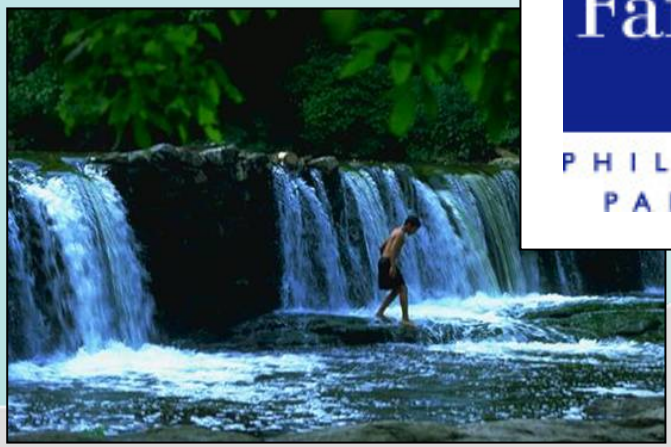
Diverse Housing

Rivers and Parks



Fairmount Park

PHILADELPHIA'S PARK SYSTEM

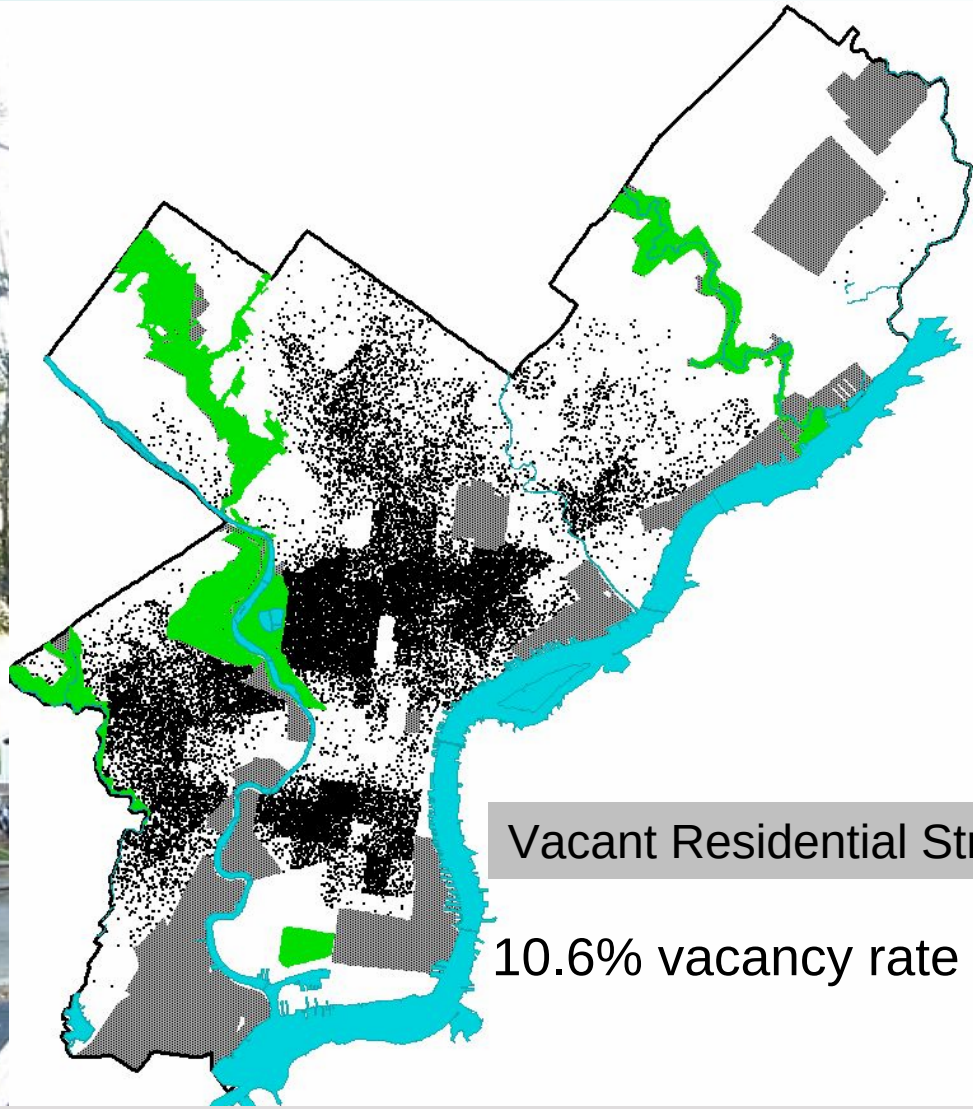


Philadelphia Vacant Land Management and Reclamation

The City of Neighborhoods

Philadelphia's Challenges

Philadelphia's Challenges



Vacant Residential Structures in 2001

10.6% vacancy rate

Philadelphia Vacant Land Management and Reclamation

Mayor John F. Street's

Neighborhood Transformation Initiative

Operating Principles

- **Concentrate resources to maximize impact**
- **Leverage existing and ongoing investments**
- **Identify opportunities for high impact**
- **Promote partnerships & collaborations**

