A faint silhouette of Philadelphia's City Hall is visible in the background on the right side of the slide.

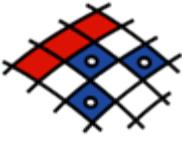
The Neighborhood Information System (NIS): An Effective Early Warning System of Philadelphia's Vacant and Abandoned Properties

Presented at the workshop for:

*Fixing the Foreclosure System
Federal Reserve Board of Minneapolis
October 4, 2007*

Presented by:

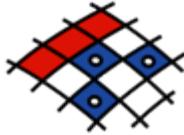
*Tara D. Jackson, Ph.D.
Research Director
Cartographic Modeling Lab
University Of Pennsylvania
<http://cml.upenn.edu>*



Our History

About Us

- ❖ Established in 1996 by University of Pennsylvania Professor Dana Tomlin, a world-renowned contributor to the field of Geographic Information Systems (GIS).
- ❖ Grew out of a desire to further the understanding, utility, and application of GIS as a research resource among researchers and municipal agencies.
- ❖ The Cartographic Modeling Lab is a joint venture of the School of Design and the School of Social Policy & Practice at the University of Pennsylvania.
- ❖ The CML brings together faculty members and students across disciplines to collaborate on urban and social policy projects.



Who We Are

About Us

What We Do

Data & Applications

Early Warning Systems

Next Steps

Faculty and Staff

Faculty Board

Charlie Branas, Dennis Culhane, Amy Hillier, Dana Tomlin

Tara Jackson
Research Director

Marlen Kokaz
GIS Director

Vicky Tam
GIS Research Coordinator

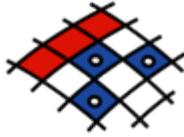
Carnell Baugh
KIDS Data Analyst

Karl Dailey
Database Analyst

Kenneth Steif
KIDS Data Analyst

Ahmed Whitt
Research Assistant

Krista Heinlen
NIS Outreach Coordinator



What We Do

About Us

What We Do

Data & Applications

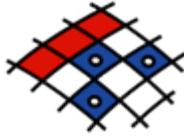
Early Warning Systems

Next Steps

The Cartographic Modeling Lab specializes in Geographic Information Systems (GIS) applications and spatial research.

We use these tools to pursue a threefold agenda that balances research, social policy analysis, and opportunities for teaching and training.

CML



Our Capabilities

About Us

What We Do

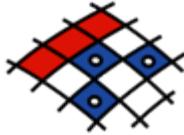
Data & Applications

Early Warning Systems

Next Steps

CMI

- ❖ Data integration
- ❖ Data summary and display
- ❖ Modeling neighborhood effects
- ❖ Spatial regression
- ❖ Clustering (“hot spot”) analysis
- ❖ Surface interpolation
- ❖ Data distribution (intranet and internet)



Putting it all together

About Us

What We Do

**Data &
Applications**

Results

Next Steps

CMIL

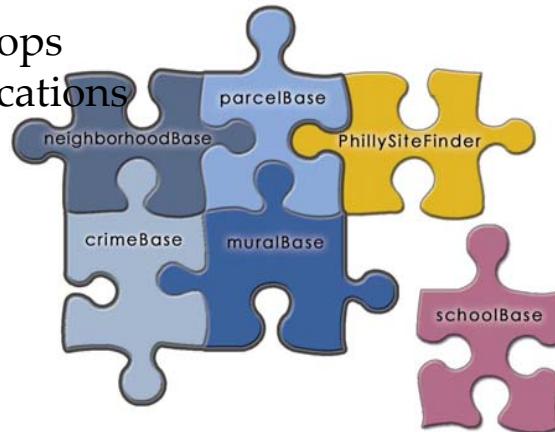
Partnering with data providers

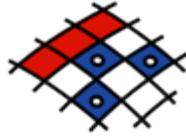
- ❖ Including Departments of Revenue and Licensing & Inspections; Board of Revision of Taxes; Philadelphia Fire and Police Departments; Office of Housing and Community Development; Utility Companies; U.S. Census Bureau; U.S. Postal Service

Storing data

Making data accessible and meaningful

- ❖ Training and workshops
- ❖ Web-based GIS applications





Neighborhood Information System (NIS)

