

PENN INSTITUTE for URBAN RESEARCH 2014-2015 ANNUAL REPORT

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ABOUT PENN IUR

Penn IUR is a university-wide body that informs urban decision-making and public policy on issues of sustainable urban growth and development based on multi-disciplinary research, instruction, and outreach. As the global population becomes increasingly urban, understanding cities is vital to informed decision-making and public policy at the

local, national, and international levels. Affiliated with

all twelve schools of the University of Pennsylvania

and with the world of practice, Penn IUR fosters collaboration among scholars and policymakers across disciplines to address the needs of an increasingly urbanized society. By providing a forum for collaborative scholarship and instruction at Penn and beyond, Penn IUR stimulates research and engages with urban practitioners and policymakers to inform urban policy.

2014–2015 Year in Review:

BUILDING ON A DECADE OF **GROWTH**

In 2014, Penn IUR celebrated its first decade, which was marked by institutional growth and innovative research and programming.

During this year, Penn IUR hosted a series of tenth anniversary activities, the latter half of which are detailed in this report. In addition, Penn IUR initiated a broad effort to reflect on its work in the next decade. To this end, it engaged in an extended planning process with its stakeholders: Faculty Fellows, the Office of the Provost, the Penn IUR Advisory Board, the Penn IUR Executive Committee, Deans, and others. This outreach resulted in the development of its third strategic plan, Building on a Decade of Growth, Penn Institute for Urban Research Strategic Plan 2015–2020.

The strategic plan captures a critical point in Penn IUR's development, a moment of opportunity to build on the work of the past decade and to shape Penn IUR's future while maintaining and strengthening its core principle: fostering approaches that engage a wide community of academicians and practitioners in innovative, crosssectoral, and multi-disciplinary urban research at Penn and beyond. The plan reaffirms Penn IUR's mission and functional roles, refines its goals and objectives, takes stock of signature programs, and identifies emerging opportunities, providing a framework for strategic thinking and ongoing engagement for the next five academic years.

This annual report details Penn IUR's accomplishments from July 2014 through June 2015 and looks ahead to future initiatives.



To download Penn IUR's 2015–2020 strategic plan and this annual report, visit: penniur.upenn.edu/publications



PENN INSTITUTE for URBAN RESEARCH 2014–2015 ANNUAL REPORT

A MESSAGE FROM THE PROVOST AND VICE PROVOST FOR RESEARCH



VINCENT PRICE

Provost

Steven H. Chaffee Professor of Communication, Annenberg School for Communication

Professor of Political Science, School of Arts and Sciences



DAWN BONNELL

Vice Provost for Research

Henry Robinson Towne Professor of Engineering and Applied Science, School of Engineering and Applied Science





WE ARE PLEASED TO SHARE this 2014–2015 report, which documents Penn IUR's work and marks the completion of another important year for the Institute and its communities.

Over its exciting first decade, we have seen the Penn Institute of Urban Research become an invaluable university-wide asset, whose members integrate knowledge across Penn's twelve schools and advance critical research on topics both local and global. Penn IUR's wide range of initiatives includes both long-running programs—such as the Undergraduate Urban Research Colloquium, Expert Roundtables, and Urban Leadership Award—and exciting new research in such areas as Land for Public Good in Emerging Economies, Urban Fiscal Stability and Sustainability, and Designing a Twenty-First Century Housing Finance System.

During this time, we have also witnessed the remarkable growth of Penn IUR's community of scholars, practitioners, and students. Its eighty-nine Faculty Fellows, thirty-one Fellows, sixty-one Scholars, fourteen Emerging Scholars, and twenty-three associated doctoral students are making significant contributions to understanding urbanism across the globe. Many of them have also participated actively in Penn IUR's important print and electronic publications, including the City in the 21st Century series with Penn Press, the SSRN *Urban Research e-Journal*, the *Urban Link* e-news digest, the Penn IUR White Paper Series on Sustainable Urban Development, and the interactive website Global Urban Commons.

We are proud that Penn IUR is devoted to one of Penn's most vital missions: bridging the divide between research and practice. This year alone, Penn IUR convened researchers, practitioners, and policymakers at more than thirty research programs, expert meetings, and public events, which also provided opportunities for Penn's urban-focused students at all levels to engage in urban research and learn from leading global experts.

We look ahead to Penn IUR's second decade with great anticipation for what we are certain will be many more great insights and accomplishments for ever-evolving urban communities around the world.

PENN INSTITUTE for URBAN RESEARCH 2014-2015 ANNUAL REPORT

A MESSAGE FROM PENN IUR'S **CO-DIRECTORS AND ADVISORY BOARD CHAIR**



FUGÉNIE BIRCH

Co-Director, Penn Institute for Urban Research; Lawrence C. Nussdorf Professor of Urban Research and Education Professor; Department of City and Regional Planning, School of Design



Co-Director, Penn Institute for Urban Research; Sussman Professor; Professor of Real Estate and Finance.



EGREDT DEDDY

Advisory Board Chair, Penn Institute for Urban Research; Chairman and CEO, The Integral Group, LLC

THE 2014-2015 ACADEMIC YEAR marks a pivotal moment in Penn IUR's development, with the Institution celebrating its tenth anniversary in 2014 and embarking on a new decade of discovery in 2015.

The accomplishments of the past year and decade would not have been possible had it not been for the many successful collaborations with Penn's leading urban-focused faculty and students, distinguished experts from around the world, and supporters ranging from federal agencies and foundations to private individuals. Through these partnerships, Penn IUR serves as a home for interdisciplinary urban research that is rooted at Penn and has global impact. We are especially thankful

to Penn IUR's Advisory Board members for their commitment to growing the Institute into a sustainable university-wide entity while always thinking of new ways to innovate and address a wider range of issues facing the urbanizing world.

We welcome you to delve into this report and discover the many opportunities to engage with Penn IUR.

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In 2014–2015, Penn IUR conducted and supported research to inform sustainable development in rapidly urbanizing places as well as in longestablished cities, promoted and facilitated the exchange of best practices, and translated research for a diverse global audience.



LAND FOR PUBLIC GOOD IN EMERGING ECONOMIES

The recently issued World Urbanization Prospects (2014) confirmed earlier predictions that, by 2050, 66 percent of the world's population (or 6.4 billion urbanites) will live in cities (this represents 2.5 billion more city-dwellers than today's 3.9 billion). The demographic, economic, and environmental consequences of this phenomenon are enormous. Today, cities are responsible for 70 to 80 percent of the world's GDP and for an equal percentage of greenhouse gas emissions. Finding ways to ensure that economic and population growth will occur efficiently, with shared prosperity, and in environmentally sensitive ways is the central question of twenty-first century urbanism.

Many visualize the hard-to-comprehend scale of urban growth with images of fast-growing African and Asian mega-cities like Lagos or Shanghai, but the phenomenon also includes smallto mid-size cities and growth in the peri-urban area of large cities. While 90 percent of future urban growth will take place in Asia and Africa (with much of it—37 percent—concentrated in Nigeria, China, and India), small- and medium-sized cities (with populations under 5 million), not megacities, will absorb the majority of new city-dwellers. These growing cities demand attention, as there is still time for them to adopt new, more sustainable forms of growth. The undeveloped lands at the peripheries of these cities are the frontier, and the reversal of the proliferation of illegal subdivisions is the challenge. Such informal settlements—which in some cases may contain half of a city's population—lack basic services such as water, sanitation, waste removal, electricity, and transportation.

To address this challenge, Penn IUR launched in 2014–2015 the two-stage Land for Public Good in Emerging Economies project with support from Advisory Board member Robert Stewart (W '88). The project explores responses to rapid urbanization, including an examination of the sites-and-service approaches that were popular in decades past to explore the feasibility of re-envisioning this approach in order to create large, orderly, well-serviced land for anticipated urban development. The Penn IUR research team, which includes Penn IUR Co-Directors and Penn students, initiated the first stage—the landscape study—in Spring 2015. The team completed a literature review; conducted interviews of current and former officials from the World Bank, representatives of UN Habitat, and experts at development banks; and facilitated a student-led field survey of informal settlements. See pages 14 and 68 for more information on the students' work.

The second stage, which will take place in 2015–2016, will envision a land for public good program with a prospectus for hypothetical projects in two or more countries based on findings from the landscape study.

Growing cities demand attention, as there is still time for them to adopt new, more sustainable forms of growth.

ENERGY SMART COMMUNITIES INITIATIVE

U.S. President Obama and Japanese Prime Minister Kan launched the Energy Smart Community Initiative (ESCI) in 2010. Managed by the Asia-Pacific Economic Cooperation's Energy Working Group (APEC-EWG), the initiative provides information that will help APEC economies achieve their goal of reducing energy intensity (energy consumed per gross domestic product) by 45 percent by 2030. Since 2011, Penn IUR, in partnership with the Taiwan Institute for Economic Research (TIER) and with funding from the National Development Council (NDC) of Taiwan, has developed and maintained an web-based knowledge-sharing platform, ESCI-KSP that illuminates best practices and demonstration projects in energy efficient urban development, specifically in the in the areas of transportation, buildings, smart grids, green employment, and industry.

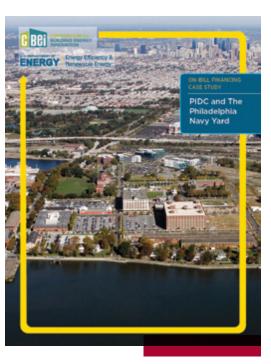
In 2014–2015, Penn IUR and TIER expanded the KSP to include a focus on industry and organized the second ESI-KSP Best Practices awards to recognize exceptional demonstrations of best practices in energy efficiency across the study areas. The 2015 ESCI Best Practices Award winners will be honored at the 50th Meeting of the Energy Working Group in November 2015. Penn IUR continues to manage the ESCI-KSP and to make regular presentations at bi-annual EWG meetings.



For more information, visit: esci-ksp.org

See page 40 for an excerpt from "Comparison of the Development of Energy Smart Communities Among APEC Members," a Penn IUR report released in October 2014.





CONSORTIUM FOR BUILDING ENERGY INNOVATION

The U.S. Department of Energy (DOE) established the Consortium for Building Energy Innovation (CBEI; formerly called the Energy Efficient Buildings Hub), based at the Philadelphia Navy Yard, in 2011 as one of three innovation clusters to stimulate innovative research on the deep retrofits required make the nation's building stock more energy efficient. Involving fourteen partners from academia and practice, its goal is to develop market-tested pathways to achieve 50 percent energy reduction in existing small- and medium-sized commercial buildings by 2030.

In 2014-2015, its fifth year of working with the CBEI, Penn IUR provided three core services: 1) developing and managing CBEI's Research Digest, a web platform that is the organization's primary means of disseminating research findings and knowledge, translating complex research on building energy efficiency into easily understandable narratives with accompanying infographics and videos; 2) leading CBEI's communications program, including managing the organization's website as well as its social media communications; and 3) in partnership with Carnegie Mellon University, supporting CBEI's research programs through the promotion of two commercial-sector instruments: the Asset Score Tool, a tool that captures a building's physical characteristics to paint a picture of the structure's energy efficiency characteristics considered separately from its operations, and the BuildingSync data schema, a standard for cataloging data collected during building energy audits.

For more information, visit: cbei.psu.edu

ABOVE LEFT: A screen capture of the Gogoro GoStation product ebsite. The GoStation is featured on the Energy Smart Com Initiative's (ESCI-KSP) website in

ABOVE RIGHT: One of the many case studies that Penn IUR has produced and distributed in order to widely share CBEI findings.





ABOVE LEFT:
A brick maker takes
a well-deserved
break to tell Stack
about the clay
bricks he makes
and sells. Hopley is
constantly growing
and one of the first
things people buy
once they have the
money are good
quality bricks
for permanent
structures. Photo
by Anne Stack.

ABOVE RIGHT:
A young girl takes a
rest from her chores
in front of their
completed brick
house surrounded
closely by the
neighbors. The plots
are very small and
once the rooms are
complete there is
little space between
the structures. Phote
by Anne Stack

In Spring 2015, two students joined Penn IUR's Undergraduate Urban Research Colloquium *(see more on page 66)* to learn research methods and to study land use issues in rapidly urbanizing places.

Mentored by Penn IUR Co-Director Eugénie Birch, the students identified 49 site and services projects throughout the developing world, analyzed their locations, designs, financing, and legal status, and evaluated their successes and shortcomings. Students concluded the semester-long project by developing recommendations for a twenty-first-century approach to rapid urbanization, pointing out the need for field research.

Anne Stack, a rising senior in the College of Arts and Sciences who is majoring in Architecture, took the project a step further. Stack, who comes from Harare, Zimbabwe, a city of 1.6 million population that is experiencing rapid development and has many informal settlements, including existing sites and services projects, designed with Professor Birch a field study. Below are her observations.

Zimbabwe has struggled through colonial oppression yet endeavored to be the breadbasket of Africa from the mid-twentieth century to the present. However, up to 2008 it saw its currency hyper-inflate with prices rising every hour and the economy change beyond recognition. It is a country where a small percent of the population owns a large percent of the wealth. With a total population of 13 million (2012 census), 60 percent under the age of 24, and only gaining independence in 1980, Zimbabwe is a young country in most aspects with daunting challenges to confront. One of which is its annual urbanization rate of more

than 2 percent (compared to .9 percent for the world, .3 percent for the developed countries, and 1.2 percent for the developing countries).

Penn IUR's Land for Public Good initiative afforded me the opportunity to do primary fieldwork on the Zimbabwean urban situation and understand how effective the sites-and-services method was in Zimbabwe. The first stage of the research project was predominantly reconnaissance and gauging the urban situation. I started by meeting with government housing officials, local architects and developers,

NGOs and local housing organizations, and members of cooperatives and informal settlements. Each meeting was a new story and a new perspective that gave me a qualitative view on the complex network of politics, economy, and culture that shapes the Zimbabwean urban environment. As I spoke to people, researched articles, and began mapping settlements, I realized just how much basic data was lacking. Shelter Dialogue—SDI (Slum Dwellers International) are working to create a database of informal settlements in Zimbabwe. The existence of many small groups targeting a largescale problem means that there is often duplication of effort. This research has not only provided me with information but also helped to make connections between existing groups in Zimbabwe.

This initial work helped me realize that a primary survey was needed of the housing situation. I chose to study the Hopley Farm project as this is one of the most densely occupied, spontaneously settled areas (over 7,000 plots) within the outskirts of Harare and

to look at Hatfield, a pre-planned settlement (100 plots), also on the outskirts of the city.

I am now in the process of analyzing the data on Hopley that we gathered to describe the current living conditions. Preliminary findings suggest that 66.4 percent of households own their land but none of them laid claim to title deeds. Despite many living there since 2005, 45.9 percent consider their dwelling temporary. The lack of perceived permanency stems primarily from financial constraints—but also from a lack of personal security. Many residents were forced from their previous homes and are worried that here, too, they will be evicted. On the public services side, only 1.2 percent of the respondents have access to either piped water or electricity in their homes, and sewage connections to the area. These poor sanitary conditions increase the risk of disease in the community. Additionally, although some initiatives are available to teach marketable skills such as needlework and welding, the majority of residents do not have opportunities to earn a good livelihood.

In the study's next phase, I will conduct a second survey that will focus on housing cooperatives, a pre-planned sites-and-services arrangement, to better understand the residents' standards of living. The aim is to compare the conditions in Hopley and Hatfield, to see if different types of settlements have different effects on residents' well-being.

I have been working with government ministers, local community workers, NGOs, and even a few Penn alumni. The experience has been difficult but extremely enlightening. Although the housing situation in the settlements is extremely challenging and many people live from hand to mouth, I have found people to be friendly and hardworking. Working closely with governing district officials, the Women's Bureau, and Penn IUR, I hope to complete a study that will provide valuable information on the situations and needs of households so that improvements can be developed where they are so badly needed.

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ABOVE: A screen capture of the web-based Sustainable Communities Indicator Catalog (SCIC).

INDICATORS FOR URBAN SUSTAINABLE DEVELOPMENT

With funding from the Ford Foundation, Penn IUR developed the Sustainable Communities Indicator Catalog (SCIC) for the Partnership for Sustainable Communities (PSC), an alliance of three federal agencies: Housing and Urban Development (HUD), the Department of Transportation (DOT), and the Environmental Protection Agency (EPA). The SCIC is a webbased tool that enables communities to benchmark and track their progress toward the Partnership for Sustainable Communities' Livability Principles.