PHS/NTI Green City Strategy

Transform Philadelphia neighborhoods by managing our vacant land and improving our open spaces.

21ST CENTURY NTI PHILADELPHIA

21ST CENTURY
NTI
PHILADELPHIA


THE PENNSYLVANIA HORTICULTURAL SOCIETY
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PHILADELPHIA GREEN
PHILADELPHIA FLOWER SHOW
MEADOWBROOK FARM

Mission

The Pennsylvania Horticultural Society motivates people to improve the quality of life and create a sense of community through horticulture.

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One Organization ~ Four Lines of Business

- Education Services/Publications
- Meadowbrook Farm
- Philadelphia Flower Show
- Philadelphia Green

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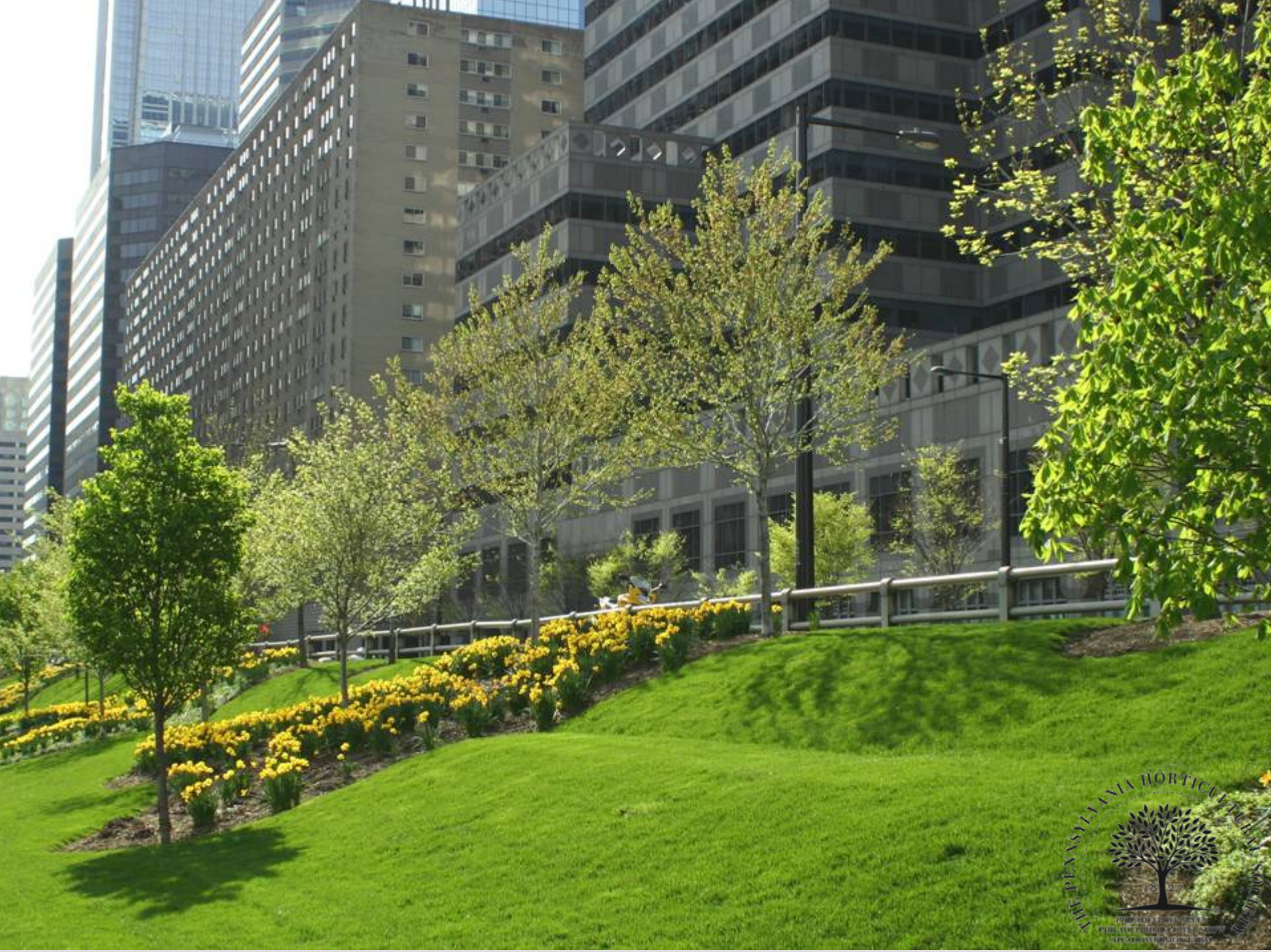
Creating, restoring, and caring for open spaces.