About Us

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philadelphia



parcelBase

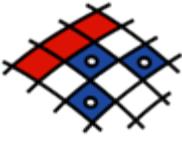
neighborhoodBase

muralBase

crimeBase

Cartographic Modeling Lab  University of Pennsylvania

Our NIS connects researchers and residents to data about Philadelphia.
www.cml.upenn.edu/nis



parcelBase

About Us

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Philadelphia parcelBase - Microsoft Internet Explorer

Details [Close Window](#)

3933 NECTARINE ST
Tencode: 59140-03933
Parcel ID: 24-1-1979-00

[BRT](#) [L&I / Revenue](#) [Utilities](#) [Vacancy / Survey](#)

Board of Revision of Taxes 07/01/2004

Geography: Census 2000 Tract: 0091 Blockgroup: 005 Block: 005 Elem. School Feeder: Drew NIS Neighborhood: Powelton Zip Code: 19104-4607 Ward: 24	Ownership: JANE ROSE <i>Off-Site Address:</i> 1720 N EDGEWOOD ST PHILADELPHIA, PA 191513913
Property Description: Category Code: Residential Buildings Building Code: ROW 2 STY MASONRY Frontage: 12 ft. Depth: 37 ft. Total Area: 486 ft ² Livable Area: 702 ft ²	Sales History: Sale Date: 6/8/1972 Sale Price: \$1 Sale Type: Assessment History: Market Value: \$4,600 Taxable Land: \$269 Taxable Bldg: \$1,203 Cert. Date: 8/1/2001 Asmt. Date: 8/1/2001 Market Value: \$7,500 Taxable Land: \$438 Taxable Bldg: \$1,962 Cert. Date: 8/1/2001 Asmt. Date: 6/1/1995
Additional Information: Zoning: R10 Ext. Condition: 5-- Below Average Ext. Condition Date: 10/25/2000 Floor Plan: N	

Current Parcel
59140-03933
3933 NECTARINE ST

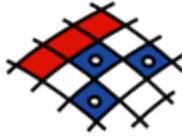
 [View Photo](#)

