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Sustainable Urbanization:
PLACE
MATTERS
SUMMIT REPORT August 2014

Acknowledgements

Executive Summary

Global development is facing historic change. As cities and human settlements re-invent themselves to meet the needs of twenty-first-century citizenry, urban researchers must become more nimble, innovative, and collaborative to ensure a sustainable future.

Twenty-first-century urbanization differs in pace, location, and character from urbanization of the past. The speed of today's metropolitan growth is at a historic high: demographers report that it took 10,000 years for the world to reach its first billion urbanites, but will likely take only fifteen years for the current urban population to increase by a billion. Accommodating this growth will require building the equivalent of a city of a million residents every week for the next forty years.

Penn IUR hosted the Sustainable Urbanization:Place Matters Research Summit on March 27-28, 2014 at the University of Pennsylvania in Philadelphia, PA. Over fifty researchers from around the world participated in roundtable sessions and panels to explore the state of urban research and identify critical research issues. While a good deal of information exists on urban growth and its projected impacts for both the developing and developed worlds, the connection between urban systems, broadly conceived, and local solutions is missing. A platform of deep and detailed place-based research, drawn from many sources, is needed to inform public and private policy for a sustainable and inclusive global urban future.

This report summarizes the summit roundtables and panel discussions and presents seven cross-cutting research agendas that emerged from the conversations: urban form, inequality, collective intelligence and data, knowledge transfer, climate change and resilience, informality and institutional capacity.

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Summit Participants

Fifty researchers from around the world participated in the summit on March 27-28, 2014, hosted by Penn IUR at the Inn at Penn in Philadelphia, PA.

Stephan Al, University of Pennsylvania

Jonathan Barnett, University of Pennsylvania

Eugénie Birch, University of Pennsylvania

Robert Buckley, The New School

Don Chen, The Ford Foundation

Stefani Danes, Carnegie Mellon University

Thomas Daniels, University of Pennsylvania

Nestor Davidson, Fordham University

Gilles Duranton, University of Pennsylvania

Andrea Goulet, University of Pennsylvania

Ira Harkavy, University of Pennsylvania

Ben Hecht, Living Cities

Joan Hendricks, University of Pennsylvania

Marja Hoek-Smit, University of Pennsylvania

David Hsu, University of Pennsylvania

Mark Alan Hughes, University of Pennsylvania

Ferdous Jahan, University of Dhaka

Paul Jargowsky, Rutgers University

Abha Joshi-Ghani, World Bank

Ron Kassimir, Social Science Research Council

Alan Kelly, University of Pennsylvania

Neil Kleiman, New York University

Lynn Hollen Lees, University of Pennsylvania

Alan Mabin, University of Pretoria

Stephen Malpezzi, University of Wisconsin

Summit Participants (cont.)