32 Years of Building Community through Horticulture


Aspen Farms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Green City Strategy

Quality open space promotes urban revitalization

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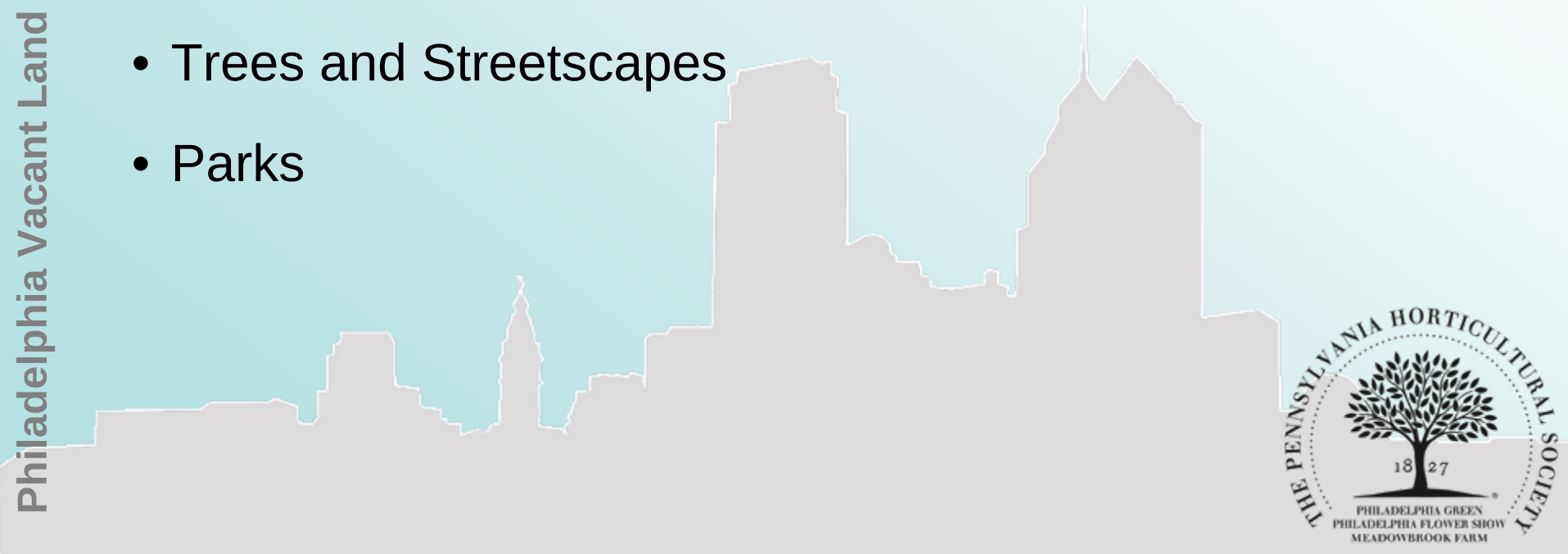
Philadelphia Green

The Green City Strategy

- Vacant Land Management
- Community Gardens
- Gateways and Corridors
- Trees and Streetscapes
- Parks



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VACANT LAND Management

Turning a Liability into an Asset

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Ten year history of work around Vacant Land Management

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Cost Benefit Analysis

- 30,900 vacant lots
- $1.8 million spent annually with little impact
- A 20 year investment cost of $106.7 million could yield $158.7 million tax revenue benefit

Vacant Land in Philadelphia

All vacant lots clustered together represent…

an area the size of Center City Philadelphia.

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Why manage vacant land?