 0 156ft

- Information on all 500,000+ properties in Philadelphia

- Ownership information, vacancy indicators, and code violations

- Interactive interface



neighborhoodBase



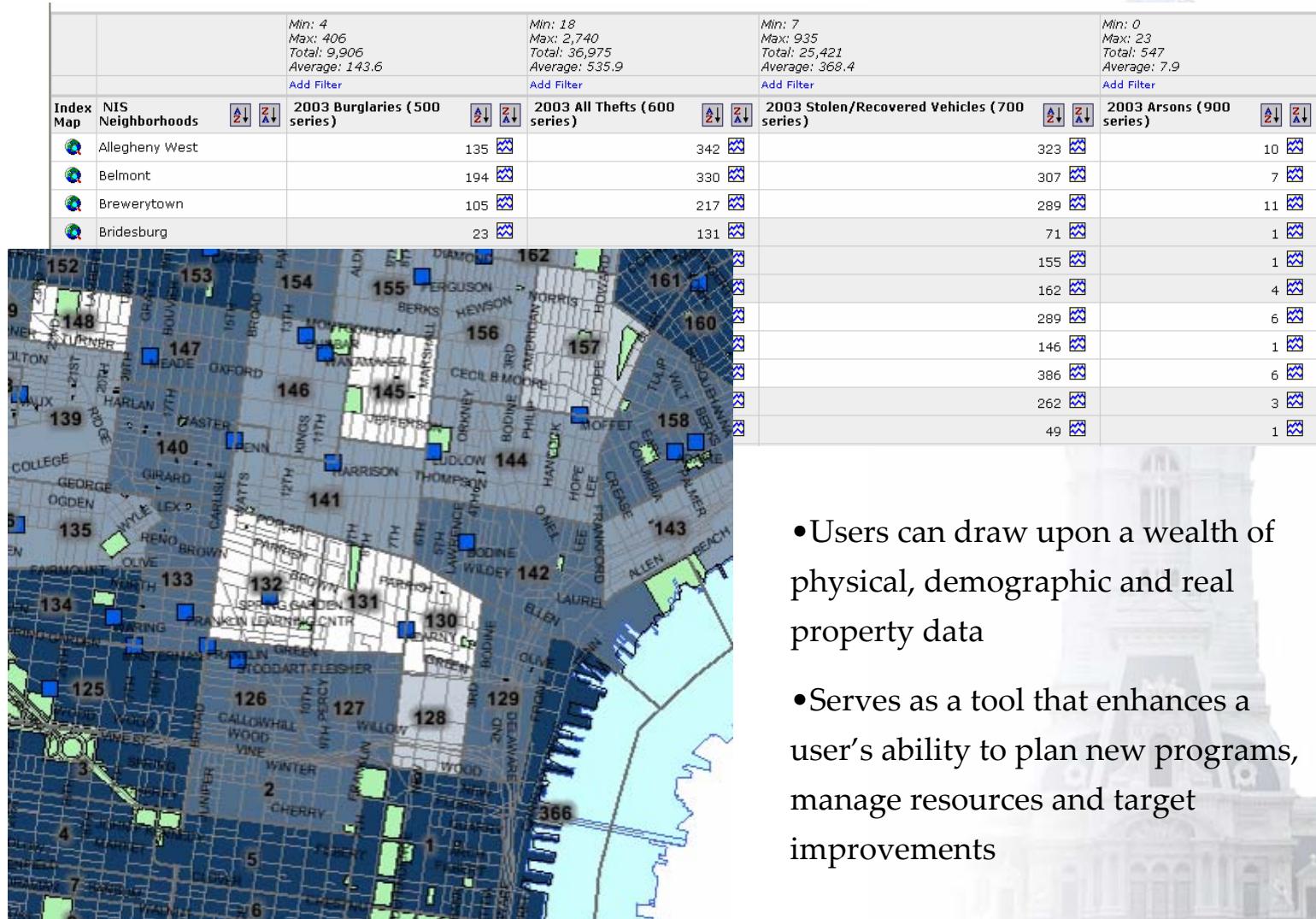
About Us

What We Do

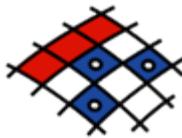
Data & Applications

Results

Next Steps



- Users can draw upon a wealth of physical, demographic and real property data
- Serves as a tool that enhances a user's ability to plan new programs, manage resources and target improvements



About Us

What We Do

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Philadelphia muralBase - Microsoft Internet Explorer

ID(s): 377

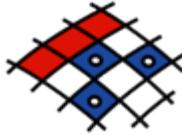
Mural #377

ID: 377
Title: *Boy With Raised Arm*
Location: 46 N 40TH ST
Zipcode: 19104
Completion Date: 12/31/1990
Date of Destruction: 8/19/2002
Site Type: Home
Theme(s): African-American; Figurative; Youth; African-American; Figurative; Youth; African-American; Figurative; Youth; African-American; Figurative; Youth

Artist(s):
Assistant: Golden, Jane
Assistant: Community Youth
Artist: Goodman, Sidney
Assistant: Harris, Teddy

Sponsor(s):
PA Council of Fine Arts

Photo: Jack Ramsdale
Time Frame: After



crimeBase

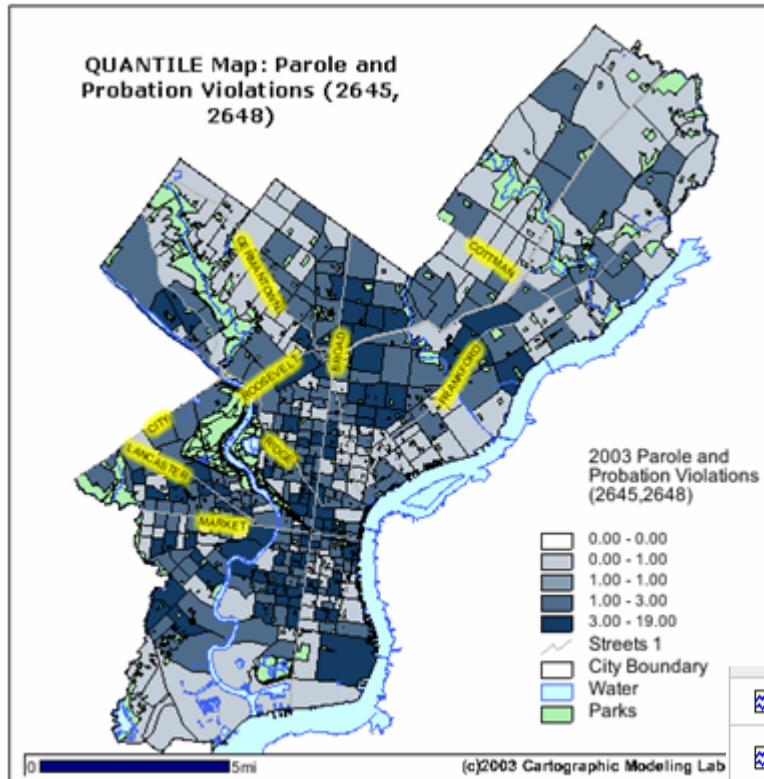
About Us

What We Do

Data & Applications

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- 9 Years of data from the Philadelphia Police Department