Shawn McCaney, William Penn Foundation

Gary McDonogh, Bryn Mawr College

Caroline Ouwerkerk, University of Chicago

Jurij Paraszczak, Carnegie Mellon University

Bimal Patel, CEPT University

Laura Perna, University of Pennsylvania

Neal Peirce, Citiscope

Bo Qin, Renmin University

Michael Replogle, Institute for Transportation and Development Policy

Catherine Ross, Georgia Institute of Technology

David Rouse, American Planning Association

Saskia Sassen, Columbia University

Justin Scheid, U.S. Department of Housing and Urban Development

Elliot Sclar, Columbia University

Theresa Singleton, Federal Reserve

Howard Spodek, Temple University

Harris Steinberg, University of Pennsylvania

Henry Taylor, University at Buffalo

Marilyn Jordan Taylor, University of Pennsylvania

Jin-Guang Teng, Hong Kong Polytechnic University

David Thornburgh, University of Pennsylvania

Dana Tomlin, University of Pennsylvania

Lawrence Vale, Massachusetts Institute of Technology

Dominic Vitiello, University of Pennsylvania

Susan Wachter, University of Pennsylvania

Anthony Yeh, University of Hong Kong

The Conversation

FIRESTARTERS

The summit kicked off with four firestarter presentations from Jonathan Barnett, Mark Alan Hughes, Ferdous Jahan, and Saskia Sassen, which foreshadowed the wide range of research topics that would emerge during the summit. Jonathan Barnett discussed four compelling questions related to global climate adaptation: How can cities adapt to sea level rise? to increased "100-year" floods? to more frequent and severe droughts? to increased forest fire risk? Mark Alan Hughes asked the audience to re-imagine the relationship between researchers and the world: to change their conception of "researcher" from "outside expert" to collaborator and "trusted partner" who can unlock the policy innovation potential in academic research. He also asked researchers to carefully consider their assumptions about the word density, to think about what factors must be present for density to offer the 'panacea' we hope it may provide. Ferdous Jahan moved the discussion to the lives of Bangladeshi, contrasting social and developmental successes with the recent political instability. Jahan explained how housing investments can be used to counteract that instability by providing jobs, improving health, and increasing the purchasing power of households. Saskia Sassen presented on creating new concepts to capture the breadth and depth of today's social and environmental dislocations and expulsions—income gaps between the rich and the middle classes, dislocated populations, and increasing destruction of natural resources worldwide.

ROUNDTABLES

Following the firestarter presentations, researchers formed five roundtable groups around topics that significantly impact - or are impacted by - the spatial aspects of urban development: economic agglomeration, resilience and metropolitan systems, transportation and infrastructure, inequality, and urban analytics. Lawrence Vale and Tom Daniels asked participants at the resilience and metropolitan systems roundtable what research is needed to understand the key levers that promote urban resiliency. The economic agglomeration discussion, led by Stephen Malpezzi and Gilles Duranton, asked participants what urban forms and systems of cities best foster economic growth and human capital

development. Led by Paul Jargowski and Alan Mabin, the table on inequality posed two questions to the group: What research is required to determine how best to produce, provide, and finance public goods? And, at what scale are different public goods best financed and delivered? The table on transportation and infrastructure, led by Catherine Ross and Michael Replogle, focused on what research is needed to better define, inform, and support strategies and help decision-makers allocate resources for transportation and infrastructure. The urban analytics table was led by Dana Tomlin and Marja Hoek-Smit. The group delved into the questions of what research is needed to determine the efficacy of "big data," and the role of place-based data analytics in driving sustainable solutions and innovative policies for cities at different levels of development.

A review session, moderated by Marilyn Jordan Taylor, convened to brief the entire group on the roundtable conversations. Summarized below are the key points from each presentation.

1. Resilience and Metropolitan Systems

- We need to agree on the definition of the term "resilience". What are the principles of resilience? What are the best examples or practices of resilient cities?

- How can cities plan for uncertainty? Researchers need to be able to define threat and risks and cities need to be able to brace for the unknown. How can cities be stress-tested?

- Regarding disaster planning, people need to get beyond the notion of "bouncing back" and need to learn what is means to "bounce forward".

- How can we incentivize better decisions about habitation on vulnerable landscapes?

- What role does social equity play in resilience?

2. Economic Agglomeration

- Cities are heterogeneous; there won't be a universal policy for all cities. Policies should be flexible so that they can adapt to changes in understanding and shifts in policy goals.

- Agglomeration can bring static benefits (e.g. greater efficiencies) and can satisfy needs (e.g. for growth), but we don't really know how it works in detail and in practice.

- We need to create policies based on what we actually know, and simply do more research. We must focus on policies that aren't necessarily exciting but nonetheless important such as policies addressing sewers and

What if problems are measured in time scales greater than a human lifespan? How do you get people to invest in long-term solutions?

garbage disposal. When these issues are taken care of, we can move into progressively more complex policies such as education and housing.