With two years of development work from Penn IUR researchers behind it, the PSC launched the SCIC to the public in October 2014. In the spring of 2015, the Penn IUR team surveyed and analyzed SCIC usage by communities that had received PSC grants and provided the PSC with data to inform the ongoing maintenance and development of the database. Originally, to develop the SCIC, Penn IUR researchers consulted with a wide variety of stakeholders, evaluating over 100 community indicator initiatives across the United States and nearly 400 examples of indicators. The resulting database highlights thirty-one priority indicators and equity measures, describes how each relates to sustainability and provides instruction on its use and interpretation, and offers examples of its use in U.S. cities.

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For more information, visit: sustainablecommunities.gov/indicators

See page 42 for an excerpt from "Measuring U.S. Sustainable Development," a report by Eugénie L. Birch and published by Citiscape, on the results of this project.

SPATIAL INTEGRATION LABORATORY FOR URBAN SYSTEMS

The Spatial Integration Laboratory for Urban Systems (SILUS) is a research collaborative between Penn IUR, the Wharton GIS Lab, and the U.S. Geological Survey (USGS) that evaluates economic, natural resource, and environmental policy issues in an urban and regional setting. In the third year of this five-year initiative, the research team has examined the role cities can play in the preservation and development of urban ecosystem services.

Research in 2014–2015 assessed the role of green infrastructure in enhancing urban ecosystems as well as improving water quality. Officials from six innovative cities—including New York City, Washington, D.C., Portland (Oregon), Denver, Seattle, and Philadelphia—convened to discuss best practices in the management of green (rather than gray), infrastructure. SILUS, along with Penn IUR and USGS, convened the one-day roundtable to identify lessons-learned and to disseminate best practices. SILUS has issued "The Sustainable City: Science, Urban Ecosystem Services, and Green Infrastructure," a report that summarizes the results of the Spring 2015 convening of policymakers, practitioners, and researchers from a range of disciplines on this topic. *See page 52* for more information on this event.



ABOVE: Philadelphia's Schuylkill River Park is an example of green infrastructure in the city's downtown. Photo by M. Edlow for Visit PhiladelphiaTM.



Penn IUR has continued to grow and enhance its print and online publications and resources in order to translate research findings to varied and broad audiences. These efforts include The City in the 21st Century book series published by University of Pennsylvania Press—a collection of timely books addressing critical urban issues from around the world-and a variety of digital publications. The Social Science Research Network (SSRN)'s Urban Research eJournal, the Urban Link monthly e-news digest, and the Global Urban Commons website provide free online resources that highlight urban research and help create dynamic online networks for sharing and distributing new findings.





THE CITY IN THE 21ST CENTURY BOOK SERIES

Penn IUR's Co-Directors Eugénie Birch and Susan Wachter edit the University of Pennsylvania Press's The City in the 21st Century (C21) book series. This series, with twenty-nine published titles and four more in development, explores the depth and breadth of contemporary urban scholarship across a wide range of disciplines—anthropology, planning, sociology, economics, architecture, urban design, political science, and history—and represents a cross-section of scholarship and experience on the city in the twenty-first century across the developed and developing world.

A recent publication in the series is How Real Estate Developers Think: Design, Profits, and Community by Peter Hendee Brown. Published in April 2015, illuminates real estate developers' perspectives, based on interviews with more than a hundred players from Chicago, Miami, Portland (Oregon), and Minneapolis and St. Paul. Brown examines the three perspectives from which developers operate: design, profits, and community. Brown profiles the careers of individual developers to illustrate the character of the entrepreneur and to examine the risks and rewards that motivate developers. Finally, he considers the roles played by innovation, design, marketing, and sales in the production of real estate. Overall, Brown portrays developers as creative visionaries who are able to imagine future possibilities for our cities and communities and shows that understanding them will lead to better outcomes for neighbors, communities, and cities. Brown explains the interests, motives, and actions of real estate developers using case studies to show how the basic principles of development remain the same everywhere even as practices vary based on climate, local culture, and geography. An understanding of what developers do and why they do it will help community members, elected officials, and others participate more productively in the development process in their own communities. For an excerpt from this book, see page 38.

The University of Pennsylvania Press publishes its volumes in hardback, paperback, and electronic versions. Last year, it reprinted four volumes in paperback: *Miami Transformed: Rebuilding America One Neighborhood, One City at a Time* by Manny Diaz with a foreword by Michael Bloomberg (also now available in Spanish); *Global Downtowns* edited by Marina Peterson and Gary McDonogh; *Design After Decline: How America Rebuilds Shrinking Cities* by Brent D. Ryan; and *The American Mortgage System: Crisis and Reform* edited by Susan M. Wachter and Marvin M. Smith.





LEFT: How Real Estate Developers Think by Peter Hendee Brown is one of Penn IUR's most recent publications in the City in the 21st Century book series.

"Focusing on imaginative and experienced development professionals working in complex urban settings, Brown usefully problematizes the monolithic idea of the 'greedy developer.' By helping readers to see how these more sophisticated developers think, this engagingly written book can do much to help move real-world situations from hostile standoffs to informed conversations."

—ANN FORSYTH, HARVARD GRADUATE SCHOOL OF DESIGN

PENN INSTITUTE for URBAN RESEARCH 2014–2015 ANNUAL REPORT



The C21 series includes the following titles:

(HC = HARD COVER, PB = PAPERBACK, EB = E-BOOK)

- ① Roger D. Abrahams with Nick Spitzer, John F. Szwed, and Robert Farris Thompson, Blues for New Orleans: Mardi Gras and America's Creole Soul (HC 2006, EB 2010)
- ② Elijah Anderson with a foreword by Cornel West, editor, Against the Wall: Poor, Young, Black, and Male (PB 2009, EB 2011)
- ③ Eugénie L. Birch and Susan M. Wachter, editors, Rebuilding Urban Places After Disaster: Lessons from Hurricane Katrina (PB 2006, EB 2013)
- 4 Eugénie L. Birch and Susan M. Wachter, editors, *Growing Greener Cities: Urban* Sustainability in the Twenty-First Century (PB 2008, EB 2011)
- (5) Eugénie L. Birch and Susan M. Wachter, editors, *Global Urbanization* (**HC** 2011, **EB** 2011)
- (6) Edward J. Blakely with a foreword by Henry Cisneros, My Storm: Managing the Recovery of New Orleans in the Wake of Katrina (HC 2011, EB 2012)
- 7 Peter Hendee Brown, America's Waterfront Revival: Port Authorities and Urban Redevelopment (HC 2008)
- (8) Peter Hendee Brown, How Real Estate Developers Think: Design, Profits, and Community (HC 2015, EB 2015)
- (9) Jon Calame and Esther Charlesworth, Divided Cities: Belfast, Beirut, Jerusalem, Mostar, and Nicosia (PB 2012, EB 2011)
- (iii) Naomi Carmon and Susan Fainstein, Policy, Planning, and People: Promoting Justice in Urban Development (PB 2013, EB 2013)

- (1) Ram Cnaan with Boddie et. al., The Other Philadelphia Story: How Local Congregations Support Quality of Life in Urban America (HC 2006, EB 2010)
- (2) Margaret Dewar and June Manning Thomas, editors, *The City After Abandonment* (**HC** 2012, **EB** 2012)
- (3) Manny Diaz with a foreword by Michael Bloomberg, Miami Transformed: Rebuilding America One Neighborhood, One City at a Time (HC 2012, PB 2014, EB 2012)
- (4) Zaire Zenit Dinzey-Flores, Locked In, Locked Out: Gated Communities in a Puerto Rican City (HC 2013, EB 2013)
- (5) Gregory L. Heller with a foreword by Alexander Garvin, Ed Bacon: Planning, Politics, and the Building of Modern Philadelphia (HC 2013, EB 2013)
- (6) Michael B. Katz, Why Don't American Cities Burn? (HC 2011, PB 2013, EB 2012)
- (17) Scott Knowles, The Disaster Experts: Mastering Risk in Modern America (HC 2011, PB 2013, EB 2012)
- (B) Martin Krieger, *Urban Tomographies* (HC 2011, EB 2011)
- (9) Christian Krohn-Hansen, Making New York Dominican: Small Business, Politics, and Everyday Life (HC 2012, EB 2012)
- ② Afaf Ibrahim Meleis, Eugénie L.
 Birch, and Susan M. Wachter, editors,
 Women's Health and the World's Cities
 (HC 2011, PB 2013, EB 2011)
- (2) Harriet B. Newburger, Eugénie L. Birch, and Susan M. Wachter, editors, Neighborhood and Life Chances: How Place Matters in Modern America (HC 2011, PB 2013, EB 2011)

- ② Laura W. Perna, editor, *Preparing*Today's Students for Tomorrow's Jobs in

 Metropolitan America (**HC** 2012, **EB** 2012)
- (3) Marina Peterson, Sound, Space, and the City: Civic Performance in Downtown Los Angeles (HC 2010, PB 2012, EB 2012)
- (24) Marina Peterson and Gary McDonogh, editors, *Global Downtowns* (HC 2011, PB 2014, EB 2012)
- ② Judith Rodin, The University and Urban Revival: Out of the Ivory Tower and Into the Streets (**HC** 2007)
- 26 Brent D. Ryan, *Design After Decline:*How America Rebuilds Shrinking Cities
 (HC 2012, PB 2014, EB 2012)
- ② John Timoney with a foreword by Tom Wolfe, Beat Cop to Top Cop: A Tale of Three Cities (HC 2010, EB 2011)
- (28) Susan M. Wachter and Marvin M. Smith, editors, *The American Mortgage System: Crisis and Reform* (HC 2011, PB 2014, EB 2011)
- ② Susan M. Wachter and Kimberly A. Zeuli, Editors, *Revitalizing American Cities* (HC 2013, EB 2013)

In addition, during 2014–2015, Penn IUR has developed four manuscripts for the series:

Eugénie L. Birch, Shahana Chattaraj, and Susan M. Wachter, Editors, *Slums: How Informal Real Estate Markets Work*

Susan M. Wachter, Editor, *Public Pensions* and City Solvency

Susan M. Wachter and Lei Ding, Editors, Shared Prosperity in America's Communities

Susan M. Wachter and Joseph Tracy, Editors, *Housing Finance Reform*

SOCIAL SCIENCE RESEARCH NETWORK (SSRN) URBAN RESEARCH **eJOURNAL**

The SSRN *Urban Research e Journal* provides a forum for scholars from institutions around the world to highlight their urbanfocused research. Edited by Penn IUR Co-Directors Eugénie Birch and Susan Wachter, and overseen by an advisory board of preeminent urban scholars, this eJournal accepts abstracts, working papers, and recently published articles on new research on the governance, policy, economics, and urban design issues that surround global urbanization. Through the diffusion of recent and emerging research, this publication aims to increase understanding of the drivers of urban growth and of the forces that contribute to the development of sustainable urban forms. Since its inception in 2012. Urban Research eJournal articles have been downloaded over 418,000 times.

PENN IUR URBAN RESEARCH eJOURNAL ADVISORY BOARD

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For more information, visit: ssrn.com/link/Urban-Research.html

HIGHLIGHTS FROM **URBAN LINK** IN 2014-2015



"Solving all systemic urban problems is not a prerequisite for improving youth outcomes; much more targeted policy interventions can make a difference."

-Sara Heller, August 2015 Urban Link

Photo by Thomas Hawk, via Flickr.

URBAN LINK

The Penn IUR *Urban Link*, a monthly online publication, features expert commentary on urban topics and highlights Penn IUR news and events in the context of pressing metropolitan issues. Launched in November 2012, the *Urban Link* has 5,100 subscribers. Penn IUR's Faculty Fellows and Scholars, a network of nearly 200 urban experts, author *Urban Link*'s articles, allowing Penn IUR to highlight the groundbreaking scholarship of its associates. In addition to its regular editions, Urban Link publishes a special "Expert Voices" issue each January, a compilation of expert responses to a pressing urban question. This issue provides a special forum for reflection, perspective, and open debate on the trajectory of urban scholarship

This year, feature stories authored by Penn IUR Faculty Fellows and other scholars and practitioners included:

Birch, Eugénie and Wachter, Susan. "Geospatial Technologies for a Healthier, More Sustainable, and Increasingly Urban Earth." May 2015.

Weller, Richard J. "Happy Earth Day Everyone!" April 2015.

Handbury, Jessie. "Feeding Urban Communities: A Look at Disparities in Food Access and Nutritional Consumption." March 2015.

Al, Stefan. "The World's Largest Urban Demolition." February 2015.

Special New Year's Issue: "Expert Voices 2015: Will the Battle for Sustainability be Won or Lost in Cities?" With contributions from Solly Angel and Alex Blei, Robert Buckley, Marc L. Imhoff, Stephen Malpezzi, Susan Parnell, Andrew Rudd, Karen Seto, Christopher Small, Marilyn S. Sommers, Richard Weller, and Eugénie Birch and Susan Wachter. January 2015.

Gadsden, Vivian. "Race, Poverty, and Change in America: The Persistent Dilemmas of Equity and Equality." December 2014.

Lum, Ken. "Some Reflections on Urban Public Art Today." November 2014.

Birch, Eugénie. "Sustainable Development Goals Should Aim to Make Cities Inclusive, Resilient, Safe and Livable." October 2014.

Steinberg, Matthew P. "Teacher Evaluation Reform: Building Research to Inform Policy." September 2014.

Voith, Richard and Susan Wachter. "The Return of America's Cities: Economic Rebound and the Future of America's Urban Centers." August 2014.



For more information, visit: penniur.upenn.edu/publications



"The relationship of public art to social reality is at the crux of the instrumentality of public art. All too often, the value of public art is unquestioned as long as it is "artful," without a consideration of the public aspect of public art."

—Ken Lum, November 2014 Urban Link

Photo by Jason Mrachina, via Flickr.



-Eugénie Birch, October 2014 Urban Link

Photo by Lyle Vincent, via Flickr.



PENN IUR WHITE PAPER SERIES ON SUSTAINABLE URBAN DEVELOPMENT

This growing white paper series welcomes working papers from researchers across Penn's campus who are exploring issues confronting cities around the globe. This year, Eugénie Birch released "From Science Parks to Innovation Districts: Research Facility Development in Legacy Cities on the Northeast Corridor" (June 2015). In this paper, Birch explores the spatial aspects of university-led R&D in legacy cities in the Northeast Corridor. The paper provides an overview of the U.S. R&D enterprise, describing the position and character of university R&D; reviews the universitybased research in technology parks, a spatial arrangement developed in the 1960s that is still evolving; offers a case study of Philadelphia and the University of Pennsylvania, representing several models of spatial development of university-led R&D spanning from the 1960s to the present; and discusses other universities and their evolving approaches to accommodating research in their neighborhoods with examples from Boston/Cambridge (Harvard), New York (Columbia and Cornell), and Baltimore (Johns Hopkins). See page 28 for an excerpt.



For this white paper and others in the series, visit: penniur.upenn.edu/publications

GLOBAL URBAN COMMONS

The Global Urban Commons (The Commons) is a dynamic, web-based resource that identifies, connects, and supports a worldwide urban research community. Launched in the fall of 2014 with support from the Rockefeller Foundation, Penn IUR upgraded and expanded the site in the spring of 2015 with support from the University of Pennsylvania Press. It now includes a searchable database of more than 220 member organizations, sections on research and resources, and a global events calendar. Penn IUR updates the site weekly with contributions from around the world. The Commons serves as a platform for global outreach, including for example, the lead up to the United Nations' Habitat III Conference in October 2016.