- Ability to create charts, maps, tables, and trend charts

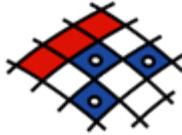
- Ability to define your own geographic area and data aggregations

- Ability to export data

[Icon]	All Serious (Part 1) Incidents excl. Homicide and Rape	3,648	3,782	3,703	3,778	3,505	3,186	3,600
[Icon]	All Serious (Part 1) Incidents against Persons (Robbery, Agg. Assault)	495	599	696	686	676	706	643
[Icon]	All Serious (Part 1) Property Incidents (Burgl/Theft,Auto Theft)	3,153	3,183	3,007	3,092	2,829	2,480	2,957

Robberies (300 series)

[Icon]	Robberies (300 series)	320	334	350	343	330	328	334
[Icon]	Robberies w/ Guns	106	99	114	126	95	94	106
[Icon]	Robberies NO Guns	214	235	236	217	235	234	229
[Icon]	Robberies (300 series) Rate per 1,000 population	8.71	9.09	9.53	9.34	8.98	8.93	N/A



Using Information Systems to Survey the Problem

About Us

What We Do

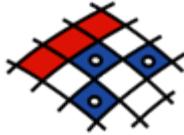
Data &
Applications

Early
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Next Steps

- ✓ Where are the vacant land and buildings?
- ✓ What is the condition of the supply?
- ✓ How are the parcels zoned?
- ✓ Are they in strong or weak market areas?
- ✓ Who owns the parcels?
- ✓ What are their current market values?
- ✓ What properties might be in danger of becoming abandoned?

Source: *Vacant and Abandoned Properties: Effective Solutions for Rhode Island*, A Report of the Governor's Growth Planning Council, June 2003



NIS and parcelBase as Early Warning Systems

About Us

What We Do

Data &
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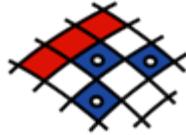
Early
Warning
Systems

Next Steps

Since 1999, the CML's goal has been to provide a(n)

- ✓ comprehensive,
- ✓ centralized,
- ✓ up-to-date,
- ✓ interactive,
- ✓ easy-to-use

neighborhood information system that gives the City, CBOs, residents, and other stakeholders good information critical to framing effective solutions to turn Philadelphia's vacant and abandoned properties into community assets.



NIS and parcelBase Demonstration

About Us

What We Do

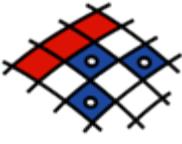
Data &
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Next Steps