- National governments need to play a coordinating role for local governments, especially on big issues like climate change; universities need to push for this coordination.

3. Inequality

- In what ways are the mechanisms of racial oppressions and accelerated inequality playing out globally, including twenty first century technologies?

- What engines are driving the continued growth and re-stratification of inequality?

- What is the role of the humanities in the creation, development, and communication of collective visioning for the future regarding inequality? Examples include image, language, culture, and values.

- Given that public goods are increasingly supplied by private actors how can and should we re-define public goods? How do we ensure equal access to public goods? How to we pay for them?

- How to we translate the relationship between research and practice? Who should do that, and how do we begin creating ongoing exchanges at various levels?

4. Transportation and Infrastructure

How do research agendas change the dynamics of urban politics?

- Researchers should consider access - rather than mobility - because density doesn't necessarily imply connectedness.

- We are not able to make transportation and infrastructure decisions based on big data because we lack the ability to analyze the data that we have. The reasons are lack of financing, financial tools, and the structures to take advantage of that data.

- There is a need to connect and empower governments with better data, and find ways that government structures can make use of data to gain better operational control of the existing transportation network (both formal and informal) to improve its efficiency.

- We need tools that support transportation market segmentation that meets a variety of different community preferences.

- The market will not provide all information necessary for transportation decisions, but we have a good idea of what else is needed.

- We need the power of collective intelligence - but aren't necessarily sure how to go about it. Is it really uniformly positive? How do you measure collective wisdom to decide if it is truly 'collective'?

- Standards should be clearly set out on how to do particular kinds of infrastructural and technological development. However, standards raise the issue of institutional capacity.

- What is the role of choice and pricing strategies in the definition of public v. private goods?

5. Urban Analytics

- Data Gaps: The US needs more research in the central, not just coastal, states.

- Qualitative data: There are large global data gaps and lack of capacity to gather the data.

- There are benefits and efficiencies of data agglomeration. How does it work in practice?

- Access to information is driving inequality – access to better information at the upper socio-economic levels may widen the gap between the wealthy and the poor.

- Data gathering raises a major issue of the balance between private and public goods (examples include open city data)

- Data models need to be flexible and adaptable and avoid over-specificity

- What is the potential for decentralized decision making – collective intelligence and true crowd sourcing

- How does human behavior (actually) change in reaction to data?

- More research is needed on which issues should not be silo'd and can learn from each other.

- Does the prospect of machines that learn, infer and come to conclusions without human theory or understanding = "end of theory"? What does that mean for human researchers?

PANELS

Three panels expanded the discussion of place-based urban research by bringing in new perspectives on development in Asia, non-profit and foundation agendas, and global research networks.

The Future of Urbanization: What Can We Learn from Asian Cities

Stefan Al, Abha Joshi-Ghani, Bimal Patel, and Anthony Yeh formed a panel entitled "The Future of Urbanization: What Can We Learn from Asian Cities" to examine the challenges and opportunities of urban life in Asia and what lessons they provide globally. China and India were highlighted as contrasting case studies. Stefan Al noted positive trends in China's rapid development, such as a lack of slums in such cities as Shenzen, and hundreds of miles of high-speed rail. Anthony Yeh noted Hong Kong's successes and failures as a highly dense city, highlighting in particular its poor ventilation and air quality. Both pointed to lessons that can be applied to other cities. Bimal Patel and Abha Josh-Ghani discussed India, both expressing the view that India still has much to learn about city-building. They noted that Indian cities face numerous development hurdles with the growth of large slums with poor access to potable water, sanitation, and transportation. They pointed out, however, that Indian cities, having developed relatively recently, have the opportunity to learn from and avoid the mistakes already made by cities in global north.

Think Tanks and Foundations: Views on Urban Issues

"We have to create ways to create productive conversations and collaboration between people of different disciplines."

