



Urban Systems

Monthly Newsletter N. 10– 07/2012 edited by [colin Harrison](#)

This is the monthly newsletter of the [Urban Systems Collaborative \(USC\)](#). To receive the newsletters simply join the [USC mailing list](#).

The Berkeley Symposium: Urban Information Flow-Mapping

We are at eight weeks and counting to the Berkeley Symposium and invitations have been sent out to the USC members on July 16, 2012. This programme is now almost complete. We have been fortunate to make contact with many exceptionally talented practitioners and academics in the San Francisco Bay area and to have access to an excellent venue on the UC Berkeley campus. In last month's [newsletter](#) I provided an abstract and rough agenda for the meeting, so this month I would like to go deeper into what we hope to achieve.



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The core focus of the Urban Systems Collaborative is the role that information plays in the planning, development, construction, operation, and management of infrastructure and services in cities. At our [April 2012 meeting](#) in Chicago we began by looking at this role in the planning and design phases. At the September 2012 meeting in Berkeley, we will be looking at some aspects of the operational phase. Although we bring - deliberately - many

different perspectives to these meetings, I suggest that we have a common view of cities that I summarise as follows:

"A city is collection of processes – public, enterprise, and personal - that are founded on the natural and built environments, that are driven by and are intended to support the needs of the inhabitants, and that produce and consume various resources and social outputs. It is a complex system operating on multiple spatial and temporal scales."

The intent of this work in the operational phase is to enable the inhabitants and the managers of the city to make better decisions. The inhabitants as they exploit the city in living their daily lives and the managers as they seek to provide the best services to the inhabitants. Early in my career as a technical manager, I concluded that my chief role was to create a space in which work could be done and, having accomplished this, that I should get out of the way of the people tasked with doing the work.

I feel the same way about our work here. The inhabitants are far better positioned to make decisions about how to use the city than the managers. The self-organizing capability of a city is one of its core strengths. However, in a large and complex city, no single individual can have perfect "now-knowledge" or fore-knowledge on which to base such decisions. And so the advent of Information Technology is valuable in that it offers various means to collect broad ranges of information about "what is going on", to use these "now-casts" to generate forecasts, and to make that aggregated operational information available to the inhabitants and the city managers.

A further complicating factor is that cities are complex systems. So decision-making about, say transportation, has effects on other domains, such as public safety, and is also impacted in turn by information from other domains, such as the environment (weather) or water systems. Hence our individual decisions have complex consequences on ourselves and on others.

My personal goal for the USC is that over time we will generate understanding of these information flows - sources and sinks, analysis and prediction - to enable the city to make better decisions and thereby to regulate itself better. If we take mammalian physiology as a metaphor, we may note that it employs multiple systems for its self-regulation. Most obvious is the nervous system with its myriad sensors, its radial networks (nerves) converging on the central nervous system and ultimately the brain. This is the system most directly involved in the actuation of the body (muscles) and interacting with the outside world. It performs the greatest aggregation of information and the most complex and specific analysis and prediction for high-speed responses (twitches). But the body also makes use of distributed systems - the circulatory system, the lymphatic system - for slower and broader internal regulation of the organism (fever, immune system).

This is no more than a metaphor, but I think that in our perspective on cities we need to consider the appropriate roles for centralised and distributed information processing.

So these are the two major themes of our Berkeley meeting: 1) performing preliminary mapping of information flows for two domains (Emergency Management and Citizen Engagement) and 2) considering the roles of centralized (Operations Centre) and distributed (Open Data) approaches to regulation. I believe that these are new and important problems,

that they are in need of broad study by multiple communities, and that the USC has a vital role to play in this process. I look forward to the event!

People

The USC began its Web presence in April 2011 with a quickly assembled collection of available tools that were stitched together by Frank Hebbert at [OpenPlans](#) to support the May 2011 symposium. It was a great example of how to quickly improvise a Web presence, but it was rather fragmented and hard for newcomers to navigate as we tried to evolve it into a more permanent Web site. Later in 2011 Jerrod DeLaine became our Webmaster and almost as quickly re-built a more integrated and attractive Web site using [WordPress](#).

Jerrod continued to maintain the site, was an active blogger on Urban Systems, and also organized the Webinar series for several months. During this time, he was a graduate student at the New York University's [Schack Institute](#) of Real Estate and also worked in real estate, private equity, consulting, not-for-profit advising, and project managing. (I believe that he also occasionally slept.) Jerrod has now graduated from NYU and is a member of a commercial and residential real estate development firm in Upper Manhattan, where he is working on affordable housing projects. We owe Jerrod great thanks for his large role in the USC's weekly operations and we wish him success in his career.