- Improve “Curb Appeal”
- Retain existing residents
- Attract new residents
- Attract community investment

Philadelphia Vacant Land Management and Reclamation

New Kensington

Testing a Neighborhood Model

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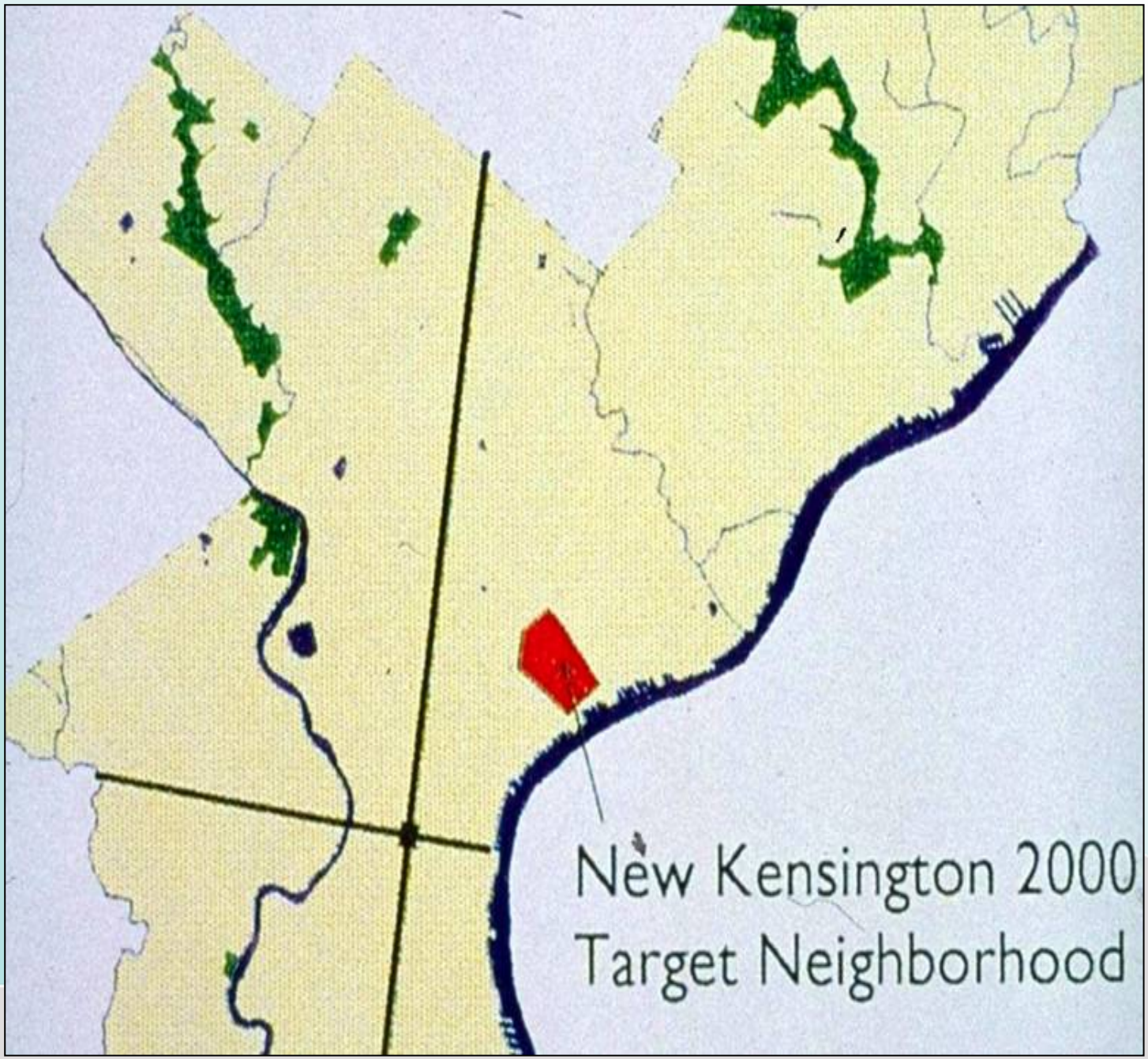
New Kensington 2000
Target Neighborhood

The Situation in New Kensington 1996

- Over 50% population decline in 40 years
- 1,100 vacant lots
- More than 70% of vacant property - privately owned and tax-delinquent
- Despair and anger in neighborhood