During the "Think Tanks and Foundations: Views on Urban Issues" panel, six panelists discussed their research agendas and how their respective foundations, institutes, and funders connect research with practice. Theresa Singleton of the Federal Reserve Bank of Philadelphia moderated the discussion, which included Don Chen of the Ford Foundation, Ben Hecht of Living Cities, Ron Kassimir of the Social Science Research Council, Shawn McCaney of the William Penn Foundation, and Justin Schied of the U.S. Department of Housing and Urban Development. Three key issues emerged from the discussion:

1. Collaboration should be encouraged, but successful collaboration requires capacity: either staffing or funding, or both. Common ground can be hard to establish, however, between groups with competitive relationships (competition for clients or funding, for example). Priorities, power structures, and perspectives all must shift and re-align to enable new collaborations.

2. Rapid urbanization means the knowledge transfer between researchers and the rest of the world needs to speed up significantly. The intermediaries, like foundations, need to become adept network weavers and continue to take risks. Foundations and institutes can fund and experiment with new ideas faster and with fewer political risks than governments.

3. Equity, justice, and fairness are major topics of discussion in the non-profit world and an increasing emphasis for new funding agendas.

Crafting a Global Commons: Universities and Institutes around the World

The "Crafting a Global Commons: Universities and Institutes around the World" session gave participants an opportunity to share ideas for building networks and improving collaborations. At this open forum, researchers re-capped insights from previous sessions and raised new questions. The conversation flowed naturally from the prior panel's discussion of knowledge transfer and capacity. One major point raised was the perceived and actual divisions between "global north" and "global south" research agendas. Penn IUR's Eugénie Birch proposed greater awareness and a stronger global network of existing research nodes that can improve collaboration, share best practices, and learn from each other. Researchers responded positively to this idea, though raised two concerns: research silos and relative lack of global south networks. Traditional researcher silos impede successful collaboration and reduce awareness of global trends and the potential for interrelated solutions and strategies. In addition, the majority of research networks are in the "global north" with established urban development; however, 'global south' researchers have more in common with each other because they are confronting similar urbanization issues such as informality and high rural-to-urban migration.

An Emerging Agenda

A Call to Action

A new urban research paradigm emerged from the discussions. In addition to topical agendas, participants urged researchers to take action. Traditional research methods will not suffice to address the unprecedented growth projections and the associated development challenges for cities in the next thirty years. Participants asked how researchers can effectively collaborate with practitioners, how they can actively impact urban policy, how to share knowledge more quickly, and how to harness the power of collective intelligence and data.

The summit also revealed seven major cross-cutting research agenda priorities.

Summit organizers selected topics that were consistently discussed by researchers from multiple disciplines at most roundtables and panels. The seven themes are: urban form, inequality, collective intelligence and data, knowledge transfer, climate change and resilience, informality and institutional capacity, and heterogeneity. Other research topics, discussed less frequently but across disciplines, are included at the end of the section.

1 Urban Form

How does urban form shape the urban research agenda for the twenty-first century? Researchers at the economic agglomeration table asked why some agglomerations were independent of urban form and emphasized that more research is needed on spatial inequalities within transportation, housing, and unemployment. During discussions on inequality, participants noted that all inequalities were embedded in place. Wealth, population, and segregation—that is, people—are place-based and must be addressed down to the neighborhood level. However, the group emphasized that researchers must avoid conflating poverty with spatial inequalities. The resilience roundtable initially talked about vulnerable landscapes, urban form, and how to re-build infrastructure and buildings after disasters. The group then moved that conversation towards the larger question of re-thinking what urban resilience means: How can communities and cultures re-think and re-invent their cities and create new urban forms? Development is never place-neutral. During the panel on Asian cities, panelists pointed out that, with populations projected to grow rapidly through 2050, a new city will need to be built every month to meet the basic needs of new generations. That fact alone makes place-based research fundamental to successful and sustainable development. The analytics group noted, however, that sufficient spatial data is currently unavailable for many rapidly urbanizing places, a deficiency that creates the danger of over-generalizing through extrapolation.