The Global Commons has a seventeen-member Advisory Board of distinguished international researchers who include:

Eugénie Birch, Co-Director, Penn IUR

Monica Brezzi, Head, Regional Analysis and Statistics Unit, Organisation for Economic Co-operation and Development (OECD)

William Cobbett, Director, Cities Alliance

Yongheng Deng, Provost's Chair, Professor of Real Estate and Finance; Director, Institute of Real Estate Studies; Head, Department of Real Estate, National University of Singapore

Gilles Duranton, Dean's Chair in Real Estate Professor and Chair, Department of Real Estate, The Wharton School, University of Pennsylvania

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Abha Joshi-Ghani, Director, Knowledge and Learning Department, The World Bank Institute

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Stephen Malpezzi, Professor of Real Estate and Urban Land Economics, Wisconsin School of Business, University of Wisconsin-Madison

George McCarthy, President and CEO, Lincoln Institute of Land Policy

Sue Parnell, Professor, African Centre for Cities, University of Capetown

Bimal Patel, *President, CEPT University*

Aromar Revi, Director, Indian Institute for Human Settlements (IIHS)

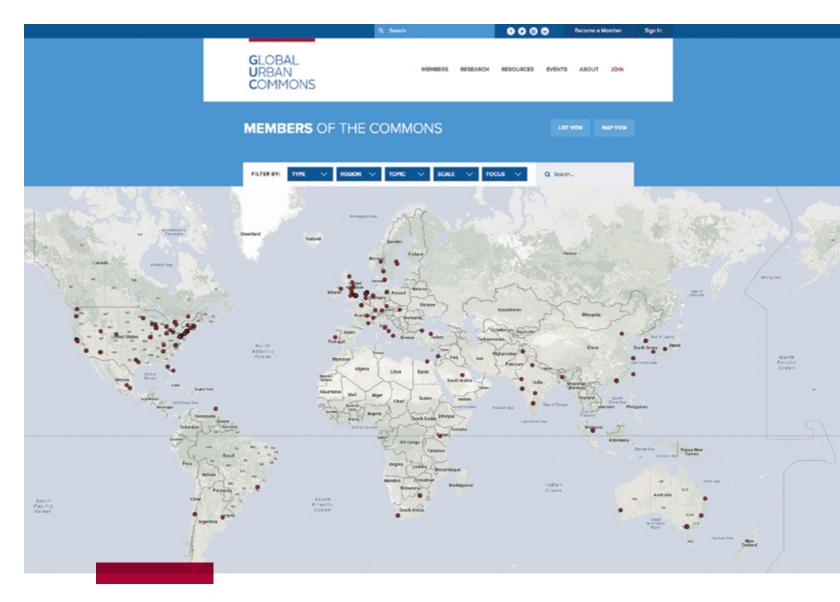
Saskia Sassen, Robert S. Lynd Professor of Sociology, Columbia University

Susan Wachter, Co-Director, Penn IUR

Anthony Yeh, Chair Professor and Head, Department of Urban Planning and Design, The University of Hong Kong



For more information, visit globalurbancommons.org



ABOVE: The Global Urban Commons invites visitors to explore more than 220 research centers around the world The Global Urban Commons aims to strengthen existing partnerships, stimulate new relationships, and expose scholars and practitioners to new lines of thought that they would not otherwise encounter.

EUGÉNIE BIRCH FROM SCIENCE PARKS TO INNOVATION DISTRICTS RESEARCH

The study of anchor institutions and their role in metropolitan regions has long been a core area of scholarship for Penn IUR.

As part of this work, Eugénie Birch has authored, "From Science Parks to Innovation Districts Research: Facility Development in Legacy Cities on the Northeast Corridor." Initially released in June 2015, it is included in the Penn IUR White Paper Series on Sustainable Development. The following is an excerpt from this paper.

Building Capacity for Research Among Universities Along the Northeast Corridor

Across the Northeast Corridor (NEC), universities and their associated medical centers generate a substantial number of jobs, have multi-million and in some cases multi-billion-dollar operating and capital budgets, attract billions of dollars in government-sponsored research grants, private donations, and federal funds in the form of Medicare payments or student loans, and stimulate local spending through their own purchases as well as through expenditures by visitors and students. Figure 17 illustrates the number of universities and university-based hospitals in the NEC.

Data from national databases yield a rough estimate of these impacts. In 2010, major eds and meds anchors collectively employed nearly a million people, had aggregated operating budgets of nearly \$100 billion, attracted \$28 billion in sponsored programs, gifts, and contracts (\$23 billion from government grants and contracts, a minimum of \$5 billion in Medicare payments), and brought in upward of one-and-a-half million students (Birch 2013). See Figure 18.

Universities with high levels of research activity are in Boston, New York City, and Baltimore. A brief description of how these universities are developing their research spaces reveals patterns similar to the Philadelphia case. Tracing the experiences of Harvard, Cornell/Technion, Columbia, and Johns Hopkins, reveals how they, like the University of Pennsylvania, are seeking new ways to build and integrate innovation districts into their facilities portfolios....

Conclusion

With annual expenditures reaching nearly half a trillion dollars, the United States leads the world in funding R&D. These expenditures, which have grown dramatically since the mid-20th century, have contributed to the nation's economic transition from one industrial mix to another and its growth in GDP. While the private sector provides the majority of R&D funds, national government agencies—notably the Departments of Defense, Health and Human Services and Energy—contribute nearly a third of the total, half of which goes to universities engaged in basic research. Although nearly a thousand institutions of higher education receive federal research grants, a smaller number are highly active and within this group, ten universities receive 20% of the total outlays. Six of the ten are in cities and three—Columbia, Penn, and Johns Hopkins—are in the Northeast Corridor. As structured, federal grants have had (and continue to have) a large impact on the spatial development of universities and their surroundings. They not only fund the researchers' salaries, including doctoral student support, but also pay for laboratories and other facilities in which the researchers work.

These latter kinds of expenditures have left physical imprints in the nation's cities and suburbs. These typically take four key forms: campus expansion (including technology parks), corridor/highway developments, downtown redevelopments, and scattered-site projects. At one time, university-sponsored technology parks were important innovations. Developed to capture inexpensive, outlying or suburban land for university- and private-sector research, they tended to be single use and auto-dependent. Eighty-five are in existence today. Recently, more universities are fostering a new brand of development, the innovation district. Located in cities, featuring walkability and containing a mix of land uses including space for living, working, and recreation, the sponsors of these districts design them to attract highly valued knowledge workers and students. In fact, some landlords of suburban technology parks are "urbanizing" their holdings, adding housing, restaurants, and other amenities.

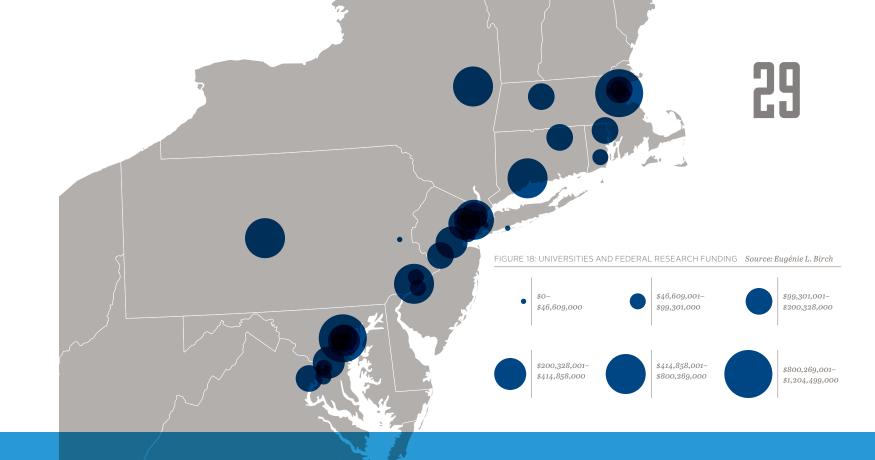
With a focus on a Legacy City's efforts to plan to find ways to soften its rough transition from an industrially based economy to one that takes advantage of its own "eds and meds," and the region's key industries,

especially pharmaceuticals and shale oil/gas, the Philadelphia case study outlines efforts to efforts to re-imagine and re-structure obsolete industrial areas. It focuses on a profile of the University of Pennsylvania and its multi-decade work to take advantage of the growth in federal research funding. Over time, Penn has developing a large number of research spaces, encompassing building oncampus labs and associated health facilities, sponsoring the nation's first in-town technology park, participating in multipartner projects at the de-commissioned Naval Yard and the acquisition of a large, brownfield industrial site. Being one of the nation's largest recipients of federal research funds has justified this strategy. Whether current plans to provide inexpensive off-campus spaces at its newly acquired 23-acre Pennovation Works extension will be successful remains to be seen, but a notable feature of this era's conceptualization is linking the spatial enhancements with technical/administrative business counseling and commercialization efforts.

Finally, the brief survey of how four other highly active research universities are accommodating the demand for research space illustrates the strongly contextual

solutions that these institutions, often in partnership with their localities, are producing, each with a slightly different twist. For example, Harvard and Johns Hopkins are concentrating on community-building AND research space expansion while Columbia and Cornell/Technion are experimenting with encouraging stronger ties between university-based research and their business communities.

All in all, R&D brings significant funding to institutions—private-sector entities and universities—in urban areas. While the traditional arrangements are in transitionas both types of institutions evolve their respective individual and collective roles in basic and applied research, the emerging efforts in the Northeast Corridor appear to be redefining, regenerating, and refueling the economies of former declining neighborhoods and industrial areas in Legacy Cities. While many unknowns remain, this paper notes the changes and advocates monitoring the phenomena in the years to come because as the Penn case illustrates, university-led urban revitalization is a slow process.





This year, Penn IUR led and supported research initiatives that resulted in several types of publications: books, refereed journal articles, and reports. Following are excerpts from these publications which explore Penn IUR's three focus areas: informing the sustainable and inclusive twenty-first-century city, fostering innovative urban development strategies, and illuminating the role of anchor institutions in urban places.



SOCIOECONOMIC MOBILITY IN THE UNITED STATES: NEW EVIDENCE AND POLICY LESSONS



RAJ CHETTY

This excerpt comes from Shared Prosperity in America's Communities, an edited volume by Susan M. Wachter and Lei Ding, published by University of Pennsylvania Press (forthcoming, 2015) as part of Penn IUR's series, The City in the 21st Century.

SINCE THE EIGHTEENTH CENTURY,

the United States has been hailed as a "land of opportunity," a society where all children can succeed, regardless of their family background. However, modern empirical research reveals that the rate of upward income mobility in the United States is actually lower than in many other countries (Corak 2013; Boserup et al. 2013).

Improving opportunities for children from disadvantaged families to succeed should be a priority for policy makers not just because it is one of the core principles of American society but also because improving mobility can have substantial economic payoffs. Unlike other policy issues that involve sharp tradeoffs, increases in absolute upward income mobility can benefit everyone in society. Children from disadvantaged backgrounds naturally benefit directly from having higher levels of income. But affluent individuals can benefit as well, because income growth among the least affluent members of society contributes to economic growth and reduces the number of individuals receiving transfers from the government, saving taxpayers money.

In the United States as a whole, chances of moving up in the income distribution relative to their parents for children entering the labor market today are similar those for children born in the 1970s. While mobility has been stable over time, there are stark differences in opportunities for upward economic mobility across communities in the United States. Cities such as Salt Lake City and San Jose exhibit levels of mobility similar to those observed in developed countries with the highest level of intergenerational mobility, while other cities such as Charlotte and Atlanta have lower levels of mobility than any country for which data have been analyzed to date. The large differences in

intergenerational mobility across space point to the potential value of policies that target the five key community-level characteristics correlated with differences in mobility across areas: segregation, income inequality, school quality, social capital, and family structure.

The large differences in intergenerational mobility across areas of the United States create an opportunity and a challenge. The fact that some areas within America have greater social mobility than most other countries in the world demonstrates that we have an opportunity to greatly improve social mobility in the United States. If we can make each city in America like San Jose or maybe even Dubuque, Iowa—where a remarkable 17 percent of children born to the lowest-income families reach the very top of the U.S. income distribution—we would transform American society.

The challenge for researchers is to identify exactly what causes differences in social mobility across space, in order to be able to develop interventions to improve mobility. The challenge for practitioners is to implement those policy changes and make them politically and practically feasible. Overcoming these challenges could dramatically change social mobility in the United States and create opportunities for success for every child from Charlotte to San Jose.

See publication for full references.



WHY CITY PENSION PROBLEMS HAVE NOT IMPROVED, AND A ROADMAP FORWARD

JOSHUA D. RAL

This excerpt comes from Public Pensions and City Solvency, an edited volume by Susan M. Wachter, published by University of Pennsylvania Press (forthcoming, 2015) as part of Penn IUR's series, The City in the 21st Century. IN THE AFTERMATH OF THE 2009

FINANCIAL CRISIS, large unfunded pension liabilities emerged in the reported accounts of U.S. state and local governments. Studies by the Pew Charitable Trust, among other sources, estimated that the unfunded liabilities were around \$1 trillion at the state level and around \$100 billion at the city level (Pew Charitable Trust 2010, 2013).

Using default-free discounting procedures consistent with the principles of financial economics, and relying on market values (as opposed to smoothed actuarial value) of assets, Novy-Marx and Rauh (2011a, 2011b) calculated considerably larger unfunded state pension liabilities of \$2.5 trillion and unfunded city and county liabilities of \$574 billion. These calculations measure the value of pension promises as streams of cash flows that must be paid regardless of market performance. While these markto-market gaps had widened during the financial crisis, they existed even before the 2008 downturn in equity markets (Novy-Marx and Rauh 2008).

Since 2009, there have been dramatic recoveries in the valuations of the stock market and other risk asset classes such as private equity and real estate. Indeed, the S&P 500 rose in value by 75 percent over this period, and most pension funds achieved annualized returns of well over their assumed rates of return, which were in the range of 7.5 to 8.5 percent per year. Some cities and states undertook reforms to their pension benefit structures and received considerable media attention for doing so, notably the state of Rhode Island and the cities of San Diego, San Jose, and Atlanta. Given these structural and market changes, one would assume the typical local

government's unfunded liability would have seen substantial reductions.

...

Using liability measurements from the pension systems themselves, which are prepared under Governmental Accounting Standards Board (GASB) techniques, I find a growth in the absolute level of unfunded pension obligations... This is remarkable as the assets of all the systems are heavily invested in risk assets that enjoyed a dramatic resurgence in value over the 2009-13 period. The salutary effects of these strong investment returns were offset as liabilities continued to rise and benefit payments continued to outstrip contributions. This rise in liabilities is equally remarkable given that public pension liabilities have been a central theme of public discourse in many cities for the past several years.

...

In light of the fact that unfunded liabilities have grown even during an extremely robust period for equity markets, which was also a time when local governments were under pressure to reform their systems, the... chapter outlines...policy options available to cities.

See publication for full references.







A CALL FOR TRANSPARENCY



This excerpt comes from Public Pensions and City Solvency, an edited volume by Susan M. Wachter, published by University of Pennsylvania Press (forthcoming, 2015) as part of Penn IUR's series, The City in the 21st Century.



for anyone trying to draw a conclusion from it—is the uncertainty of future projections on the acknowledged problem of the underfunding of municipal pension obligations...

Decisions made today in ignorance of future costs cannot be undone... The first step, therefore, must be to make informed decisions possible. Transparency is a necessary foundation for the important task of putting our urban economies back on sound fiscal footing... The lack of public knowledge of the full extent of obligations enables kick-the-can-down-the-road postponement of necessary decisions. Rather than putting into place incremental solutions that work to resolve indebtedness

over time, the result may be that no good solution is possible. While crises can lead to clear thinking about alternatives, in this case, crisis means that all parties—pension holders, taxpaying citizens, and debt holders—are worse off, the sad lesson learned from Detroit and Greece. Once the problem of unfunded liabilities brings a city to the point of financial crisis, there is no going back. The city itself will have to cut back on necessary investment for future growth. This hurts all parties but may be

inevitable if the problem is not addressed when solutions that do not involve drastic cutbacks in investing for the future are still possible... Such pressure will only exist when the underfunding is transparent enough for voters, pension recipients, bondholders, and new residents to see it in enough time to take action before a crisis is at hand... (C)learly presenting liability calculation methodologies and realistic interest rate assumptions can enable all involved parties to understand and ultimately trust estimates of unfunded pension liabilities. This could allow real estate markets and bond markets to react accordingly and provide the discipline that has been lacking in the past. Kicking the can down the road has in many cities increased underfunding. While the availability of this information will not immediately balance pension underfunding, it will impel all involved parties to work toward developing feasible budgetary solutions and prevent these liabilities from further increasing and undermining the future of the city itself.

HOW REAL ESTATE DEVELOPERS THINK: DESIGN, PROFITS, AND COMMUNITY

EAL ESTATE **EVELOPERS** THINK DESIGN PROFITS. AND COMMUNITY Peter Hendee Brown

PETER HENDEE BROWN

How Real Estate Developers Think was published in April 2015 by University of Pennsylvania Press as part of Penn IUR's series, The City in the 21st Century series. The following is excerpted from the book's prologue.



AND METAL make us think of permanence.
But cities are fluid and ever-changing places
where, over time, streets, infrastructure, public
spaces, and buildings are constantly being
built, improved, demolished, and replaced.

For the people who live next door to a potential development site, such as a vacant lot or an old obsolete building, this means something new will be built on that property sooner or later and it is not a question of if but of when. Yet change is frightening and many people are more comfortable with the familiar, in part because they have difficulty visualizing how a proposed project might actually look and fit into their community. Fear of the unknown begins with rumors of a potential development and increases when community members see the first images of the proposed project at the neighborhood meeting. For people who are not in the development business, it can be difficult to know what to focus on, what to worry about, and how to try to influence the project. Neighbors also have a relatively brief period of time to review the proposal and offer their feedback to the developer and city officials in community meetings and at public hearings. And if the project is approved they know that the inconvenience and aggravation of construction will soon follow.