These responsibilities have now been passed on to another NYU student - Laxmisagar Hanumanthu or Laxmi for short. Laxmi has a civil engineering degree from NIT Warangal and is pursuing a degree at NYU in global real estate finance. I am confident that he will do a terrific job. It will certainly be hard to replace Jerrod, but I have already noticed that he seems to work the same crazy hours! You can reach Laxmi as <[Laxmisagar Hanumanthu lh1439@nyu.edu](mailto:Laxmisagar.Hanumanthu@nyu.edu)>

News and Publications

Last week I attended a fascinating workshop at the Santa Fe Institute about which I will write more later and there was much joking about the obligation in speaking about the design of cities to make early reference to Jane Jacobs. In my mind the equivalent contemporary figure is [Saskia Sassen](#). Prof. Sassen, who teaches at Columbia University and writes widely on cities and spaces, recently wrote a [blog](#) for McKinseydigital about her views on "smart cities" and especially the application of these ideas in new cities. Her views are informed and well reasoned and I encourage everyone to take a look.

Mark Baker of the USC core team recently introduced me to one his colleagues at esri¹ – [Shannon McElvaney](#). Shannon is esri's manager for Global Community Development, and has a new book out called "*Geodesign: Case Studies in Regional Urban Planning*" (ISBN 978-1-58948-316-3). This consists of an introduction to the idea of "geo-design" – defined as "design in geographic space by using geospatial tools that support rapid evaluation of design alternatives against the probable impacts of those designs" - and then nine chapters of examples of the applications of this principle in various domains of architecture and urban design and planning. It also includes a closing quotation from Keith Besserud, another of the USC's core team.

¹ We are pleased to acknowledge esri as a continuing supporter of the Urban Systems Collaborative.



A leading example of the practice of “geo-design” (though not necessarily using esri products) is the [Urban Ecology Agency](#) in Barcelona, a.k.a the Barcelona Ecologia. The agency has an interesting perspective on Transdisciplinary work: *“At BCNecologia, research regarding the city and its urban ecology is treated systemically and holistically. The agency specializes in areas such as waste and materials management, energy, water, air and noise pollution, biodiversity, mobility, social cohesion, urban planning and public space, indicators, legislation, communication, participation and new technologies.”*

David Stephenson is well-known in the USC and has recently published an e-Book entitled *“[Smart Stuff](#)”* on the **“Internet of Things”** (IOT), which is an introduction to one of the technology movements that is enabling us to wire cities for information.

Barcelona is certainly one of the “smartest” cities in the world and this week the Chief Information Officer of the city, Manel Sanroma, is launching an ambitious initiative called **“City Protocol”**. I met with S. Sanroma in Vienna some weeks ago and he expressed his desire to establish a body that would emulate the legendary work of the Internet Engineering Task Force in developing the Internet Protocol. Of course a City Protocol is a very different kettle of fish (as we say in the old country), but many of us have been searching for a body that could support the development of open standards for smart cities. Earlier in 2012 Barcelona announced its intention to establish the Barcelona Institute of Technology for Habitat Foundation, but I believe that this week’s meeting will be looking at a more international approach. Cisco² is a primary supporter of the meeting together with the usual suspects from the IT industry, but S. Sanroma sees the eventual organization being governed primarily by cities rather than by industry. I am not able to attend this meeting in person, but will be getting a report on it and will write more in the August 2012 newsletter.

Early in our discussions about the work of the USC we had an ambition to develop a **Masters level curriculum** about this space and we have not made a lot of progress on this. Fortunately our ideas propagate in other ways and Aalto University in Helsinki has recently completed the first delivery of an Urban Systems course, which had significant contributions from an IBM colleague Ville Peltola. The course, which is known as “Smart and Liveable City”, was naturally delivered in Finnish but [here](#) is a Google translation of a report on the course.

On our last Webinar Tom Wright spoke about the history of **regional plans for the New York Metropolitan Area** and [here](#) in a YouTube video, Bob Yaro, the president of the Regional Plan Association (RPA)³, speaks about preparation for the development of the 4th such plan

² We are pleased to acknowledge Cisco as a continuing supporter of the Urban Systems Collaborative.

³ We are pleased to acknowledge the RPA as a continuing supporter of the Urban Systems Collaborative.

for the metro area. A key aspect of plan development is the process by which the inhabitants and other stakeholders participate. Tom Wright gave us examples of how the RPA has exploited the media channels available in each period. Today it would be highly valuable, I think, to have a discussion about how to exploit social media, the prevalence of devices for graphical input and output and the opportunity to engage many more people in the process. A possible USC workshop? Let me know.

Back in the UK, my first professional body, the Institution of Engineering and Technology (IET) has published a good engineering perspective on many dimensions of “smart” and including [smart cities](#), [smart meters](#), and [smart transportation](#). Also from the UK comes a serious study on [The Future of Local Government](#). Although this does not dig deeply into “smart cities” it is a valuable context in which to view our work.

Mentioning smart transportation reminds me of a major incident in the San Francisco Bay area in which [a fire at a construction site](#) adjacent to a BART track shutdown a critical link between the East Bay and the city. Although the transit agencies scrambled to add additional capacity on other modalities, chaos ensued and we can well imagine the frustration of commuters who found themselves stranded and without a good source of information about realistic alternatives. There is a lot of work for us to do here!