Rittenhouse Square,
Philadelphia, PA
photocredit: Penn IUR

2 Inequality

Tackling the global rise of social and economic inequalities has become a major development agenda. The think tank and foundation panelists all emphasized that inequality has become a major program agenda for non-profits and funders. One roundtable group was specifically asked to tackle the issue of inequality—a difficult and wide-ranging topic to cover in one afternoon. The group's questions circled around the question of engines—such as twenty-first-century media technologies and institutional and legal structures—driving the growth of inequalities and economic stratification around the world. The group expressed the concern that inequality is often, misleadingly, conflated with poverty. Other groups discussed inequality as it related to their table topics. The economic agglomeration roundtable noted that economists need to tackle more questions about spatial segregation, including poverty, transportation access, and unemployment. In the roundtable on resilience and metropolitan systems, researchers noted that globally the most vulnerable communities to environmental disaster are often already socially or economically unstable. That observation drove the question: When those communities are rebuilt, should justice and equity play a role in the decision-making? The transportation and infrastructure roundtable suggested that density doesn't guarantee access to services, and asked what other drivers contribute to unequal distribution of services such as safe drinking water and sanitation? Researchers at the data analytics table emphasized the old adage "information is power" and observed that in today's information-driven economies, lack of information exacerbates income inequalities.

A computer-training classroom in Rwanda. photocredit: UN-Habitat

3 Data & Collective Intelligence

Harnessing the power of collective intelligence is a worthy—if illusive—goal. All the roundtables acknowledged that the power of data and the "age of communication" are transforming urban agendas by rechanneling collective intelligence for decision-making—both quantitative (large data sets) and qualitative (culture, ideas). With the acquisition and compilation of large open data sets, patterns of feedback and behavior will change the role, even the definition, of community. Researchers at the data analytics table asked how collective human behavior reacts to highly dynamic data; they used hour-by-hour weather modeling as an example of fast short-term responses, while systems such as transportation or health were raised as targets for long-term behavioral studies. Participants also pointed out the need to better understand how new ideas and innovation emerge from the analysis of massive data sets. Researchers at the transportation and infrastructure roundtable agreed that, while solutions to entrenched problems could emerge from open data analysis, transportation and infrastructure agencies lack the capacity to take advantage of the data they currently gather. Participants asked: How do you measure "wisdom" and how to you define "collective intelligence"? Is institutional collaboration a form of collective intelligence? Participants repeatedly noted that the collective intelligence of researchers isn't being optimized, and that closer relationships with practitioners would allow cities to better leverage the collective power of the global research community.

Global Planners Network booth, World Urban Forum 2014 photocredit: UN-Habitat

4 Knowledge Transfer

How can we share more research, with more people, more often? With many new and emerging stakeholders engaged in the global urban discussion, coordinating agendas and the rate of transfer of knowledge is a challenge. Mark Alan Hughes, in his firestarter comments, asked the group to re-imagine the relationship between the research community and practitioners into one that has a collaborative mindset, more give-and-take partnerships that share resources and ideas. The inequality roundtable noted that for countries such as India, which lacks local research, practitioners are making decisions without the benefit of research data or case studies. Participants recommended creating a dynamic research-practice culture as a way to disseminate best practices to cities facing rapid investments in, and delivery of, social and public goods. Participants at the economic agglomeration table noted that urban economic researchers are relatively ignorant about which economic policies really work and asked how policies can stay flexible enough to adapt successfully to new hypotheses and shifts in understanding. At the table on metropolitan systems and resilience, researchers discussed how city managers are often the best people to talk to about the specific resilience issues facing a city, asking how researchers can engage them and their communities in conversations about what disaster recovery means for them. In a note of caution, the panel on foundations emphasized that sustained collaboration requires functional capacity, both funding and staffing. How do you provide enough support to institutionalize collaborative efforts and keep the rate of knowledge transfer high, while reducing the chance that people will ignore opportunities that impose burdens to their full-time schedules?