For a typical project all of this may take less than two years but in the heat of the moment some community members will be unable to pull back and take the long view of this relatively brief period of stress and discomfort. They will have difficulty imagining how the completed development might improve their own lives and make their community a better place—for years, decades, and even centuries to come. It can bring new benefits to the community, including more neighbors, businesses, services, bars, restaurants, retail shops, and perhaps even a grocery store. The development will also increase the tax base and cause the city to increase spending on infrastructure, parks, and other public facilities. And a real estate development project represents a significant and concentrated investment in the community that usually increases surrounding property values. But well before any of these good things will happen, those community members must attend that first public meeting where they learn that change is coming—and that the

person who is delivering that change is the real estate developer.

...

For many community members, real estate developers remain a mystery, and because we don't really understand who they are, what they do, and why they do it, we are in a difficult position when it comes to working with them. And that's why we need to come to a better understanding of developers, because they are going to keep on developing, and their buildings will remain with us long after the construction dust has settled. The purpose of this book is to begin building that deeper understanding.

...

This book is based on interviews with more than one hundred people involved in the real estate development business in Chicago; Miami; Portland, Oregon; and the Twin Cities of Minneapolis and Saint Paul, Minnesota (although the emphasis is on development in those first three cities). Together, the stories from these developers and their projects paint a vivid picture of what is common to the real estate development process. They also offer vivid contrasts that illustrate how development is a distinctly local activity that is influenced by climate and geography as well as by the unique social, political, and economic cultures of different cities. An understanding of what is common and what is different will help community members, elected officials, and others participate more productively in the development process in their own communities.





COMPARISON OF THE DEVELOPMENT OF ENERGY SMART COMMUNITIES AMONG APEC MEMBERS

EUGÉNIE L. BIRCH, ALON ABRAMSON, ALBERT T. HAN, JOSEPH SU, AND CHEN CHEN TONGJI

This report was produced in October 2014 with support from the Taiwan Institute for Economic Research.
For more information on Penn IUR's Energy Smart
Communities Institutive-Knowledge Sharing Platform see page 12.



constraints—both geographical and material—as well energy security and environmental concerns have prompted municipalities around the globe to develop technologies and applications to conserve energy.

Over time, many of the techniques for conserving energy have been accepted as best practices and adopted more broadly. An assortment of frameworks to develop comprehensive, city-wide energy (and typically other resource) conservation are available. Some Asia-Pacific Economic Cooperation (APEC) economies have been leaders in the development and implementation of these types of programs, while others are beginning to advance their own frameworks.

The International Panel on Climate Change (IPCC) estimates that urban regions account for up to 76% of energy use and energy-related CO2 emissions and up to half of global greenhouse gas emissions (Intergovernmental Panel on Climate Change 2014). The 2014 IPCC report captures a wealth of knowledge about cities in Chapter 8: Urban Areas. The chapter characterizes 21st century urban growth and the risks posed and ability to adapt to climate change

for the world's cities. Most important, the report brings to the fore research evaluating the efficacy of mitigation measures and policies, and acknowledges the role of city and regional planning as a strong force for mitigation and adaptation to climate change (Birch 2014).

Put another way, "huge opportunities exist for mitigating climate change through actions delivered at city and subnational level...the largest mitigation opportunities are likely to be in rapidly urbanizing areas where urban form and infrastructure are not yet locked in" (LEDS 2014).

This summary looks at the growth of low-carbon and energy smart communities in the APEC region and attempts to assess their success. The report has two sections. The first section is an overview of three programs which offer a conceptual framework for the development of energy smart (efficient) communities: APEC's The Concept of the Low Carbon Model Town;

World Bank's Ecological Cities as Economic Cities; and OECD's Green Growth in Cities. These programs both define energy smart communities and present metrics to chart their implementation. The second section measures whether national government policy incentivizes or discourages the creation of low carbon towns based on The Green Growth in Progress primer, What National Governments Can Do to Accelerate Subnational Action on Climate...

... In their evaluation of the 21 APEC economies the authors find that all APEC economies have some policy activity related to energy smart community development. They also find that development is occurring both in new greenfield contexts, as well as through the adaptation of historically energy intensive urban areas into energy smart communities. They discovered a critical marker among the economies where some economies had strong connections between national and sub-national policy and other economies lacked national government leadership or cohesiveness between levels of government to drive energy smart development. In these latter cases, energy smart development was being initiated at the sub-national or local level and not by national efforts. While the research found that energy smart development will occur in spite of the absence of a strong national effort, it was evident that such strong national leadership will lead to a higher level of deployment and greater levels of verification of proper energy performance through monitoring of key metrics.

See publication for full references.







MEASURING U.S. SUSTAINABLE DEVELOPMENT

EUGÉNIE L. BIRC

The following excerpt was first published in, "Measuring U.S. Sustainable Development." Citiscape. Volume 17, Number 1. 2015. pp. 223–232. For more on Penn IUR's Sustainable Communities Indicator Catalog project, see page 16.



IN 2009, THE FEDERAL GOVERNMENT

acted to devise a national sustainable development agenda by forming the Partnership for Sustainable Communities (PSC), an innovative, interagency agreement among the U.S. Department of Housing and Urban Development (HUD), the U.S. Department of Transportation (DOT), and the U.S. Environmental Protection Agency (EPA).

The PSC defined its vision of sustainable development through iteration and the use of six Livability Principles for policy and program guidance.

The Livability Principles, with their call for improvements in the built environment, define sustainable communities as those that "give Americans more housing choices, make transportation systems more efficient and reliable, reinforce existing investments,

protect the environment, and support vibrant and healthy neighborhoods that attract businesses and jobs." The principles call for providing more affordable housing, energy-efficient and less polluting transportation alternatives, and aid to strengthen existing communities. Although other agencies are engaged in sustainable development projects, PSC stands out for its clear framing of a specific, comprehensive, and operationalized sustainable development agenda.

To advance this work, the agencies publicized the work in digital and print media (for example, DOT dedicated a section of its website dot.gov/livability) or created special offices (for example, EPA created the Office of Sustainable Communities [OSC]). Within 2 years, the effort became more tangible through the awarding of funding based on the Livability Principles, the issuing of publications and supporting research, and advances in communication (for example, creation of a dedicated website sustainablecommunities.gov). Between 2009 and 2014, PSC agencies awarded grants valued at \$4.6 billion to more than 1,000 grantees.

As originally conceived, however, PSC's approach had one weakness: it did not have an associated, easily employed mechanism for evaluation to benchmark and measure progress toward the desired settlement patterns. Over time, PSC agencies worked to remedy the evaluation gap. By 2014, they offered three important tools to help communities evaluate their programs, one of which was the Sustainable Communities Indicator Catalog (SCIC), a searchable database of 31 core indicators that allows communities to select their own set, provides instructions for their calculations, and includes examples of places employing them. Penn IUR created the SCIC. (cont.)

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DEVELOPING A U.S. SUSTAINABLE COMMUNITIES INDICATOR CATALOG

Funded by the Ford Foundation, the Penn team devised and executed a five-step process to arrive at an appropriate evaluation system (exhibit 1).

In creating the SCIC, Penn IUR built on its research from previous years and consulted closely with representatives from PSC agencies, with Office of Sustainable Communities grantees, and with other stakeholders and experts. The researchers tested more than 100 indicator systems encompassing more than 400 indicators. In addition, the team developed 14 potential use cases to demonstrate the variety of users and their needs. In March 2013, DOT hosted an expert workshop and, in May 2013, the Lincoln Institute of Land Policy held a second workshop for expert consultation. The Penn IUR team received additional feedback after presenting to professional associations in the United States and abroad, including the 2013 Federal Reserve Community Development Conference, the Organization for Economic Cooperation and Development (OECD), the Urban Affairs Association, and others. It shared experiences with others developing indicator systems, including the OECD, which launched its *Better Life Index* in June 2104 and Arcadis's Sustainable Cities Index (OECD, 2014).

In conjunction with this process, two critical decisions emerged that would drive the effort: first, the decision to use existing inuse indicators wherever possible; second, the decision to develop a flexible, searchable, web-based platform to offer wide choices to different types of communities. The decision to employ indicators that have already been used derived from two practical considerations. First, in-use indicators have a track record. Second, these inuse indicators are often (but not always) supported by scholarly research. Having the ability to refer to the reports or even other

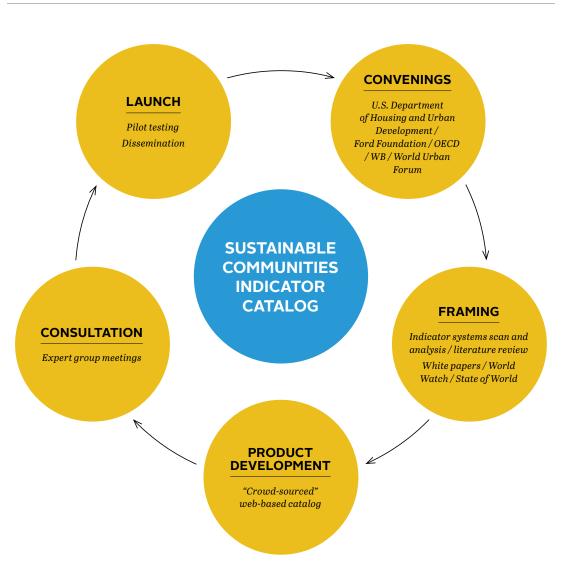
users of specific indicators enhances users' ability to tailor a system. The decision to make users' choice determine the choice of indicators from a limited list recognizes that different types of places, whether they are cities, counties, regions, or states, have varying goals in their pursuit of sustainability. Notably, this is the same approach being recommended by the high-level expert group, Sustainable Development Solutions Network to the U.N. Statistical Commission for the indicators for soon-to-be-approved Sustainable Development Goals (Sustainable Development Solutions Network, 2015; U.N. ECOSOC, 2015).

The SCIC is fully operational and can be viewed on the PSC website (sustainablecommunities.gov). Included are 11 tip sheets to assist users, the catalog, and links to communities in which the indicators are in use.

See publication for full references.



EXHIBIT 1: SUSTAINABLE DEVELOPMENT INDICATOR PROCESS





Penn IUR's expert events and roundtable discussions provide a setting for high-level discussions among policymakers, executives, and preeminent scholars. In 2014–2015, Penn IUR, working with internal and external partners, convened meetings on municipal solvency, housing finance, remote sensing, and ecosystem services.



PENN INSTITUTE for URBAN RESEARCH 2014–2015 ANNUAL REPORT

URBAN FISCAL STABILITY AND PUBLIC PENSIONS: SUSTAINABILITY GOING FORWARD

In the wake of the 2008 financial crisis. many U.S. municipalities faced major fiscal challenges related to their declining operating budgets and pension and health care liabilities. On November 11, 2014 Penn IUR hosted "Urban Fiscal Stability and Public Pensions: Sustainability Moving Forward," which convened academics and practitioners to identify best practices and potential avenues for reform, focusing on legacy issues of funding public pensions and evaluating strategies for financial sustainability. This event marked the launch of a multi-year effort to investigate urban fiscal sustainability, which is made possible with support by Penn IUR Advisory Board member, Lawrence Nussdorf (W '68).

The meeting had two panels. The first panel featured prominent scholars **Robert Inman**, Professor of Business Economics and Public Policy, The Wharton School; **Mathew McCubbins**, Professor of Law and Political Science, Duke Law; **Amy Monahan**, Professor of Law, University of Minnesota Law School; and **Joshua Rauh**, Professor of Finance, Stanford Graduate School of Business. **Olivia Mitchell**, Professor of Business Economics and Public Policy, The Wharton School and Executive Director, Pension Research Council, moderated the discussion.

This academic panel reviewed major points characterizing the scope and scale of the problems facing existing pension systems and the municipalities that manage them. According to Rauh, despite the recent successes in capital markets, unfunded pension liabilities continue to increase in major cities. On the regulation of public pension obligations, Monahan explained the constraints that fiscally distressed states and localities operate under in renegotiating prospective as well as existing obligations for benefits to current employees. McCubbins provided a less-than-optimistic outlook on





ABOVE: Practitioners debate the issue. From left to right: Robin Prunty, Matt Fabian, Richard Ravitch, Rob Dubow, Marcia Van Wagner, and James Spiotto.

distressed municipalities' financial prospects. Concluding the first panel, Inman addressed the economic implications of unfunded liabilities, pointing to the importance of transparency in preventing the worst case scenarios of default and potential death spirals before they are inevitable.

Shifting perspective, the second panel featured practitioners **Rob Dubow**, Director of Finance, City of Philadelphia; **Matt Fabian**, Managing Director, Municipal Market Advisors; **Richard Ravitch**, former Lieutenant Governor, State of New York; **James Spiotto**, Managing Director, Chapman Strategic Advisors LLC; and **Marcia Van Wagner**, Vice President/Senior Credit Office, Moody's Investors Service. **Robin Prunty**, Managing Director, Standard & Poor's Public Finance Ratings, moderated. Ravitch, who led the session, framed the budgetary

issues stemming from pension liabilities with his view that as municipalities need to balance day-to-day services provided to their communities with outstanding liabilities, they are less motivated to address the overhanging debt. To counter this problem, panelists Fabian, Spiotto, and Van Wagner advocated for increased supervision and transparency in pension liabilities by reporting the standards used in calculating liabilities. Dubow spoke last, describing successful but hard-fought efforts to reduce the unfunded pension obligation in Philadelphia and to improve its credit rating.

See pages 34–37 for excerpts from Public Pensions and City Solvency, a forthcoming volume from University Pennsylvania Press, edited by Susan M. Wachter, which expands on these issues.

Ravitch framed the budgetary issues stemming from pension liabilities with his view that as municipalities need to balance day-to-day services provided to their communities with outstanding liabilities, they are less motivated to address the overhanging debt.

DESIGNING A TWENTY-FIRST-CENTURY HOUSING FINANCE SYSTEM

On March 18, 2015 Penn IUR co-hosted, with the Penn Wharton Public Policy Initiative (PPI) and the Federal Reserve Bank of New York, "The Future of the U.S. Housing Finance System: Bringing the Residential Mortgage Finance System into the 21st Century," to discuss proposals for reforming the U.S. housing finance system. The day-long event included invitation-only roundtable discussions and lunch and a public panel.

Following welcomes by Joseph Tracy, Executive Vice President, Federal Reserve Bank of New York and Penn IUR Co-Director Susan Wachter, researchers presented papers on a comparison of legislative proposals for housing finance reform, the role of

government institutions in reforming housing policy, and the To-Be-Announced (TBA) market. These papers will be part of the forthcoming volume, Housing Finance Reform to be published in spring 2016 in the City in the 21st Century series. Luncheon keynoter, **S.A. Ibrahim**, CEO, the Radian Group, highlighted the policy impacts of potential reforms.

The public panel, moderated by Penn IUR Advisory Board Chair **Egbert Perry** in his role as Fannie Mae's Non-Executive Chairman of the Board, focused on the basics of reforming the current housing finance system. The speakers were: **Bob Ryan**, Senior Advisor, Federal Housing Finance Agency; **Theodore Tozer**, President, Ginnie Mae; and David Stevens, President and CEO, Mortgage Bankers Association. Two roundtable discussions followed the panel, at which participants explored the character of an optimal housing finance system and alternative strategies for creating such a system.



-SUSAN WACHTER

NEXT STEPS IN THE HOUSING FINANCE REFORM SAGA

SUSAN WACHTER

As a result of "The Future of the U.S. Housing Finance System: Bringing the Residential Mortgage Finance System into the 21st Century," the March 2015 expert convening hosted by Penn IUR, the Penn Wharton Public Policy Initiative and the Federal Reserve Bank of New York, Susan Wachter authored an issue brief from which comes the following excerpt (Penn Wharton Public Policy Initiative Issue Brief: Volume 3, Number 2. March 2015).

"Momentum seemed to be escalating in early 2014 for the passage of a comprehensive reform package of the housing finance system in the U.S., but that was not to be, as neither political party fully supported its passage, derailing the progress made over the previous few years. While consensus around the primary features of reform has grown, the inertia keeping the country mired in the current, uncertain system needs to be overcome. [Despite this inertia,]... several points of consensus for reform have emerged, including: preserving the 30-year fixed rate mortgage and the market for mortgage-backed securities (MBS); ordering private capital in a first-loss position with a government guarantee to protect only against catastrophic outcomes; creating a common securitization platform (CSP) to provide transparency and liquidity; and providing for affordable housing directives. [E]nding the current conservatorship of Fannie Mae and Freddie Mac is fundamental to any housing finance reform measure. [W]hile these recommendations are useful, nothing can take the place of political will. The United States government's open-ended assistance in the housing industry is not a feasible long-term strategy."