New Kensington Project Goal

*Create a **community-based***

vacant land management system

to address local problem and test

a model for other neighborhoods

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Community Gardens

Side Yards

Community Garden Center

Urban agriculture
Greensgrow


STOP


NEW KENSINGTON CDC
CLEAN & GREEN
427-0350
345D
STOP

50% of vacant lots now maintained by

New Kensington CDC and community residents

Demonstrated

dramatic effects of vacant land management on the neighborhood

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The American Street Empowerment Zone

Adapting the Model

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American Street Empowerment Zone

- 'Clean and Green' vacant lots along corridors and business areas
- Partners: city agencies, Philadelphia Green and community-based organizations
- Funded by the Philadelphia Empowerment Zone and State of Pennslyvania

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AERSK
EALAND

American Street Empowerment Zone

Results

- 423 Parcels /13 acres
- Maintained by landscape contractor and *Ready, Willing & Able*
- Support from Empowerment Zone and local businesses

Philadelphia Vacant Land Management and Reclamation

The Neighborhood Transformation Initiative (NTI)

Going to Scale

Mayor John F. Street's
Neighborhood Transformation Initiative

A five year plan to rebuild Philadelphia's neighborhoods as thriving communities with clean and secure streets, recreational and cultural outlets, and quality housing.

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GREEN CITY STRATEGY

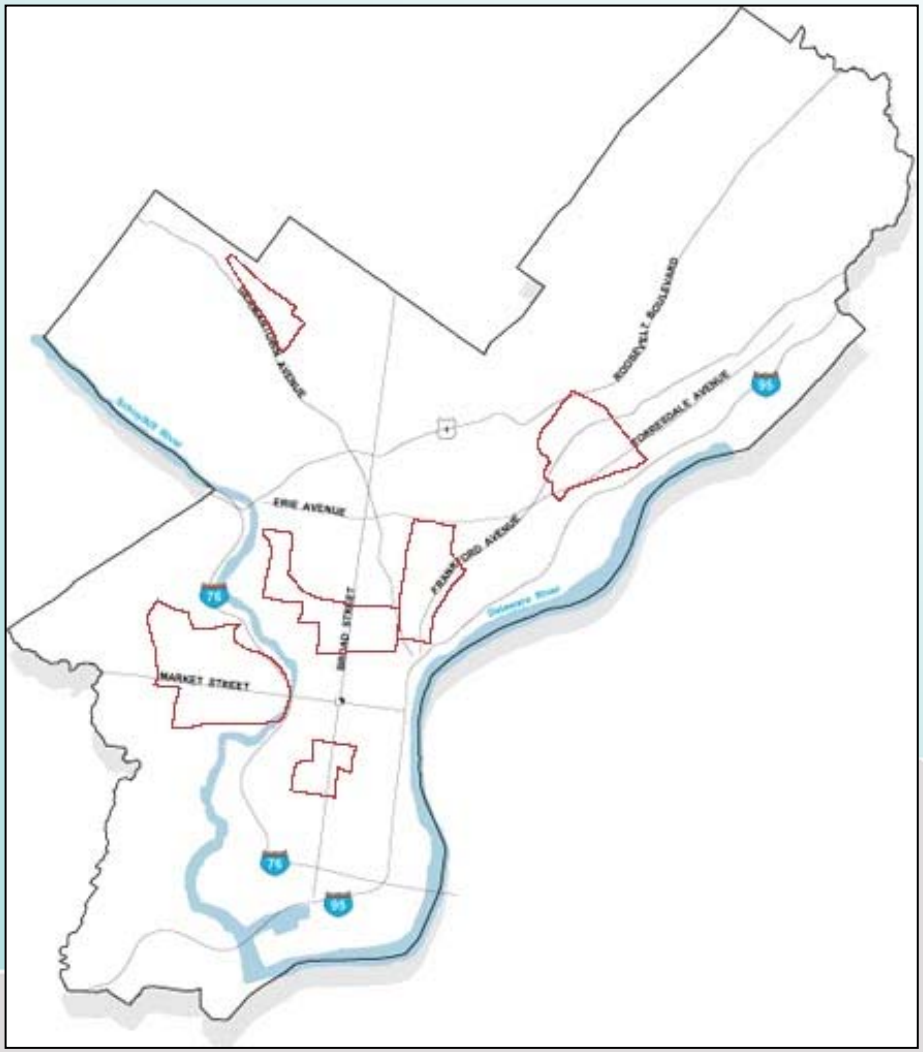
NTI Investment:

- 2003 - $4 Million
- 2004 - $2.5 Million
- 2005 - $2.3 Million
- 2006 - $2.6 Million