Community planning in Bangledesh
photocredit: UN-Habitat

5 Climate Change & Resilience

How well will human settlements adapt to climate change? All participants were critically concerned about climate change and its impact on cities and urbanizing areas, particularly along coastlines. A key concept explored by the resiliency and metropolitan systems roundtable was the idea of "bouncing forward": a city's ability to "bounce forward" rather than "bounce back" requires communities to reconsider old habits and rebuild and/or rezone with new ecosystem baselines—such as frequent flooding, droughts, or tornadoes—in mind. Do we limit the question of resilience to natural events? What about social or political issues? The roundtable asked: How should cities be stress tested? Many groups noted that although risks are heterogeneous, climate change best practices can and should be shared. The economic agglomeration roundtable emphasized that national governments need to play a strategic, coordinating role in addressing climate change stresses and that policies need to be flexible enough to adapt to local conditions. Climate research is dependent on large data sets, and the data analytics roundtable pointed out that as data analytics continue to evolve, the combination of climate models with urban system models will encourage faster, smarter, and more nuanced decision-making. The inequality table noted that rapid urbanization is typically on vulnerable and/or delicate ecosystems such as coastlines, flood zones or steep slopes. How should equity and social justice toward the most poor and marginal populations be addressed in response to catastrophic climate change events?

Flooding in Liberia
photocredit: UN-Habitat

6 Informality & Institutional Capacity

What is a public good in the twenty-first century? All the roundtables and panels asked versions of this question. Informal markets arise for housing, transportation, and infrastructure where public governments do not have the capacity to meet demands. All these informal markets begin to change public expectations for who is supposed to provide public goods, what their responsibilities are, and how they should pay for those goods. All participants agree that any government agency dealing with human settlements needs better data, strategies, and policies to address twenty-first-century problems. The roundtable on infrastructure and transportation raised the question of the role of government in investment, affordability, choice, and pricing strategies: How do you transform moribund or overwhelmed agencies that are exceeding their capacity to manage effectively? From updating aging nineteenth-century infrastructure in the Global North to engineering new systems in the Global South, governments are reaching or have exceeded their capacity to meet demand. Panelists at multiple sessions noted that (formal or informal) market-driven strategies are often the solution. That raised a larger question: How can planners promote access, choice, and sustainability in informal market segments? The inequality roundtable group pointed out that the poor and marginalized communities from which most informal networks arise are often left out of existing political processes, and that this issue needs further attention.

Potable water in Kenya
photocredit: UN-Habitat

7 Heterogeneity

What makes cities similar or different from one another? Identifying commonalities while respecting and encouraging heterogeneity is a global challenge. Cities go through phases of maturity. New and older human settlements face different twenty-first-century challenges that make previous comparisons and best practices less effective or obsolete. Participants agreed that one-size-fits-all solutions don't exist. However, all the groups contrasted that point with the traditional academic conviction that commonalities can be found and that new or adjusted best practices can be shared effectively. The economic agglomeration participants noted that the research fields themselves have a high degree of heterogeneity and incompleteness. Encouraging heterogeneity allows for flexibility and adaptation. However, in noting that researchers need to create a better understanding of issues that should be supported by national policies and investments, they also implied a need for shared solutions. The resilience and metropolitan systems roundtable highlighted the need to identify common resilience risk factors for every city and region but left open the question "what is resilience"? Echoing Ferdous Jahan in her firestarter talk, the inequality table asked how global south countries can shift their focus on their commonalities, primarily their shared need to manage rapid informal development. The urban analytics group, however, was concerned about how data will be used to identify commonalities and differences: they noted the potential for fine-grained customization of best practices, but cautioned that there is a real danger of over-generalizing from incomplete data or poor modeling.