ABOVE: Expert panelists at the MUSA Earth Day roundtable.

GLOBAL MAPPING AND REMOTE SENSING FOR SUSTAINABLE **URBANIZATION**

On April 22, 2015 Penn IUR partnered with the Master of Urban Spatial Analytics (MUSA) program and the Wharton Initiative for Global Environmental Leadership (IGEL) to sponsor a day of events commemorating Earth Day. The sessions included an expert roundtable on the role of geospatial technology in the soon to be approved U.N. Sustainable Development Goals (SDGs) and a public panel entitled "Global Mapping and Remote Sensing for Sustainable Urbanization."

Susan Wachter and Eugénie Birch, Penn IUR Co-Directors, set the stage for the discussion. Wachter led by saying, "sustainability is an earth-wise enterprise." Birch echoed this sentiment by discussing the Sustainable Development Goals (SDGs), giving attention to the one on cities and human settlements, global indicators currently in development, and posed the question: How will the UN monitor SDG progress and can it identify indicators that are scientific, valid, and S.M.A.R.T. (specific, measurable, achievable, results-focused, and time-bound)? With 68 percent of the world expected to be living in urban areas by 2030, the question of what indicators to use for cities proves critical for sustainable development.

Richard Weller, Martin and Margy Meyerson Professor of Urbanism and Chair, Landscape Architecture, Penn School of Design, discussed the importance of preserving "representative and connected" open space throughout the world. He called for the need for a one-stop shop, or ecological inventory, for the whole planet. "Maps are as important for what they leave out as for what they show," he said, "but we can't help but make maps."

Budhendra Bhaduri, Corporate Research Fellow and founding Director, Urban Dynamics Institute, Oak Ridge National Laboratory, talked about a new technology called LandScanHD. This high-resolution mapping tool can precisely map population distribution, accurately extracting every building in California in less than five minutes. These mapping abilities can "map people who have never been mapped before...who have never existed to you and me." The implications of monitoring the growth of such populations means that we can not only improve their growth and development but also better calculate their vulnerability to the world's changing climate.

In addition to population mapping, geospatial satellite data has allowed for the measurement of mapping sustainability on the planetary level. Marc Imhoff, Visiting Research Scientist, Earth System Science Interdisciplinary Center, University of Maryland, demonstrated the importance of sustainability as "urbanization increasing becomes the human enterprise." With urban growth inevitable, we will be able to measure important sustainable methods of transportation, agriculture, energy use, and more, are to the survival of urban areas.

Martino Pesaresi, Scientific Leader, Global Security and Crisis Management Unit, European Commission Institute for Protection and Security of the Citizen, demonstrated the abilities of the Global Human Settlement Layer (GHSL), which allows for "systematic collection using satellite data that can create indicators for more effective measurement of human settlements."

Christopher Small, Lamont Research Professor, Lamont-Doherty Earth Observatory, Columbia University, demonstrated his latest project, which seeks to quantify the spatiotemporal changes of the earth's surface. Understanding the consequences of land and settlement changes using satellite imagery can help inform future planning efforts and better prepare vulnerable populations for climate and development-induced environmental changes.

Mark Montgomery, Professor of Economics, Stony Brook University and Senior Associate, Poverty, Gender and Youth Program, Population Council, described the ability of the database Desventar, another program created using geospatial technologies to record disaster records at a fine scale. "Spatial locations of disasters haven't been specifically recorded in the past," Montgomery said. Worldwide there is next to no information on small-scale disasters and their environmental, social, and economic impacts on countries. Such information could open up a whole new set of opportunities for emergency management and urban resilience.

Following the Earth Day event, Penn IUR Co-Directors Eugénie Birch and Susan Wachter authored an article in Penn IUR's monthly e-newsletter *Urban Link* on the role of geospatial technologies in monitoring, measuring, and achieving earth-wide sustainability.



70 read the article, visit: penniur.upenn.edu/publications

THE SUSTAINABLE CITY: ROUNDTABLE ON SCIENCE, URBAN ECOSYSTEM SERVICES, AND GREEN INFRASTRUCTURE

Penn IUR co-hosted with the Spatial Integration Laboratory for Urban Systems (SILUS), a collaborative partnership between the Wharton GIS Lab and the USGS Science and Decisions Center, a day-long symposium on May 19, 2015 entitled "The Sustainable City: Roundtable on Science, Urban Ecosystem Services, and Green Infrastructure." The symposium brought together 70 participants

Symposium participants discussed the use of green infrastructure in managing green infrastructure, the role of incentives and regulatory mechanisms in developing sustainable cities, and the future of research and practice to enhance urban ecosystem services and green infrastructure.

from across the country, including policymakers, practitioners, and researchers from a variety of fields who discussed the use of green infrastructure in managing green infrastructure, the role of incentives and regulatory mechanisms in developing sustainable cities, and the future of research and practice to enhance urban ecosystem services and green infrastructure. Penn IUR Co-Director **Susan Wachter**, and **Dianna Hogan**, Research Physical Scientist, U.S. Geological Survey (USGS) Eastern Geographic Science Center, and **Carl Shapiro**, Director, USGS Science and Decisions Center, facilitated the event.

The event's opening keynotes were delivered by **Michael Nutter**, Mayor, City of Philadelphia; **Suzette Kimball**, Acting Director, USGS; and **Shawn M. Garvin**, Regional Administrator, EPA's Mid-Atlantic

Region. Next, **Michael DiBerardinis**, Philadelphia's Deputy Mayor, Environmental and Community Resources, and **Katherine Gajewski**, Director, Mayor's Office of Sustainability, City of Philadelphia spoke on green infrastructure and urban sustainability with particular emphasis on the goals and outcomes of the Greenworks program, Philadelphia's groundbreaking sustainability plan.

The morning addresses were followed by panel presentations from experts in the movement to develop comprehensive sustainable management strategies; panelists were selected based on their leadership as civic innovators and proponents of green infrastructure. Speakers included **Margot Walker**, Director, Capital Planning and Partnerships, NYC Office of Green Infrastructure; **Tommy Wells**, Director, District Department of the Environment, Washington

D.C.; George Hawkins, CEO and General Manager, D.C. Water and Sewer Authority; Jerry Tinianow, Chief Sustainability Officer, City and County of Denver; Michelle Kunec-North, Program Coordinator, City of Portland Bureau of Planning and Sustainability; Tracy Tackett, Green Infrastructure Program Manager, City of Seattle; and Howard Neukrug, Program Coordinator, Philadelphia's Bureau of Planning and Sustainability. Each panelist presented on lessons learned from efforts to develop green infrastructure in their respective municipalities.

Karen C. Seto, Associate Dean of Research, Yale School of Forestry and Environmental Studies, gave the luncheon keynote address. In her presentation, "How Urbanization Can Save (or Wreck) the Planet, and the Science We Need," Seto

discussed the positive and negative effects of cities on the planet's ecology and the role of science in guiding sustainable urban growth.

In the afternoon, three roundtable discussions created an open-forum opportunity for participants to share perspectives on green infrastructure with respect to urban sustainability. Hogan moderated the first of the three, guiding a discussion of the pitfalls and successes in planning for green infrastructure and urban ecosystem services. The second roundtable discussion, moderated by Wachter, addressed the topic of incentives and regulatory mechanisms used to promote green infrastructure. The afternoon sessions concluded with a third roundtable discussion, moderated by Shapiro, on the current standing and future direction of urban sustainability research and the impact of this research on policy-level decision-making.



Exchange
participants
visited areas
impacted by the
2011 tsunami in
Miyako City

ABOVE: A site visit to infrastructure that failed to hold back the tsunami.

CENTER: Local leaders share images of the

BOTTOM:
Participants head
to a new housing
development on
higher ground.





U.S.-JAPAN EXCHANGE: CITIZEN PARTICIPATION IN COMMUNITY BUILDING POST-DISASTER

Penn IUR and the East–West Center launched a three-year dialogue and travel exchange project in collaboration with the Urban Community Research Center for Asia and Kwansei Gakuin University. The project, launched in Summer 2015, utilizes site visits, expert discussions, and the exchange of lessons-learned to discover how local leaders, small businesses, and community-based organizations influence the recovery process after a natural disaster, and seeks to build next generation leadership capacity and networks that engage citizens in providing meaningful input to address the long-term recovery and rebuilding of their communities after disasters.

The project includes four cities in Japan and the United States impacted by major disasters: Miyako City, Iwate Prefecture, hit by the 2011 Eastern Japan Earthquake and Tsunami in 2011; Kobe, Hyogo Prefecture, impacted by the 1995 Great Hansin Earthquake; New Orleans, Louisiana, devastated by Hurricane Katrina in 2005; and Galveston, Texas, hit by the 2008 Hurricane Ike. The project's twenty-four participants include representatives from community grassroots/nonprofit organizations, and local government and business groups from all four cities. Penn IUR is documenting the entire exchange, including an annual report and will host a concluding conference in the project's third year.

In the 2015 exchange (June 22–July 1), delegates from Kobe and Miyako City hosted delegates from New Orleans and Galveston. Their experiences with the 1995 and 2011 disasters provided U.S. delegates with an important perspective on the role of local leaders and organizations in both the short- and long-term recovery process. Site visits demonstrated the key roles played by local organizations and leaders in expediting the recovery process through personal knowledge of the areas and the ability to garner support from their communities to enact changes. The participants shared their unique experiences with municipal and national government policy and response, as well as diverse social and cultural responses to disaster. Though tsunami and earthquake disaster create different types of destruction and require different responses, delegates from Japan and the United States found many similarities in the recovery processes, both economically and socially.

In 2016, the U.S. delegates will host the Japanese in New Orleans and Galveston to discuss political, social, and economic recovery of the Gulf Coast. The project will culminate in 2017 with a Penn IUR-hosted conference in Philadelphia that will focus on collaborative relationships between civil society, government, and business to address a wider range of disaster recovery scenarios and sustainable rebuilding strategies.

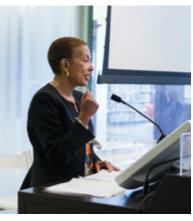


Penn IUR offers free programs throughout the year that bring together scholars, practitioners, faculty, students, and the general public.



PENN INSTITUTE for URBAN RESEARCH 2014-2015 ANNUAL REPORT





ABOVE: Eugénie Birch and Susan Wachter present Mayor Michael Nutter with his award

LEFT: Renée Lewis Glover shared her experiences from Atlanta before receiving her award.

PENN IUR ELEVENTH ANNUAL URBAN **LEADERSHIP AWARDS**

On April 19, 2015, Penn IUR held its eleventh annual Urban Leadership Forum, presenting Urban Leadership Awards to Michael Nutter, Mayor, City of Philadelphia, and **Renée Lewis Glover**, Chair, Board of Directors, Habitat for Humanity International and Former President and CEO, Atlanta Housing Authority. The award recognizes exemplary officials who have demonstrated leadership in revitalizing urban centers, responded to urban crises, and championed urban sustainability in the United States and around the globe.

Since taking office in January 2008, Michael Nutter has vigorously managed city government through the worst recession since the Great Depression by maintaining core services and reducing the Philadelphia's spending. "I set some ambitious goals on the first day [in office as mayor], and said that we would be the number one green city in the United States," Nutter said. Philadelphia is now recognized nationally and internationally as a great, green, and sustainable city.

Renée Glover has pioneered master-planned, mixed-use, mixed-income residential development, creating spaces in which people of all socioeconomic profiles live together in amenity-rich communities. Her work has been modeled widely and is now being used as the redevelopment blueprint by the U.S. Department of Housing and Urban Development (HUD). Glover's exemplary work has contributed immensely to improved housing, public schools, transit access, and economic development activities.



For a video of the event, visit: penniur.upenn.edu/events

PENN IUR'S PAST URBAN LEADERSHIP AWARD WINNERS

Penn IUR has recognized innovators in urban affairs through the ULA since 2005, presenting the honor annually in recognition of outstanding work in building a better, more sustainable future for all. Past recipients include:

Sister Mary Scullion and Joan Dawson McConnon, Co-Founders of Project HOME

Martin O'Malley, Governor of Maryland

Joan Clos, Executive Director of UN-HABITAT and former Mayor of Barcelona, Spain

Yael Lehmann, Executive Director of The Food Trust

Ridwan Kamil, Founder and Principal of Urbane Indonesia

Derek R.B. Douglas, Vice President for Civic Engagement. University of Chicago and former Special Assistant to President Barack Obama, White House Domestic Policy Council

Paul Levy President and CEO Philadelphia's Center City District Lily Yeh, Global Artist and Founder, Barefoot Artists

Raphael Bostic, Assistant Secretary for Policy Developmen and Research, HUD

Henry Cisneros Executive Chairman, CityView, and former Secretary, HUD

Jane Golden, Executive Director, City of Philadelphia Mural Arts

John Timoney, former Miami Chief of Police

William Hudnut III, Senior Fellow Emeritus, Urban Land Institute, and former Mayor of Indianapolis, Indiana

Shirley Franklin, Mayor of the City of Atlanta, Georgia

Parris Glendening, President, Smart Growth Leadership Institute, and former Governor of Maryland

Bruce Katz, Vice President and Founding Director of the Metropolitan Policy Program The Brookings Institution

Edward J. Blakely, Executive Director, Mayor's Office $of \, Recovery \, and \, Development$ Administration, City of New Orleans

M. Susan Savage, Secretary of State, Oklahoma

Donna E. Shalala, President, University of Miami and former Secretary, HUD

Joseph P. Riley Jr., Mayor of the City of Charleston, South Carolina James Lee Witt, Chairman and CEO, James Lee Witt Associates

Brent Warr, Mayor, City of Gulfport, Mississipp

Loree D. Jones, Secretary of External Affairs Office of the Mayor, Philadelphia

Manuel A. Diaz, Mayor, City of Miami

Stephen Goldsmith, Former Mayor, City of Indianapolis

Marc H. Morial, Former Mayor, City of New Orleans

John F. Street, Mayor, City of Philadelphia.





_EFT: A visitor to the Monument Lab shares her idea for a monument Photo by Monument Lab, via Flickr.

RIGHT: Paul Farber noderates a discussior vith auest speakers, Jane Golden and Conner Barwin. Photo by Lisa Boughter.

MONUMENT LAB: CREATIVE SPECULATIONS FOR PHILADELPHIA

The Penn IUR-sponsored public art and urban research project Monument Lab: Creative Speculations for Philadelphia took place at Philadelphia's City Hall from May 15 to June 17, 2015. Through a temporary art installation, public events, and community-sourced research proposals, the project investigated the question: What is an appropriate monument for the current city of Philadelphia? Over its three-week duration, project co-curators Kenneth Lum, Professor of Fine Arts and Director, Undergraduate Fine Arts program, School of Design, Paul M. Farber, Post-Doctoral Writing Fellow, Haverford College, and A. Will Brown, Curatorial Assistant of Contemporary Art, Museum of Art, Rhode Island School of Design, along with a team of staff and volunteers, explored answers to this guestion at "Monument Lab"—an innovative research pavilion established at City Hall. At Monument Lab, the project addressed the question through a sculptural installation in the central courtyard of City Hall entitled Prototype Monument for Center Square (2015) by the late artist and Penn Professor of Fine Arts Terry Adkins and a series of free dialogues and public presentations led by Philadelphia artists and critical thinkers using Philadelphia's rich contemporary cityscape and William Penn's historic iconic plan for the city's five public squares as inspiration.

Monument Lab included a series of lectures by four artists, each of whom was invited to propose a speculative monument for the four remaining squares in the original city plan. Zoe Strauss's proposal was for Logan Circle, Alexander Rosenberg's for Rittenhouse Square, Kara Crombie's for Franklin Square, and Kaitlin Pomerantz's for Washington Square. Each of these artist proposals was presented at the Pennsylvania Academy of the Fine Arts.

In addition to these four artist speculations, Monument Lab presented more than twenty public programs featuring such speakers as: Pearl Jonas of the Science Leadership Academy and a group of her students; Altovise Love-Craighead, a Philadelphia police captain; Jane Golden, Director and Founder, Philadelphia Mural Arts Program; and Conner Barwin, Linebacker, Philadelphia Eagles and Founder, Make the World Better Foundation. A team worked in City Hall's Central Courtyard from noon to 7:00 pm every day throughout the duration the project, capturing over 400 research proposals from members of the public in response to the central research question. Further, Adkins' Prototype Monument for Center Square and the adjacent Monument Lab research pavilion engaged thousands of people from all walks of life in Philadelphia to critically analyze public space and evaluate the creation and placement of public art and monuments in the city of Philadelphia.