Additional funding from:

- Department of the Interior/US Forest Service
- Housing and Urban Development

Six Target Areas



- South Philadelphia
- West Philadelphia
- Eastern North Philadelphia
- North Central Philadelphia
- Mt. Airy/Germantown/ Tioga
- Frankford

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NTI Vacant Land Stabilization

Criteria for Site Selection

- Prominent locations
- Community interest
- Adjacent to development
- Major thoroughfares
- Pedestrian routes
- Size of lots

Community Based Vacant Land Maintenance

- Basic Housekeeping for abandoned lots
- Complementary program to ‘Clean and Green’
- Seasonal employment for local residents

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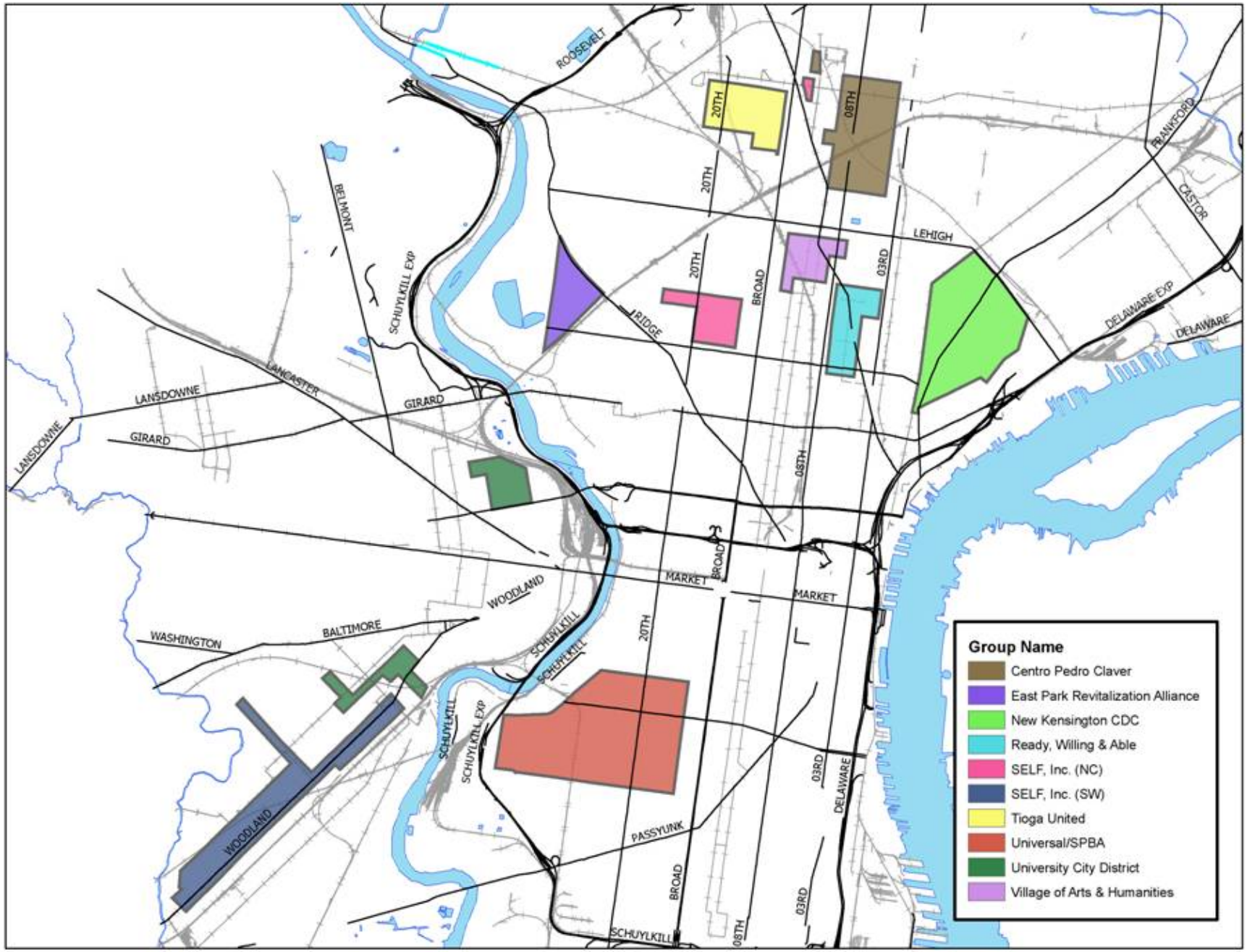