Aerial view of neighborhoods in Medellin, Columbia photocredit: UN-Habitat

Other Agenda Topics

In addition to the seven previous research priorities, other cross-cutting questions and topics were raised by researchers, though with less frequency.

- **Densities** - How big should a city get? Are there different tiers of city sizes? How would you define them? How do you ensure that density = connectivity? Are their optimal size cities for entrepreneurship? How do we change the cultural conversation towards the positives of density, instead of the negatives?

- **Cross-disciplinary Research** - How do researchers move out of their respective silos and work with each other across fields? How do researchers learn that they should blend path dependency (silos) with innovations? If resilience had multiple meanings and scales - from land use and infrastructure to housing and justice - how do researchers harmonize post-recovery policies and best practices? Spatial planning requires cross disiplinary research - how do we organize these research areas?

- **Policy** - How do researchers best influence public policy in rapidly urbanizing areas? With growing inequalities, how do we translate the culture of municipal government and policy? How to you finance regulatory decisions with fragmented power distribution?

- **Innovation** - Does the building of entrepreneurial clusters by cities have validity? Data can be used to drive innovation through decentralized decision making but lack of access can increase inequalities. New models are needed to fund and build public services, especially transportation and infrastructure.

- **Speed of Growth**- How can you best serve fast growing cities/human settlements that lack infrastructure? How do we accommodate huge housing demands in urbanizing areas? How can we use communication technologies' rapid feedback capacities to create new decision-making models and change human behavior? What are system stresses caused by

rapid growth?

- **Stress Tests** - What are the biggest known and unknown risk factors for cities in the twenty first century? If researchers don't answer this question, how can cities prepare for the future? How to you manage risk factors greater than human life spans? How do cities best prepare for climate change events?

- **Global Data Gaps** - How do you plan and implement policy effectively in places like India when research is missing? How can new communication technologies be used to fill in or avoid data gaps? People need to think of cities in new ways - what new data models are emerging? How do you best address institutional capacity/data gaps when countries try to comply with global benchmarking? How can 'big data' be used globally if many places/governments do not or cannot collect data?

- **Privacy v. Public Data** - Do the benefits of using private data for public good outweigh privacy concerns? How do you balance disclosure with privacy? When is data collection a public good and when is it a private good? How does access to private/public data impact socioeconomic inequality? Can public data really capture qualitative information about cities and communities?

- **Reinventing Governance**- If economics are increasingly city-based, what levels of policy governance are best? What role is there for the humanities (language, culture) in collective visioning? Should benchmarks and tools work vertically or horizontally? What policies are truly global? How do we identify new management challenges? What kind of nation-wide models are needed to update old financing models for infrastructure and transportation? How to we understand the impact of legacy government structures and inertia on public goods delivery?

- **Shared Social Meaning** - How can academic research connect on the ground with leadership vision and coalitions? Is the city just an object with return-on-investment (ROI)? What about social values? How do you measure collective wisdom? More research is needed on the influence of how data is portrayed on human behavior (rather than the facts). The middle classes are disconnected from the experience of poverty which extends to the policy level, resulting in disenfranchisement of the poor.

Conclusion

Around the world, three concerns inform and intersect research on cities.

The first concern revolves around issues of economic growth, poverty, and inequality. While cities contribute 70-80 percent of the global GDP, productivity is not the same as shared prosperity; the McKinsey Global Institute (2011) points out that only 600 cities produce the majority of the global GDP, which leaves thousands of cities growing rapidly in terms of demographics but lagging economically. Further, as illustrated by Joseph Stiglitz in *Price of Inequality* (2012) and Thomas Picketty in *Capital in the 21st Century* (2014), inequality of income and wealth diminish access to social and economic opportunities. While these authors do not specifically discuss cities, we know that the propagation of poverty or, alternatively, the potential of shared prosperity depends on how growth occurs in urban arenas around the world, where, by United Nations estimates, 7 billion people will reside by 2050. *We need to know more about the dynamics of growth and shared prosperity in cities and how to address them in order to eradicate poverty and inequality.*