Using NIS and parcelBase as Early Warning Systems

CMI



Developing Property Information Systems

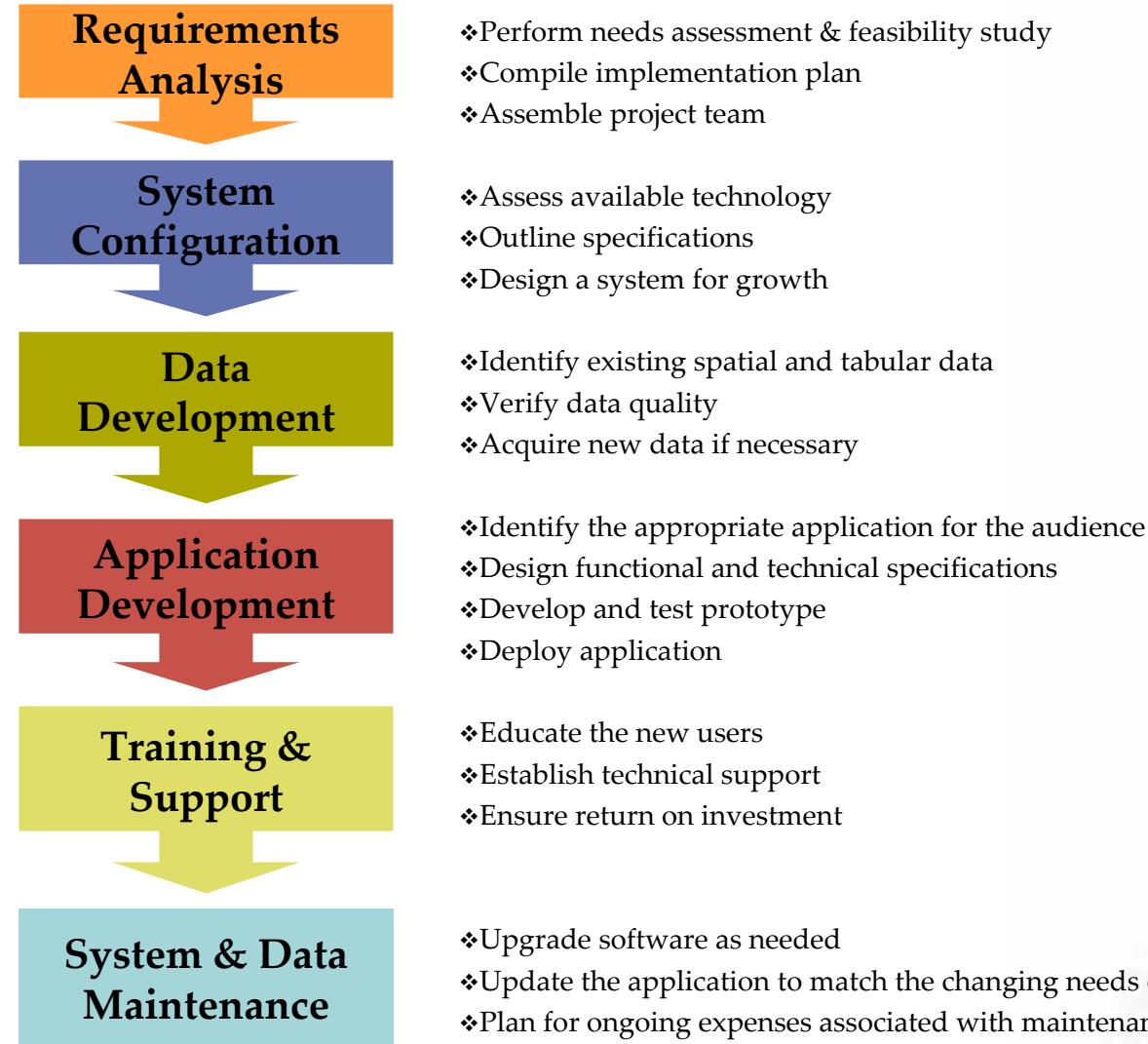
About Us

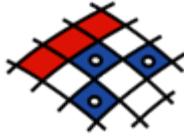
What We Do

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System & Data Maintenance: Data Development

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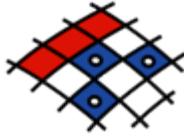
Next Steps

New Data Acquisitions

- ❖ Sheriff Sale of foreclosed properties
- ❖ Home Disclosure Mortgage Act (HMDA) data
- ❖ Allow users to report abandoned or vacant property
- ❖ Updated assessments of tax assessor and land use codes
- ❖ Private data (e.g. realtors, VA, mortgage companies, non-profits)
- ❖ HEMAP (Home Emergency Mortgage Assistance Program)

Additional Indicators

- ❖ Neighborhood well-being (socio-economic/physical change, distress, or blight)
- ❖ Different types of foreclosure proceedings (deed in lieu of, judicial, non-judicial, strict)



System & Data Maintenance: Data Development

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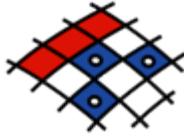
Next Steps

Data Standardization

- ❖ Of vacant and abandoned properties
- ❖ Of foreclosure proceedings used to define foreclosure
- ❖ Develop uniform standards for the collection of GIS data on land use, including a coding system for vacant and abandoned property
- ❖ Guidelines and standards for digital parcel data (ten codes)

Application Development

- ❖ parcelBase overlaid with neighborhoodBase
- ❖ Integration of new software and technology (e.g. Google maps)



System & Data Maintenance: Application Development

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Next Steps

Application Development

- ❖ Overlaying parcelBase with neighborhoodBase
- ❖ Integration of new software and technology (e.g. Google maps)
- ❖ More simplistic interface to encourage more types of users

CMI