Ready Willing & Able

NTI Results
Vacant Land Management

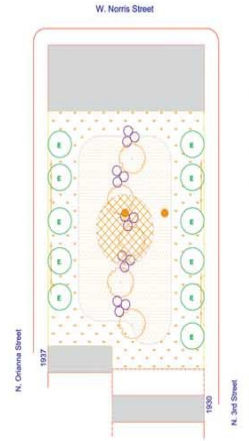
- 3000 lots clean and green (4 million square feet)
- 2500 cleaned lots maintained
- 70 residents hired

Challenges

- Long term maintenance
- Dedicated funding stream
- Attracting private investment

Stormwater Management

Models for Stormwater Management on Reclaimed Vacant Land in Philadelphia



3rd St. & Berks St. 16,000s.f. Completion Fall 2004

3rd St. & Dauphin St. 22,500s.f. Completion Spring 2005

Office of Watersheds
Geography Information System

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Stormwater Management

Why Manage Stormwater?

Combined Sewer Overflows

Stream Erosion and Pollution

- Fertilizers, herbicides, and insecticides
- Oil, grease, and toxic chemicals
- Sediment
- Bacteria and nutrients

The Environmental Protection Agency estimates that this type of pollution is now the single largest cause of the deterioration of our nation's water quality.

Stormwater Management On Stabilized Land

Mimic the natural water cycle by using small-scale, decentralized practices that infiltrate, evaporate, and transpire rainwater.

Common Stormwater Best Management Practices

- Disconnectivity
- Stormwater Harvesting
- Bioretention Systems
- Open Swales
- Infiltration Systems

Using Vacant Land to Manage Stormwater Run-off

- Pennsylvania Department of Environmental Protection
  - Growing Greener Grant ($200,000)
- Partners: Pennsylvania Horticultural Society, Philadelphia Water Department, Neighborhood Transformation Initiative
- Goal: Demonstrate that vacant land can be used to reduce runoff and improve groundwater recharge

Philadelphia Water Department
Office Of Watersheds

Site Selection Criteria for Stormwater Management Parcels

- Contiguous parcels > 5,000 square feet
- 50 feet away from buildings
- Long-term open space

Pilot Project:
5 sites totaling 86,400 Square Feet

Infiltration testing

Fine grading stormwater swales

MODELS FOR STORMWATER MANAGEMENT ON RECLAIMED VACANT LAND

8th STREET & NORRIS ST 23,375 S.F.

Growing our Economy
Growing our Communities
Growing Greener

Philadelphia PWD Water Department

Office of Watersheds
Geography Information System

Office of Watersheds

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Philadelphia Vacant Land Management and Reclamation

Conserving and Growing Community Assets:

Greening Philadelphia Neighborhoods

Wharton
University of Pennsylvania

The Bottom Line:
Innovation and Demonstration

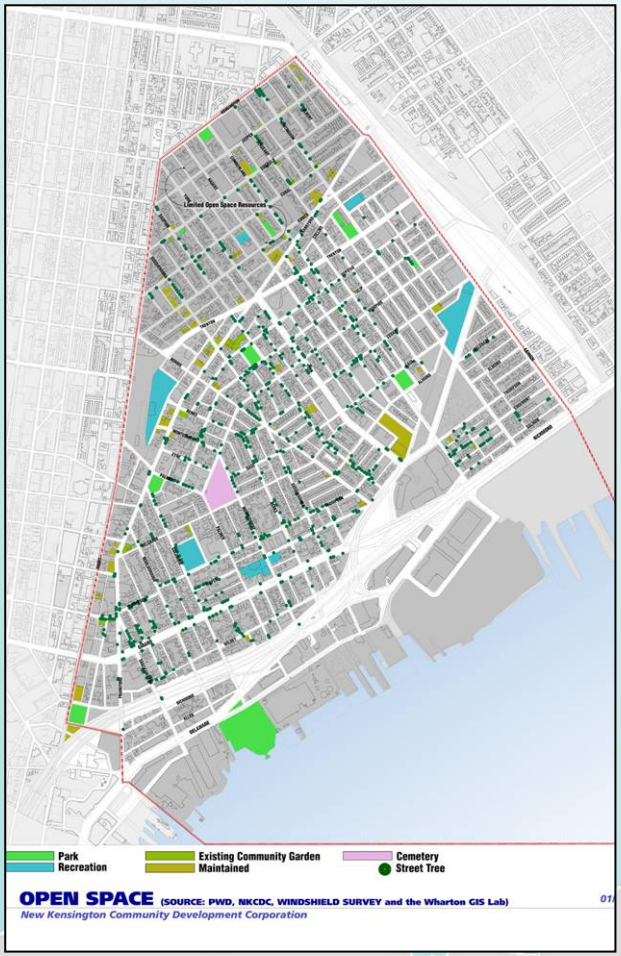
"While it's no secret that a little greenery can perk up a sagging stoop or improve the curb appeal of a house past its prime, the Wharton study conducted in Philadelphia's New Kensington neighborhood shows that plantings on vacant lots can boost a community's property values by a significant amount."