What took place in the spring of 2015 was the first phase of a larger project through which Lum, Farber, and Brown, with their collaborators and partners, hope to present a series of temporary public art installations throughout the city based on ideas generated during the 2015 iteration. This phase of the project was largely about creating a critical and dynamic civic-space-altering work of public art, engineering a meaningful public dialogue about the democratic and speculative importance and power of art and ideas, and engendering an intellectually invested series of institutions and partners in the Philadelphia area.

Monument Lab was funded by the Pew Center for Arts & Heritage. The project was conducted in partnership and with the support of a number of Philadelphia arts and cultural institutions including: The Philadelphia Mural Arts Program; Recycled Artist in Residency (RAIR); The Office of Arts, Culture and the Creative Economy; Haverford College; The Pennsylvania Academy of The Fine Arts; Next City; Philadelphia Center for Architecture; and Penn's School of Design.



For more information, visit: monumentlab.com





Ken Lum, Professor of Fine Arts, Director of the Fine Arts Undergraduate Program at Penn's School of Design, and principal investigator of the Monument Lab project, summarizes his research findings from this ground-breaking public art and urban research project. For more information on this project, *see page 57*.

From May 15th–June 7th, during which all of the elements of the *Monument Lab: Creative Speculations* for Philadelphia project were open to the public, the curators and team members learned a great deal about the vocalized needs, desires and interests of Philadelphia area citizens around public art and our central guiding question: What is an appropriate monument for the current city of Philadelphia? To this end, we asked the public to propose what is or has been on their minds regarding a speculative monument for Philadelphia. We asked that the proposal be speculative without limits in terms of budget and bureaucratic procedures.

We learned that Philadelphians are distinctly aware of the impact of politics on debates about memory and advocacy, the importance and significance of a broad range of monumental sites, and the city's

unique historical sites and perspectives. It became clear that the people of Philadelphia were already thinking about our central question, or at least some form of the idea of what the city is, what it was, and what it can be, through a lens of monumental participation and production.

Through this project, we were reminded just how rarely the public is asked to think deeply about what histories, places, and people are worth remembering and worth commemorating in official contexts. For Monument Lab, we were concerned with creating a productive and comfortable environment that was open, interactive, and engaging on many levels. Part public art exhibition (consisting of Terry Adkins' *Prototype Monument*, a work about public education), part research pavilion, and part venue for public lectures and

programs, Monument Lab aspired to make the under-utilized and yet very public site of the courtyard of City Hall a center for true public dialogue.

Using a conservative criterion for measurement, there were almost 34,000 attendees at all public programs, including main and ancillary components (such as Monument Lab guest speaker presentations at the Pennsylvania Academy of Fine Arts.) There were approximately 3,400 Monument Lab pavilion engagements or the number of citizens who approached and engaged with Monument Lab staff at the pavilion. The total number of noon talk participants was 415 for a daily average attendance of 30.

The numbers show a very large number of Philadelphians are animated about the application of public art and public history to this city, and are willing to participate directly in contributing ideas to a process of open creative speculation if they feel their ideas and experiences are valued.

We were surprised by the profundity of public memory and concern. The top monument proposals by the public dealt with the state of Philadelphia's public school system, the disparateness of Philadelphia's neighborhoods particularly in terms of the question of neighborhood renewal, and sites of historical trauma and wounds, with a surprisingly high number of proposals dedicated to the MOVE bombing on Osage Avenue over thirty years ago. There were also a lot of calls for statuary dedicated to historically significant African Americans who have contributed greatly to the shaping of Philadelphia.

The proposals reveal much about the divide between official and unofficial histories. The call for African-American statuary highlights the fact that presently there exists not a single statue dedicated to an individual African-American figure. A statue of Octavius V. Catto has been commissioned but not yet installed on the southwest apron of City Hall and will be

the first statue dedicated to a sole African American. The many proposals involving the topic of the MOVE bombing expresses a desire of many citizens for official channels to finally start some process of reconciliation for the actions of that event.

Monument Lab offers key ideas and methods for Philadelphia, and other cities, engaging in public art, social practice, and civic engagement research. Specifically we created a site specific, but welcoming, research method. We also created the conditions for a more nuanced discussion around public art, public history and social practice—we saw a discursive shift in the understanding of monumentality and operated from a focal point at the intersections of the fields of public history, digital humanities and social and public practice art.

ABOVE: Monument Lab visitors sit within Terry Adkins' "Prototype Monument" in Philadelphia City Hall's courtyard. Photos by Lisa Boughter

PENN IUR PUBLIC INTEREST SERIES

Penn IUR's public interest series includes lectures, seminars, and panel discussions designed to highlight key topics in urban research and best practices relevant to Philadelphia, the nation, and the global community. In 2014-2015, the series also included a special symposium that explored how Penn's theme year, Health, relates to the city. It also included the Penn IUR Urban Book Talk Series, featuring contributors to Penn IUR's C21/Penn Press series and beyond. This year, Penn IUR convened seventeen public interest events.

SEPTEMBER 18, 2014

BLACK POWER TV

SPEAKERS

Devorah Heitner, author, Black Power TV

Trudy Haynes, broadcast journalist

Louis Massiah, documentary filmmaker and Director, Philadelphia's Scribe Center

Camille Zubrinsky Charles, Professor of Sociology, Penn School of Arts and Sciences

COSPONSORS

African American Museum, Philadelphia **Annenberg Center for the Performing Arts Penn Libraries**

The Lomax Foundation

SEPTEMBER 19, 2014

THE WAR ON POVERTY AT 50: ITS HISTORY AND LEGACY

This special conference celebrated the work of Penn historian Michael Katz.



For video and post-conference details, visit: https://goo.gl/C1ymDG

The Penn Social Science and Policy Forum

SEPTEMBER 30.2014

PENNIUR 10TH ANNIVERSARY EVENT:

SUSTAINABLE, EQUITABLE **URBAN FOOD SYSTEMS**

SPEAKERS

Eugénie Birch, Co-Director, Penn IUR

Karen Glanz, George A. Weiss University Professor, Professor of Epidemiology and Nursing, Penn School of Nursing

Amy Hillier, Associate Professor of City Planning and Urban Studies, Penn School of Design

Jessie Handbury, Assistant Professor of Real Estate. The Wharton School

Yael Lehmann, Executive Director, The Food Trust

Domenic Vitiello, Associate Professor of City Planning and Urban Studies, Penn School of Design

Tracy Ward, Executive Director, Easton Economic Development Corporation

Charles Branas, Professor of Epidemiology, Perelman School of Medicine, and Director, Penn Urban Health Lab

COSPONSORS

Penn Urban Health Lab

Wharton Initiative for Global **Environmental Leadership (IGEL)**

OCTOBER 2, 2014

URBAN BOOK TALK: CAPTURED BY THE CITY: PERSPECTIVES IN URBAN CULTURE STUDIES

(CAMBRIDGE SCHOLARS PUBLISHING, 2013)

SPEAKERS

Blagovesta Momchedjikova, editor of Captured by the City: Perspectives in Urban Culture Studies

Michael Samuelian, Vice President, Related Companies

Josef Luciano, film instructor, City University of New York

Jake Sudderth, Director of Research, CTC (City Town Country) Research

Anne Rivers, Senior Vice President and Director of Brand Strategy, BAV Consulting



OCTOBER 20. 2014

URBAN BOOK TALK: THE **ACCIDENTAL PLAYGROUND: BROOKLYN WATERFRONT NARRATIVES OF THE UNDESIGNED AND** UNPLANNED

(FORDHAM UNIVERSITY PRESS, 2013)

Daniel Campo, Associate Professor in the School of Architecture and Planning at Morgan State University in Baltimore, former planner for the New York City Department of City Planning, author of The Accidental Playground: Brooklyn Waterfront Narratives of the Undesigned and Unplanned

COSPONSOR

Department of City and Regional Planning, Penn School of Design

OCTOBER 30. 2014

PENN IUR 10TH ANNIVERSARY EVENT:

AT THE INTERSECTION OF DESIGN, URBANISM, **AND THE HUMANITIES**

SPEAKERS

Eugénie Birch, Co-Director, Penn IUR

Francesca Russello Ammon, Assistant Professor, City and Regional Planning, School of Design

Stefan Al, Associate Professor of Urban Design, School of Design

Jonathan Barnett, Emeritus Professor of Practice, City and Regional Planning, School of Design



NOVEMBER 19, 2014

PENN GIS DAY

SPEAKERS

Kevin Novak, Head of Data Science, Uber

Eugene Brusilovskiy, Statistician and Director, GIS Analytics in Rehabilitation Research Lab, Temple University, and MUSA Lecturer, Penn School of Design

Ken Steif, Doctoral Candidate, City and Regional Planning, and MUSA Lecturer, Penn School of Design

Tara Jackson, Executive Director of Cartographic Modeling Lab, Perelman School of Medicine

Paul Amos, Managing Director of the Wharton GIS Lab, The Wharton School

Karl Dailey, Database Administrator of the Cartographic Modeling Lab, Perelman School of Medicine

Amy Hillier, Associate Professor of City and Regional Planning and Faculty Director of the MUSA Graduate Program. Penn School of Design

Dana Tomlin, *Professor of Landscape* Architecture, Penn School of Design

COSPONSORS

Master of Urban Spatial Analytics program

The Cartographic Modeling Lab

The Wharton GIS Lab

Penn School of Design and Penn School of Engineering

NOVEMBER 20. 2014

ANNUAL LECTURE OF THE PENN'S HUMANITIES, **URBANISM, AND DESIGN** INITIATIVE: THE DECOR OF AN OPERA BUILT YESTERDAY: SAINT-**PETERSBURG'S RIVER PANORAMA**

SPEAKER

Basile Baudez, Maître de Conferences, University of Paris-Sorbonne

DECEMBER 3. 2014

PENNIUR 10TH ANNIVERSARY EVENT:

URBAN WOMEN'S HEALTH IN THE UNITED NATION'S POST-**2015 AGENDA**

This event showcased Penn's Provostial theme for the 2014–2015 academic year, Health

SPEAKERS

Vivian Pinn. Former Director. Office of Research on Women's Health (ORWH), National Institutes of Health (NIH)

Shamim Hayder Talukder, CEO, Eminence—Associates for Social Development and President Elect, International Society for Urban Health

Nisha D. Botchwey, Associate Professor, School of City and Regional Planning, Georgia Institute of Technology, College of Architecture

Nithya Raman, Project Director, Transparent Chennai, Centre for Development Finance (Chennai, India)

Bridgette Brawner, Assistant Professor of Nursing, Penn School of Nursing

Yzette Lanier, Assistant Professor, New York University, College of Nursing, Center for Global Women's Health

Catherine McDonald, Assistant Professor of Nursing, Penn School of Nursing

Marilyn Sommers, *Lillian S. Brunner* Professor of Medical-Surgical Nursing and Director, Center for Global Women's Health, Penn School of Nursing

Eugénie Birch, Co-Director, Penn IUR

Antonia Villarruel, Professor and Margaret Bond Simon Dean of Nursing, Penn School of Nursing

Afaf Meleis, Professor of Nursing and Sociology and Dean Emerita, Penn School of Nursing

COSPONSOR

The Center for Global Women's Health, **Penn School of Nursing**

DECEMBER 4-5, 2014

RACE, POVERTY, AND **CHANGE IN AMERICA:** THE PERSISTENT DILEMMAS OF EQUITY AND EQUALITY

This two-day symposium commemorated the anniversaries of Brown v. Board, the Civil Rights Act, the War on Poverty, and Lau v. Nichols.



For full details, visit: gse.upenn.edu/ rpc-symposium/register

COSPONSORS

Graduate School of Education and the Center for Africana Studies

Annenberg School for Communications Law School

School of Arts and Sciences

Social Policy and Practice The Wharton Sports Initiative

The Wharton School

FEBRUARY 5, 2015

THE ANNUAL IAN MCHARG LECTURE

SPEAKER

Laurie D. Olin, Practice Professor of Landscape Architecture, Penn School of Design

HOST

Department of Landscape
Architecture, Penn School of Design

MARCH 18, 2015

THE FUTURE OF THE U.S. HOUSING FINANCE SYSTEM: BRINGING THE U.S. RESIDENTIAL MORTGAGE FINANCE SYSTEM INTO THE 21ST CENTURY

SPEAKERS

Ted Tozer, President, Government National Mortgage Association (Ginnie Mae)

David Stevens, President and CEO, Mortgage Bankers Association

Robert Ryan, Senior Advisor, Federal Housing Finance Agency

COSPONSORS

Federal Reserve Bank of New York

The Penn Wharton Public Policy Initiative (PPI)

MARCH 25, 2015

HEALTHY URBAN
INFRASTRUCTURE:
THE FUTURE OF GREEN
BUILDING STANDARDS
AND ENERGY POLICY

SPEAKERS

Elizabeth Beardsley, Senior Policy Council, U.S. Green Building Council

Alex Dews, Executive Director, Delaware Valley Green Buildings Council

William Braham, Associate Professor of Architecture and Director, Masters of Environmental Building Design (MBED) Program, Penn School of Design

Erica Cochran, Assistant Professor and UDream Program Director, Carnegie Mellon University

Mark Alan Hughes, Professor of Practice, City and Regional Planning, Penn School of Design; Faculty Director, Kleinman Center for Energy Policy

COSPONSORS

Kleinman Center for Energy Policy

Penn School of Design

APRIL 13, 2015

PIERRE BÉLANGER: "1:1 BILLION ON LANDSCAPE, INFRASTRUCTURE, POWER"

SPEAKER

Pierre Bélanger, Associate Professor of Landscape Architecture and Co-Director of the MDes Postgraduate Design Research Program, Harvard University Graduate School of Design

HOST

Department of Landscape
Architecture, Penn School of Design

APRIL 22, 2015

MUSA EARTH DAY
LECTURE: GLOBAL
MAPPING AND REMOTE
SENSING FOR SUSTAINABLE
URBANIZATION

SPEAKERS

Budhendra Bhaduri, Director, Urban Dynamics Institute, Oak Ridge National Laboratory

Marc Imhoff, Visiting Research Scientist, Earth System Science Interdisciplinary Center, University of Maryland

Mark Montgomery, Senior Associate, Population Council

Martino Pesaresi, Scientific Officer, Global Security and Crisis Management Unit, Joint Research Centre—Institute for the Protection and Security of the Citizen (IPSC)

Christopher Small, Lamont Research Professor, Lamont-Doherty Earth Observatory, Columbia University

Richard Weller, Martin and Margy Meyerson Chair of Urbanism, Professor and Chair of Landscape Architecture, Penn School of Design

Eugénie Birch, Co-Director, Penn IUR
Susan Wachter, Co-Director, Penn IUR

COSPONSOR

Wharton Initiative for Global Environmental Leadership (IGEL)



Penn IUR partnered with alumni in Toronto and Atlanta to host special events that explored unique developments in each city.



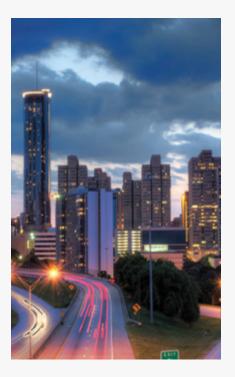
OCTOBER 7, 201

Cities and Waterfront Development: An Exclusive Look at Toronto's Innovative Model

Canary District Sales Centre, West Don Lands, Toronto

The story of the transformation of Toronto's waterfront provides useful lessons for many cities. In a special presentation to Penn alumni and parents, **John Campbell**, President and CEO of Waterfront Toronto and **Eugénie Birch**, Co-Director of Penn IUR, offered their insights and observations on the CIBC Pan Am Games Athletes' Village and Canary District project and what lessons it provides on the development of thriving waterfronts and cities throughout North America. This event provided the inside story of Toronto's waterfront development and an opportunity to discuss the development of sustainable cities through waterfront revitalization. The evening was hosted and moderated by **Ken Tanenbaum** (W'91), Chairman of Kilmer Developments, the co-developer of the Village.