The second concern highlights issues of conflict and civil unrest. More than fifty years ago, Morton and Lucia White in *The Intellectual vs. The City* (1962) used Thomas Jefferson's writings about the violence of the French Revolution as played out in Paris to explain how cities can serve as places of political unrest. Indeed, cities, with their large populations, have been the scenes of fierce clashes when few outlets for the expression and fulfillment of popular needs exist. Today, one needs to look no further than Tahrir Square to witness the power of popular congregation in urban public space. *We need to know more about how to create peaceful participatory dialogue and governance in the urban world in order to resolve conflict and avoid civil unrest.*

The third concern is climate change. As with the other concerns, cities are at the center. Urban areas already account for three quarters of energy-related CO_2 emissions, which are the key source of climate change and its effects. More than 60 percent of the world's urban population lives in urban areas vulnerable to natural disasters that are likely to be aggravated by global warming. Food crises

brought on by climate-change-related drought disproportionately affect urban areas. As the latest International Panel on Climate Change (2014) report states, infrastructure and spatial planning need to be tightly integrated to significantly reduce those emissions as urbanization increases. *We need to know more about how to select and implement the form and design of urban places best suited to reduce GHG emissions in order to adapt or mitigate the ravages of climate change.*

No nation, region, or city is immune to these intertwined, complex, and systemic concerns. Likely responses will yield universal principles to be adapted and applied locally taking into account contextual conditions. Traditional research methods will not suffice, as they have resulted in scholarly insularity, incomplete findings, and ill-informed public policy with regard to addressing the major concerns of today's urban world. A new paradigm is required, one that fosters multi-disciplinary cooperative research as standard practice. Through such a paradigm, researchers will: 1. focus on the "larger picture" topics yet still drill down to specific and often interdisciplinary solutions; 2. engage in fruitful partnerships among practitioners and urban researchers; and 3. communicate and translate research findings meaningfully and effectively among multiple fields and disciplines. In fact, these ideas about reformulating urban research approaches have been simmering for a long time, having been first suggested at the Rockefeller Foundation's Global Urban Summit (2007) and outlined in detail by Neal Peirce et al. as a "Global Urban Commons" in the conference proceedings entitled *Century of the City* (2009). The concept envisions an interactive digital communications tool that identifies urban-focused research centers, their leaders, and their research as a means of easing the implementation of the new paradigm for urban research.

In form and content, the Global Urban Commons will be a meta network, serving as a dynamic global directory for urban researchers and practitioners. Employing the Internet, email, and video-conferencing, it will enhance sharing data, collaboration, and learning in real time. Ideally, it will strengthen existing partnerships, stimulate new relationships, and expose scholars and practitioners to new lines of thought that they would not otherwise encounter.

The Global Urban Commons is a virtual meeting place that adds to well-established face-to-face assemblages as occur today in professional conferences or scholarly retreats. It builds on the evolving rich interfaces associated with these meetings. For example, when the leaders of Rockefeller Foundation initiated the *Visionaries Unbound* series in 2013, they combined hosting small expert meetings at the Bellagio Study Center with publishing background material and findings on a dedicated publically accessible website, Transforming Cities, the antecedent of the Place Matters Summit. (See http://www.visionariesunbound.com/events/transforming-cities).

Forming a Global Urban Commons is, admittedly, an ambitious and complex undertaking. Nonetheless, in Fall 2014, Penn IUR will launch a beta version that

will be a searchable database of urban research centers organized according to type of institute, region, country, partnerships, and research foci. This database is the first step along the critical path towards the larger actionable goal: building new sustainable research partnerships that will advance the ability to understand the challenges of cities in the twenty-first century and help formulate a new urban agenda to address them.