The Pennsylvania Gazette

July/August 2005

Wharton
University of Pennsylvania

Challenge and Response



- Problem: The growing number of abandoned properties
- Response: The City's Neighborhood Transformation Initiative taking it to scale to improve neighborhood quality of life
- Response: PHS partnering with neighborhood groups and the city to develop clean and green model
- Impact: Wharton measures the impact of greening partnership

Wharton
University of Pennsylvania

Public/Private Partnerships

to Conserve and Improve Community Assets

- Problem and potential: how to realize the enormous benefits of reinvesting in blighted lands
- Private spaces: individuals respond with their own decisions and actions
- Public spaces: require shared governance and citizen stewardship for community action and public/private cooperation

Why the Study?

- Need to quantify impact of policy
- Deficit in hard data
- Provide evidence as a tool for advocating for good policy

Quantification Methods

- Data on house sales and location of greening investment from City and Pennsylvania Horticultural Society
- Event study - before and after investment impact on house prices, controlling for variables
- Innovative spatial econometric methods - developed at Wharton's Geographic Information Systems Lab

Multivariate Hedonic Regression Analysis

With the first 3 interactive terms measuring the effects of proximity to greenspace, then the estimated regression results are:

$$P_i = \$45{,}000 + \underset{(3.87)}{\$9{,}923 \times (\text{New Tree})} + \underset{(1.29)}{\$1{,}164 \times (\text{Bordering Park})}$$

$$+ \underset{(1.55)}{\$10{,}750 \times (\text{Greened Lot})} + ... + \beta_K X_K$$

More than 30 variables are in the regression specification including: building and lot square footage, number of stories and fireplaces, garage, central air, type and condition of exterior, year of sale, census tract, distance to CBD (City Hall), and number of years since last transaction.

Adj. R2=0.60
N=70,000

This regression only used data from 2000-2005. Similar regressions using data from 1980-2005 used over 200,000 sales records in the estimation.

Study Results

- Vacant-land improvements: surrounding housing values jump up 40%
- Tree-plantings: property values up 10%
- New Kensington neighborhood: $4 million gain in property value through tree plantings and a $12 million gain through lot-improvements

Gains to Community

Effects of Greening on Home Values: City-Wide	
Variable	**Value**
Adjacent to Vacant Lot	-20%
Adjacent to Clean & Green Lot	30%
<= 50 Feet of New Tree	12%

Greening Gains:
Direct and Indirect Benefits

- Quality of life gains
  - From an eyesore to an amenity
  - Brings nature to the neighborhood
- Expansion of the city's property-tax base
- Action sparks re-investment and neighborhood renewal

Summary of Estimated Impact on House Value, Based Upon the 2004 Median Priced Philadelphia Home of $82,700			
Variable		**Percent Impact**	**Dollar Impact**
<= 1/4 mile to a commercial corridor in "excellent" condition		36%	$29,772
1/4-1/2 mile to a commercial corridor in "excellent" condition		20%	$16,540
Near a new tree planting		9%	$7,443
New streetscaping		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		-15%	($12,405)
High school dropout rate		-5%	($3,970)
Located in BID		30%	$24,397
<=1/8 mile to a subway station		3%	($2,481)

Specific Study Contribution:

Innovative Way of Measuring Neighborhood Gains

- Identifies quality of life improvements through neighborhood price change and willingness to pay
- Precise information of where and when greening investment occurs
- Contribution of greening investment to neighborhood values
- Informed policy discussions on the future of city community-revitalization efforts

What have we learned?

- Measuring value of neighborhood economic gains by modeling with precise data works
- Useful to educate, inform, and gain support for private/public action
- Quantification, measurement, and identification can help raise support for good results of public/private partnerships
- Contributes to and informs the policy dialogue on the future of city community-revitalization efforts

The Spring Gardens