 $\verb| LEFT: A new development by Dundee Kilmer Developments called the Canary District in the West Donlands area of Toronto, Ontario Canada. This project was part of the 2015 PanAm Athletes village in July 2015. Photo by Spencer Wynn. \\$



FEBRUARY 24, 2015

City of Resurgence: Exploring Atlanta's Urban Transformation Past, Present, and Future

High Museum of Art, Atlanta

Following a behind-the-scenes tour of the High Museum of Art's exhibit, Wifredo Lam: Imagining New Worlds, Penn IUR hosted a series of "lightning" talks examining many facets of Atlanta's complex urban growth. The talks provided insights on cultural anchor institutions, like the Woodruff Arts Center (which houses the High Museum), and their role in urban development; transformative projects in the works; how Atlanta's development compares to cities across America; and how values of health and shared prosperity can be assessed and integrated into redevelopment efforts. Speakers included **Virginia Hepner** (W'79), President and CEO, Woodruff Arts Center; **Egbert Perry** (ENG'76, W'78, ENG'79), University of Pennsylvania Trustee and Chairman and CEO, The Integral Group, LLC; **David Brenneman**, Director of Collections and Exhibitions, High Museum of Art; **Eugénie Birch**, Co-Director, Penn IUR; **Nisha Botchwey** (DES'99 '03) Associate Professor, School of City and Regional Planning, Georgia Institute of Technology, College of Architecture; and **Stuart Andreason** (DES'14), Community and Economic Development Adviser, Federal Reserve Bank of Atlanta.

 $\verb| LEFT: Downtown Atlanta. Photo by Jack Kennard, via Flickr. \\$



Penn IUR provides programs for students interested in pursuing urban scholarship, at all levels of study.



PENN IUR UNDERGRADUATE URBAN **RESEARCH COLLOQUIUM**

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UDENT	P = PROJECT
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The Spring 2015 Undergraduate Urban Research Colloquium (UURC) brought seven undergraduate students together with their faculty mentors from across the university. Supported by five faculty mentors from City and Regional Planning, Urban Studies, Musicology, and Wharton, the students developed their research skills as they pursued urban-focused questions. Their research topics addressed a diverse range of urban issues, including: food access and behaviors, socioeconomic change in DuBois' historic Seventh Ward, media and the public school debates, the historical influence of music

education in West Philadelphia, the relationship between politics and public pension systems, and an exploration of solutions to informal settlements in rapidly urbanizing countries. They mastered an array of research methods from qualitative interviews and media scans to GIS-mapping and regression analyses. In addition, the students benefited from the research techniques and insights of faculty across Penn via guest lectures, including faculty from the School of Design, the Graduate School of Education, and the Annenberg School for Communication.

Meagan Ehlenz (Ph.D., 2015, Department of City and Regional Planning) led the UURC course. The students tackled an array of urban problems and generated research findings that are showcased here: penniur.upenn.edu/instruction/undergraduate. For many students, the course was the first step in ongoing research—a number of students have continued to work with their faculty mentors on their projects through the summer (see page 14 for Anne Stack's report from the field).

Elaine Simon Co-Director, Urban Studies Program, School of Arts and Sciences	Tess Kerins School of Arts and Sciences	ASSESSING THE INFLUENCE OF RESISTANCE TO MARKET-BASED EDUCATION REFORM ON THE SCHOOL CHANGE NARRATIVE IN PHILADELPHIA VIA A MEDIA SCAN
Richard Voith Adjunct Professor, Department of Real Estate, The Wharton School	Carmen Abello The Wharton School	PENSION SYSTEMS AND POLITICAL PARTIES
Molly McGlone Assistant Dean for Academic Advising, School of Arts and Sciences	Megan Brookens School of Arts and Sciences	A SONIC HISTORY OF WEST PHILADELPHIA THROUGH MUSIC EDUCATION: A LOOK AT WEST PHILADELPHIA HIGH SCHOOL AND HENRY C. LEA ELEMENTARY SCHOOL MUSIC PROGRAM CA. 1910-PRESENT
Amy Hillier Associate Professor, Department of City and Regional Planning, School of Design	Iz Korostoff School of Arts and Sciences	THE WARD: RACE AND CLASS IN DU BOIS' SEVENTH WARD
Amy Hillier Associate Professor, Department of City and Regional Planning, School of Design	Olivia Lopez School of Nursing	FOOD ACCESS AND BEHAVIOR: A CHESTER, PA FOOD SHOPPING STUDY
Eugénie Birch Co-Director of Penn IUR and Lawrence C. Nussdorf Professor of Urban Research and Education Professor, Department of City and Regional Planning, School of Design	Anne Stack School of Arts and Sciences Laura Rigell School of Design	LAND FOR PUBLIC GOOD: SITES AND SERVICES, A SOLUTION TO RAPID URBANIZATION?





Anne Stack, a rising senior in the College of Arts and Sciences majoring in Architecture, and Laura Rigell, a rising senior at Swarthmore College who was matriculated in the Penn exchange program, enrolled in Penn IUR's Undergraduate Urban Research Colloquium (UURC; *see more on page 66*) to learn research methods and begin this landscape study on the use of sites and services approaches in rapidly urbanizing places.

The following excerpt is the conclusion of the paper they authored for the UURC in May 2015.

"Sites and services' is more than a land development tactic. It also conveys an attitude and a judgement.

Implicit in the adoption of 'sites and services' is a recognition that the current urban development process, as it relates to housing, tends to stifle what has been a major housebuilding resource in an earlier and less sophisticated age: the initiative and the capacity of the homeowner himself." (Keyes 1975)

Housing solutions are a complex issue to solve.

There are many external factors that affect their success and viability that need to be effectively navigated in order for a solution to work.

Politics, geography, ecology, social and cultural

complexities, environmental and climate issues, and cost and profitability all come into play when attempting to design for urban expansion. The complexity of successfully providing sites and services is apparent in the number of challenges faced. Turner's theories remain compelling, though the details of future project implementations should be informed by past attempts. Importantly, there should be a shift from the pattern of developing vast residential projects on the edge of the city to establishing multiuse projects closer to the formal city. Future developers of sites and services projects should see their work not as an isolated housing solution but an extension of the

already existing city and its network. Secondly, there should be a more localized focus. Surveys and audits should be done prior to implementing the project to determine the exact needs and wants of the target population. The main direction of the project should be bottom up and stem from the local residents themselves allowing a more hands-on and community orientated approach, with the support of onsite project managers. Thirdly, the timeline needs to be more flexible both financially and for construction purposes. Fourthly, a balance has to be found at the beginning of the project between cost recovery and affordability, to minimize the opposition between these two goals. A project should allow for a range of affordability and accommodation for a variety of income levels in order to have a higher rate of cost recovery.

Norwood summarizes factors for a successful project:

"The biggest incentive to the provision of good houses on site and service principles is to give a man a plot with water nearby, a market within a mile, and his place of employment within reasonable distance. He must know that the plot is his own, that he can sell any building he erects for market value or leave it to his children. He should not have to adhere to a mass of detailed byelaws and town planning rules when he erects his house. There must, however, be basic building rules which he understands and can reasonably comply with; notably that he should keep a certain distance from his plot boundaries, and only erect one house on his plot." (Norwood 1973)

This analysis of sites and services has highlighted the importance for case study evaluations and more thorough research into specific projects. Interviews with beneficiaries in successful and less successful projects would prove indispensable to future initiatives. This analysis did not include a complete analysis of all sites and services projects attempted, though it drew from limited secondary sources about 105 such projects. A more thorough survey of all sites and

services projects would offer specific recommendations, providing deeper insight beyond the general trends identified here. In the 1990s, recognition of the challenges faced by sites and services projects led the World Bank to withdraw its support. However, the World Bank remains committed to creating jobs, improving living conditions, and expanding basic services for urban residents (The World Bank Group 2015). This overview of the challenges and successes of past projects can inform future development efforts. Building on lessons learned from the past, sites and services remains a viable solution to slums and inadequate housing in the Global South.

ABOVE RIGHT: Photo by Anne Stack.

PENN INSTITUTE for URBAN RESEARCH 2014-2015 ANNUAL REPORT

MASTER OF URBAN SPATIAL ANALYTICS

The Master of Urban Spatial Analytics (MUSA) is a nine-month graduate program coupling spatial analysis skills—most notably Geographic Information Systems (GIS)—with substantive knowledge in urban content areas including criminology, design, economic and community development, education, local and state government administration, public health, real estate, urban land use planning, social welfare, transportation, and urban demography. While many university and college programs offer certificates in GIS, Penn offers one of the few full, on-campus master's programs in urban spatial analysis. Now in its tenth year, the MUSA program remains a unique master's degree that integrates spatial analysis with multiple urban disciplines, provides skills for academic, research, and industry careers, and exposes students to some of the most knowledgeable faculty in the field.

MUSA is lodged in the School of Design, guided by a university-wide Academic Committee and provided with administrative support from Penn IUR. The program draws on teaching and research faculty from the fields of design, engineering, business, and public health.

STUDENTS

In Spring 2015, thirteen students graduated from the program, bringing the total number of graduates to 100 since the program launched in 2005. In order to complete the degree, students are required to complete a final project that applies spatial analysis to an urban content area of each student's choosing. Select 2015 final projects included:

- ➡ Environmental Impact Assessment of Petroleum Spill Using GIS
- → Can GIS Be Used to Model Pedestrians in Manhattan?
- → Using Channelization Techniques to Build a Hyperspace Network for the Star Wars Galaxy
- → Using GIS to Support In-Flight Operations in the Event of An Airport Outage
- → Analysis of Scenic Biking Routes in San Francisco
- → Time Awareness Travel Plan Platform

MUSA students go on to hold professional positions in a diversity of fields in the public and private sectors. Exemplary positions include Malaria Analyst, Clinton Health Access Initiative, Harare, Zimbabwe; Aerial Sensor Operator, Keystone Aerial Surveys, Inc., Philadelphia, PA; Programmer, Augur Intelligence Technology (Guangzhou) Co. Ltd., Guangzhou, China; Associate, Planner and Urban Designer at Wallace Roberts & Todd, LLC, Philadelphia, PA; Assistant Director, Philadelphia Redevelopment Authority, Philadelphia, PA; Director, Data Analytics,





ABOVE AND RIGHT: MUSA students study several urban content areas, including criminology, design, economic and community development, education, local and state government administration, public health, real estate, urban land use planning, social welfare, transportation, and urban demography.

Department of Rehabilitation Sciences, Temple University; Data Journalist, Associated Press; Ph.D. Candidate, Department of City and Regional Planning, Penn School of Design; and Cityworks-GIS Asset Manager, Department of Public Works, City of Richmond, Richmond, VA.

MUSA ACADEMIC COMMITTEE

A university-wide academic committee advises on the program's development, ensuring an interdisciplinary strategic vision for the program. Many of the committee members also teach MUSA courses. Members include:

David Bell, Xinmei Zhang and Yongge Dai Professor, Professor of Marketing, The Wharton School

Eugénie Birch, Co-Director, Penn IUR; Lawrence C. Nussdorf Professor of Urban Research and Education, Department of City and Regional Planning, School of Design

Charles Branas, Professor of Epidemiology, Perelman School of Medicine

Dennis Culhane, Professor and Dana and Andrew Stone Chair in Social Policy, School of Social Policy and Practice

Irma Elo, Professor of Sociology, School of Arts and Sciences

Amy Hillier, Associate Professor in City and Regional Planning, School of Design, MUSA Academic Director

John Landis, Crossways Professor of City and Regional Planning, Department of City and Regional Planning, School of Design

Janice Madden, Professor of Regional Science, Sociology, Urban Studies, and Real Estate, School of Arts and Sciences and The Wharton School

Tony Smith, Professor of Systems Engineering and Regional Science, School of Engineering and Applied Science

Dana Tomlin, Professor of Landscape Architecture, School of Design and Co-Director, Cartographic Modeling Laboratory

Susan Wachter, Co-Director, Penn IUR; Sussman Professor of Real Estate and Finance, The Wharton School

Douglas Wiebe, Associate Professor of Epidemiology, Perelman School of Medicine



PENN INSTITUTE for URBAN RESEARCH 2014–2015 ANNUAL REPORT

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PENN IUR URBAN DOCTORAL ACTIVITIES

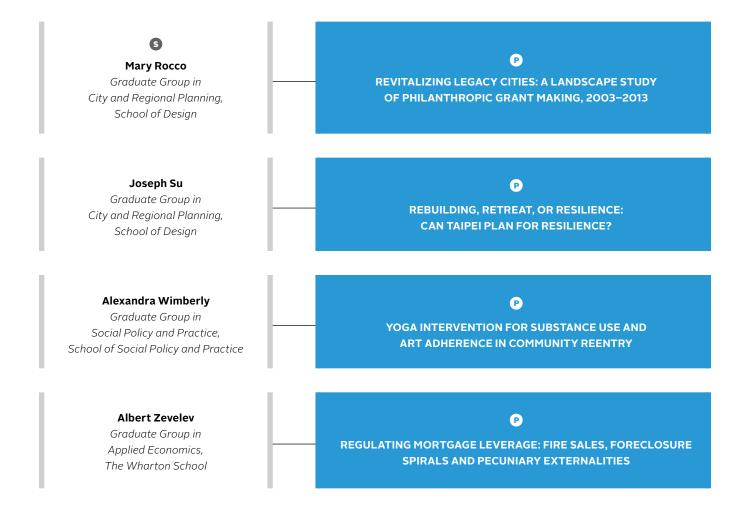


Each year Penn IUR brings together urban-focused doctoral-level researchers to foster cross-disciplinary partnerships and collaborative research opportunities. The *Urban Doctoral Poster Session* provides doctoral students at all stages of their studies the opportunity to come together with faculty to present their research in a supportive environment. The *Urban Doctoral Symposium*, hosted each spring before graduation, displays the graduating doctoral candidates' research to family, friends, colleagues, and mentors and is followed by a celebratory lunch.

P **Ellen Donnelly** IN PURSUIT OF RACIAL JUSTICE: ASSESSING Graduate Group in Political THE POLITICS AND CONSEQUENCES OF RACIAL DISPARITY Science and Criminology, REFORM IN THE U.S. CRIMINAL JUSTICE SYSTEM School of Arts and Sciences P ETHNOGRAPHIC STUDY OF BLACK PATIENTS' Sara Jacoby **EXPERIENCES OF INJURY AND HOSPITALIZATION** Graduate Group in Nursing, School of Nursing AT AN URBAN TRAUMA CENTER IN PHILADELPHIA S Theodore Lim BEYOND PERCENT IMPERVIOUS: IMPORTANCE OF CONTEXT IN Graduate Group in City and Regional Planning, PLANNING URBAN GREEN STORMWATER INFRASTRUCTURE School of Design P Simon Mosbah **DEFINING AND ANALYZING AIRPORT** Graduate Group in ECONOMIC DEVELOPMENT ZONES IN THE U.S. City and Regional Planning, School of Design

2015 URBAN DOCTORAL POSTER PRESENTATION

Eight doctoral students presented their work at the 2015 Urban Doctoral Poster Presentation session on February 12, 2015. The presenters and their subjects are listed on these pages.



ANNUAL URBAN DOCTORAL SYMPOSIUM

At the end of the semester, on May 15, 2015, Penn IUR and Penn's Urban Studies Program hosted the Annual Urban Doctoral Symposium in celebration of the achievements of six graduating doctoral students. The event featured the following presentations:

S = STUDENT P = PROJECT

The presentations were followed by a question-and-answer session moderated by Mark Stern, Co-Director of the Urban Studies Program and Kenneth L.M. Pray Chair and Professor of Social Welfare and History, School of Social Policy and Practice, and closing remarks by Eugénie Birch, Co-Director of Penn IUR, Lawrence C. Nussdorf Professor of Urban Research and Education Professor and Chair, Graduate Group in City and Regional Planning, School of Design, and Elaine Simon, Co-Director, Urban Studies, School of Arts and Sciences.



PENN'S HUMANITIES, URBANISM, AND DESIGN (H+U+D) INITIATIVE

Penn IUR plays a supportive role in the Penn Humanities, Urbanism, and Design (H+U+D) Initiative, a joint project of the School of Design and the School of Arts and Sciences, funded by the Andrew Mellon Foundation. In 2014-2015, H+U+D continued its mission to bridge the gaps between urbanists in the humanities and design disciplines. The initiative's core activity is the H+U+D Faculty Colloquium. In addition, the initiative sponsors several other outreach, instructional, and research activities. Eugénie Birch, Co-Director of Penn IUR, and David Brownlee, Frances Shapiro-Weitzenhoffer Professor and Chair, Graduate Group in the History of Art School of Arts and Sciences, co-direct the five-year initiative.