In the June newsletter I made reference to the [New Cities Foundation](#)’s summit meeting in Paris. The [video recordings](#) of the various sessions from this conference have now been published. Also hailing from France is La Fabrique de la Cité, a think tank of the VINCI Group, a global construction company. The think tank held a meeting on January 25, 2012 in London on “the sustainable impact of major sports infrastructure” looking forward to the 2012 Summer Olympics. The material from this [workshop](#) is now available.

My own work for IBM has been shifting in the past year towards the role that information can play in developing the **resilience of regions, cities, and industrial zones**. This is right next door to our work on Smarter Cities. One of the items that came my way in this context is a report on a workshop by the US National Science Foundation in April 2011 on “[Computing for Disasters](#)”. Although the context and the constraints here are very different, this work has some key aspects that should be incorporated in our work on Urban Systems; well worth a read.

Your Article Here Please let the [Editor](#) know of articles of interest to the urban systems community.

Organizations

One of my IBM colleagues, Jim Spohrer, recently passed me information he received from Sasha Haselmayer, general director of [Living Labs Global](#). Living Labs is focused on encouraging and propagating innovation in city services, especially where mobility plays a role. The organization has three main programmes:

- LGA ([www.llga.org](#)) which is a programme to group major cities to publish major challenges, discover global solutions and implement pilots within 12 months.
- Citymart.com ([www.citymart.com](#)) which is a technology spin-off to extend the work into a marketplace and validation community for service innovations in cities.

- Agile Cities (www.agilecities.org) which is a global collaboration that just started to develop an open standard for the marketplace and pre-procurement processes in partnership with 150 cities.

Today Living Labs Global works with 50 cities and 1,000+ companies with a truly global footprint, hoping to scale to 500 cities over the coming years.

Lastly [Brickstarter](#), which is an initiative that aims to change NIMBY to YIMBY. Brickstarter aims to create a platform for community development that is capable of turning suggestions into executable projects. As such it is *“a prototype of a service or culture that attempts to get to the heart of what democratic decision-making might be, of how we might develop our cultures of politics and governance in cities, towns and nations.”*

Events

For the past two years, [Social Life](#), the [Young Foundation](#), and [Cisco](#) have been exploring the social sustainability of cities and communities. Social Life is a new venture set up by the Young Foundation to accelerate innovation in placemaking. The Social Life programme invites cities to join around three key activities: the urban innovators network, creating a new body of thought and practice, and local projects with individual cities. In 2012 the programme is looking for five cities to become founding partners and a further five will be recruited in 2013. More details can be found in the [brochure](#) in the USC Library.

The [Regional Plan Association](#) has sent a special invitation to USC members to take part in the [Meeting of the Minds](#) event in San Francisco on October 9-11, 2012. Cisco, [IBM](#), and [Skidmore, Owings, and Merrill](#) are all sponsors of this event. In addition to Tom Wright (see below) and Cisco's Gordon Feller, yours truly will be saying a few words at his event. For those not familiar with San Francisco, October is the warmest time of the year, so this is a great excuse to visit a very smart city.

Glasgow, Scotland is not often mentioned in the same breath as San Francisco, but recently it was the venue for a TED Global Conversation that began on June 25, 2012 about how the smarter use of energy and other resources can unlock the potential of cities. This was hosted by my colleague Nick Allen at [Royal Dutch Shell](#) and you can see the discussion [here](#).

Also in the UK on Wednesday July 18, 2012 is a meeting of the National Physical Laboratory on [“Measurements and Standards to Enable a Sustainable City”](#). The venue is Arup's London office.

Lastly, the Metropolitan Planning Council in Chicago has announced its annual luncheon with talks from the leaders of Chicago, Gary, and Milwaukee on [Cities That Work](#).

Your Event Here Please let the [Editor](#) know of future events relevant to the urban systems community.

Webinar Series

The Webinar series concluded its 2011-12 season with a great session on June 29th by Tom Wright, Executive Director of the Regional Plan Association, on the history of strategic plans for the New York City region and especially on how the RPA's methods of citizen engagement have evolved.

The Webinar series will now take a break over the summer and will re-start on September 7, 2012 with a talk entitled "First Penguin Through the Ice Hole: The Effect of Big Data on Transportation Planning and Engineering", given by Ron Milam of Fehr & Peers, a transportation consultancy based in California. <http://www.fehrandpeers.com/>

Your Webinar Here We are looking for speakers in the Urban Systems space for continuing the popular Webinar series into the Fall season. Please send suggestions to the [Editor](#), preferably of people whom you know and who know you, together with their likely topics.

Useful Information about the Urban Systems Collaborative

- The Urban Systems Collaborative grew out of the [2011 Urban Systems Symposium](#).
- The Collaborative holds a biweekly Webinar (except during the summer months). See the [Webinar meeting details](#).
- The USC has a [Web site](#) with a curated [blog](#).
- Back editions of the Newsletter and other relevant documents are available in the Web-site's [Library](#).
- Membership in the Urban Systems Collaborative is open to anyone interested in the rapidly transforming field of Urban Systems. To join follow these links:
 - o Webinar announcement and general mailing list: join [here](#).
 - o [Add our public Calendar](#) to keep track of upcoming events. Please see additional info for non Google users [here](#).

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