The H+U+D Faculty Colloquium, composed of twenty members selected competitively, meets twice monthly to share research, host guest lecturers and engage in field trips related to humanities and design topics. This fall, five new members joined the colloquium. From the School of Design were: Francesca Ammon, Assistant Professor of City and Regional Planning; Stefan Al, Associate Professor of Urban Design; and Nancy Davenport, Assistant Professor of Fine Arts, Photography. From the School of Arts and Sciences were: Tsitsi Jaji, Assistant Professor of English; and Naomi Waltham-Smith, Assistant Professor of Music. On May 8, 2015, H+U+D Colloquium members traveled to New York City to tour MoMA's largest exhibition on Latin American architecture in over fifty years: "Latin American in Construction: 1955–1980." Patricio de Real, one of the show's curators, joined the group for a lively discussion of the process of putting together an exhibition that spans a large period of time and of geography.

Among the H+U+D outreach activities were lectures and conference presentations. On November 20, 2014, H+U+D hosted its annual lecture, "The Decor of an Opera Built Yesterday—Saint Petersberg's Panorama," by Basile Baudez, Maître de Conferences, University of Paris-Sorbonne. Baudez discussed the architecture of Saint-Petersburg. The H+U+D initiative also co-sponsored, with Penn's Department of Architecture, "Weird Formalism," with Graham Harman, Professor of Philosophy, American University in Cairo. H+U+D Faculty Colloquium initiated discussions about the project at the national conferences of the Association for Collegiate Schools of Planning (ACSP), the Urban History Association (UHA) and the Society of Architectural Historians.

The H+U+D instructional initiative consists of two types of courses and instructional support. The first type is a graduate level problematics course. In the fall semester, H+U+D

BELOW: In one of two $international\ city\ seminars$ supported by H+U+D, studentstraveled to Rio de Janeiro for the course entitled, "Cosmopolitan Urbanism in the 21st Century." Photo by José Fernandes, Jr.,



PENN INSTITUTE for URBAN RESEARCH 2014-2015 ANNUAL REPORT



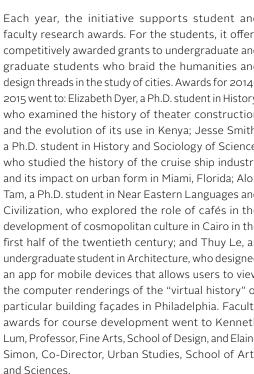
offered a graduate seminar open to students across the university on architectural criticism co-taught by Jonathan Barnett, Professor of Practice in City and Regional Planning emeritus, School of Design, and Liliane Weissberg, Christopher H. Browne Distinguished Professor of German and Comparative Literature. School of Arts and Sciences.

The second type of course is the undergraduate city seminar. In the spring semester, H+U+D offered its first two international city seminars: The Making of Modern Paris and Cosmopolitan Urbanism in the 21st Century. In the former, undergraduate students traveled to Paris with Eugénie Birch and Andrea Goulet, Associate Professor of Romance Languages, School of Arts and Sciences. In the latter, another group of students journeyed to Rio de Janeiro with Daniel Barber, Assistant Professor and Associate Chair of Architecture, School of Design, and John Tresch, Associate Professor and Chair, Graduate Group in the History and Sociology of Science, School of Arts and Sciences. Details from both trips are available on the H+U+D website. In addition to the international city seminars, each year H+U+D sponsors a domestic seminar. This year students traveled with Eric Schneider, History, Assistant Dean and Associate Director for Academic Affairs and Michael Nairn, Urban Studies to Baltimore, Maryland.

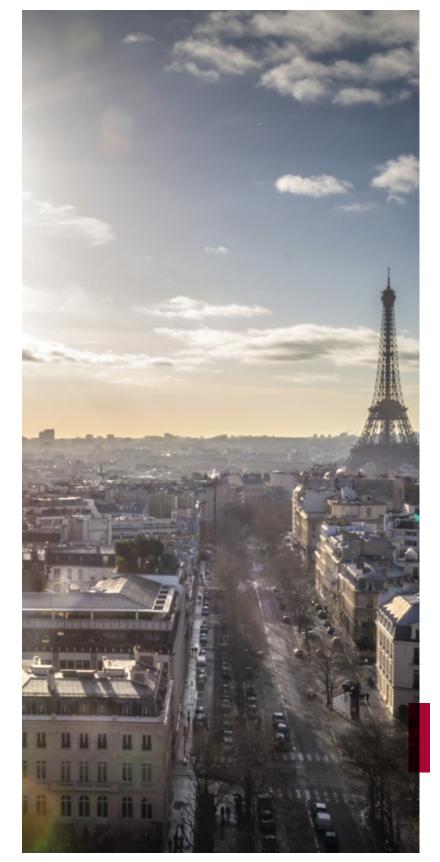
Each year, the initiative supports student and faculty research awards. For the students, it offers competitively awarded grants to undergraduate and graduate students who braid the humanities and design threads in the study of cities. Awards for 2014-2015 went to: Elizabeth Dyer, a Ph.D. student in History, who examined the history of theater construction and the evolution of its use in Kenya; Jesse Smith, a Ph.D. student in History and Sociology of Science, who studied the history of the cruise ship industry and its impact on urban form in Miami, Florida; Alon Tam, a Ph.D. student in Near Eastern Languages and Civilization, who explored the role of cafés in the development of cosmopolitan culture in Cairo in the first half of the twentieth century; and Thuy Le, an undergraduate student in Architecture, who designed an app for mobile devices that allows users to view the computer renderings of the "virtual history" of particular building façades in Philadelphia. Faculty awards for course development went to Kenneth Lum, Professor, Fine Arts, School of Design, and Elaine Simon, Co-Director, Urban Studies, School of Arts



For more information on the Initiative and its programs, visit: humanitiesurbanismdesign.com



Opera de Paris Palais Garnier.



H+U+D promotes integrated knowledge of 21st century urbanism across humanities and design disciplines at Penn. Faculty and students can explore the creation of culturally rich and satisfying, environmentally sustainable and resilient, and socially just and healthy places for present and future city dwellers.

LEFT: The "Making of Modern Paris" course took students to Paris.





Meagan Ehlenz, a recent Ph.D. in City and Regional Planning and Penn IUR Research Associate explored anchor institutions and their neighborhoods.

Her work is to be published in a forthcoming issue of *Urban Affairs Review* as "Neighborhood Revitalization and the Anchor Institution: Assessing the Impact of the University of Pennsylvania's West Philadelphia Initiatives on University City." The following is an excerpt from this paper.

Based upon a twenty-year assessment of Census trends, it appears that University City has experienced a distinct shift in the composition of its neighborhood, though the changes were not uniform. While many of University City's indicators trended towards revitalization and growth, the reality is that the PAS often claimed more than its "share" of positive change and, as a result, buoyed the remainder of the neighborhood. Structural changes to the population, made evident by shifts in the racial composition, occurred throughout University City; meanwhile socio-economic and housing trends inside of the PAS catchment diverged from the remainder of University City, as well as the larger West Philadelphia area.

Penn employed many strategies that the literature now classifies as best practices. It targeted its resources in a specific location and invested in interventions that would resolve market failures (e.g., crime and

safety, public amenities and services, distressed properties), thereby priming the neighborhood for private investment in the future. These investments add up to an attraction strategy for University City, stabilizing the market and providing higher quality amenities (e.g., a strong neighborhood school, new retail options, improved public spaces) in order to stimulate new demand. In this respect, the West Philadelphia Initiatives (WPI) has been a great success. Yet, while the WPI satisfied many of Penn's criteria for neighborhood improvement, the analysis is relatively $ambiguous from \, the \, perspective \, of \, the \, community.$ Across University City, and especially inside of the PAS, the worst indicators showed some improvement between 1990 and 2010, in spite of worsening trends in West Philadelphia. Significant improvement, however, was not uniformly evident and socio-economic indicators outside the PAS remain well below those of the city, as well as nearby blocks located within the PAS catchment.

Inside of the PAS, rising home values occurred in tandem with rising incomes, falling poverty rates, and a significant shift in the racial composition. Collectively, these indicators point towards the gentrification of the PAS area, as new households were attracted to the neighborhood by a strong school and enhanced urban amenities, bringing more wealth and housing competition with them. The PAS area, however, is not necessarily stable—the terms of affordability and vacancy rate, it limits access for many households. Conversely, census data suggests that housing demand outside of the PAS also increased, but it was decoupled from wealth gains. In other words, even as housing became more expensive, the population was less equipped to shoulder the burden, illustrated by decreasing incomes and increasing poverty rates.

Taken together, the transformation of the PAS area implies that strong neighborhood

institution's efforts to stabilize and revitalize communities—and other institutions are taking note. Since Penn invested in the PAS, a number of urban universities have replicated the neighborhood school model in their revitalization strategies. For instance, Johns Hopkins University is a major contributor to the recently opened Henderson-Hopkins School, a K-8 public school and the centerpiece of EBDI's efforts to stabilize East Baltimore. ... Other universities have established K-12 partnerships, directing fiscal and human capital towards specific schools or public school districts.... It remains to be seen how these different styles of educational partnerships and investments will influence neighborhood revitalization or compare to University City's experience with the PAS, but the willingness of universities to commit financial resources to K-12 strategies indicates they think the benefits will be worth the cost.

ABOVE LEFT:
Photo by Joseph
Wingenfeld, vio

ABOVE RIGHT Meagan Ehlenz presents her research at the Penn Doctoral Symposium.



Penn IUR networks scholars, practitioners, and students seeking solutions for today's cities. It works with advisors from across the disciplines to shape its programs and initiatives.



To celebrate the diverse urbanists—researchers and practitioners—collaborating with Penn IUR and helping to expand Penn IUR's growing body of work, the Institute has established six honorific categories to formally recognize these important relationships. Through these networks, Penn IUR aims to foster an environment that encourages cross-disciplinary connections and nurtures a collaborative spirit across the University and beyond.

PENN IUR FACULTY FELLOWS AND EXECUTIVE COUNCIL

Penn faculty with a demonstrated interest in cities.

*Faculty Fellow Executive Council members are denoted with an asterisk.

Stefan Al, Associate Professor of Urban Design, Department of City and Regional Planning, School of Design

Francesca Ammon, Assistant Professor, Department of City and Regional Planning, School of Design

Daniel Barber, Assistant Professor and Associate Chair, Department of Architecture, School of Design

David Barnes, Associate Professor, Department of History and Sociology of Science, Director of Health and Societies Major, School of Arts and Sciences

Jonathan Barnett, Professor Emeritus of Practice, Department of City and Regional Planning, School of Design

David Bell, Xinmei Zhang and Yongge Dai Professor, Department of Marketing, The Wharton School

Eugénie Birch, Lawrence C. Nussdorf
Professor of Urban Research and Education
and Chair, Graduate Group in City and
Regional Planning, Department of City and
Regional Planning, School of Design; CoDirector, Penn Institute for Urban Research

Philippe Bourgois, Richard Perry
University Professor of Anthropology
and Family and Community Medicine,
Department of Anthropology, School
of Arts and Sciences; Department of

*Charles Branas, Professor of Epidemiology, Department of Biostatistics and Epidemiology, Perelman School of Medicine

Family Medicine and Community Health,

Perelman School of Medicine

Lawrence Brown, Miers Busch Professor, Department of Statistics, The Wharton School

*David Brownlee, Frances Shapiro-Weitzenhoffer Professor and Chair, Graduate Group in the History of Art, Department of History of Art, School of Arts and Sciences

William Burke-White, Richard Perry Professor; Inaugural Director, Perry World House; Deputy Dean and Professor of Law, Law School

*Carolyn Cannuscio, Assistant Professor, Department of Family Medicine and Community Health, Perelman School of Medicine

Camille Z. Charles, Edmund J. and Louise W. Kahn Term Professor in the Social Sciences; Director, Center for Africana Studies, Department of Sociology, School of Arts and Sciences

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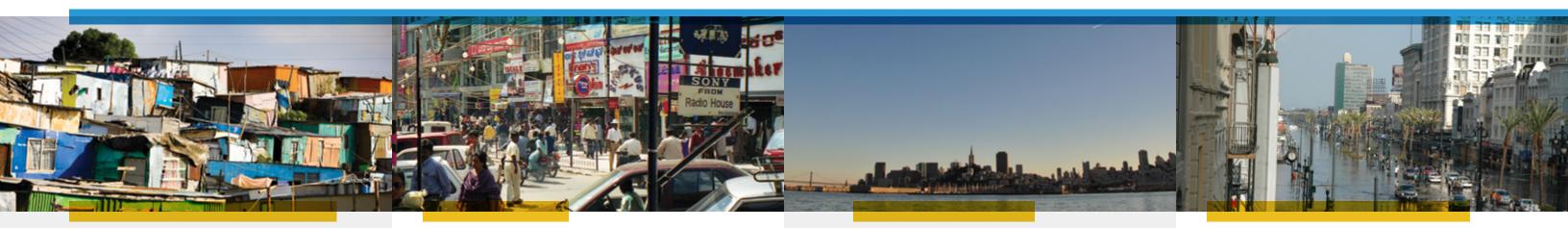
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LOOKING AHEAD



LAND FOR PUBLIC GOOD IN EMERGING ECONOMIES

In the three next decades, the United Nations anticipates some 2.5 billion people to become urbanites, primarily in Africa and Asia. This research project will continue to examine public and private decision-making at the national, regional, and local levels which is struggling with how to provide the necessary housing and basic services to city-dwellers.

GLOBAL URBAN COMMONS

Penn IUR will support and expand this virtual network of university-based research institutions as a means of rapidly disseminating of the latest urban research from Penn and around the globe.

 $Photo\ by\ user\ ruffin_ready,\ via\ Flickr.$

URBAN FISCAL STABILITY AND SUSTAINABILITY GOING FORWARD

Through a series of events that bring together leading practitioners, policymakers, and researchers, Penn IUR and partners will address the complex fiscal issues facing cities in both the developed and developing world and how the impending Sustainable Development Goals (SDGs) will alter the course of cities worldwide.

U.S.-JAPAN EXCHANGE: CITIZEN PARTICIPATION IN COMMUNITY BUILDING POST-DISASTER

The East–West Center, Penn IUR, and the Urban Community Research Center for Asia at Kwansei Gakuin University will carry forward the three-year dialogue and travel exchange project to study local efforts that effectively engage citizens in participatory planning and community building activities that address the long-term recovery and rebuilding of communities after disasters.



RE-DESIGNING THE U.S. HOUSING FINANCE SYSTEM

Through expert convenings and publications, Penn IUR and partners will further investigate the current U.S. housing system and potential reforms for making it sustainable.

Photo by Tony Fischer, via Flickr.

ECOSYSTEM SERVICES FOR URBAN RESILIENCY

With support from USGS, Penn IUR will continue to foster dialogue on how ecosystem services can be restored in urban environments, highlighting local and national interventions as case-studies.

ANCHOR INSTITUTIONS AND THEIR IMPACTS ON THE CITY AND REGION

Looking specifically at university-led innovation and commercialization initiatives, Penn IUR will host a peer-to-peer exchange and release a new set of instructional case studies showcasing what six of the most innovative universities are doing in this area of economic development.

AUTOMATION, ROBOTICS, AND THE FUTURE OF CITIES

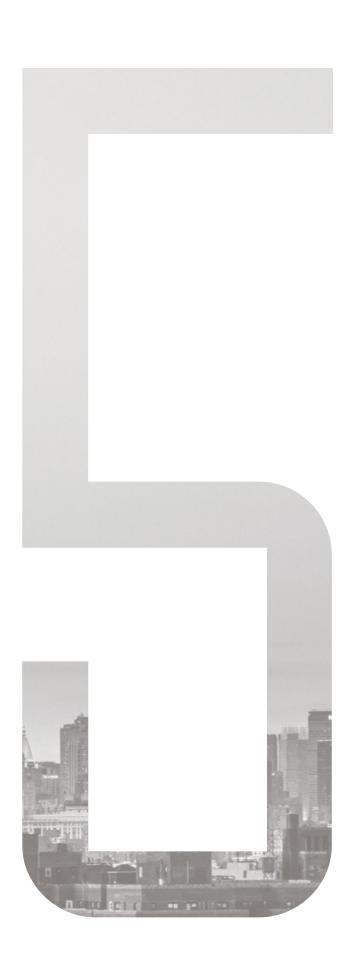
To celebrate Penn's Year of Discovery, Penn IUR will explore innovations in automation and robotics and their urban utility. This special symposium will feature speakers from academia and the private sector who will share current developments in automated and remote controlled technology—from driverless vehicles to drones—and look at how these advancements will change the way people move and live in cities.



Understanding Our Cities,

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