Session 3

Empowering Communities Through Better Data Sharing

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We would like to discuss planning strategies and information infrastructure that might facilitate 'community empowerment' and innovative community development strategies. Spatially detailed metropolitan data about land use, ownership, jobs, etc. is rapidly improving and more and more agencies and NGOs have, or want, in-house capacity to do their own neighborhood analyses. In recent years, a number of projects and research efforts have tried to assist community groups and local agencies in acquiring relevant planning data and improving their neighborhood planning and advocacy capacity. These trends have led to many 'indicator' efforts and a proliferation of 'data centers' whereby each organization tries to acquire and maintain a copy of all relevant data. At the scale of cities or even census tracks, it is practical to archive decennial datasets. However, at the scale of parcels, persons, building permits, bus stops, and the like, having a copy of everything is not practical. We'd like to discuss the nature and content of 'city knowledge' relevant to neighborhood planning and some of the strategies and institutional issues involved in empowering communities through better access to information.

To facilitate the discussion, I've identified 6 online readings. They are listed below. Item (1) is the website of a 'community of practice' of several hundred professionals at local, state, and federal levels who are interested in facilitating an improved 'National Infrastructure for Community Statistics' (NICS). This site provides background information regrading many relevant issues and strategies. Items (2) through (4) involve efforts related to the Brooking Institution's Urban Markets Initiative (UMI) to improve community development methods. Item (2) describes the UMI initiative. Item (3) is one of the UMI-funded projects that is organized by an Urban Institute-organized collaboration among community organizations across a two dozen metropolitan areas. Item (4) is another UMI-funded project here at MIT that is prototyping particular approaches for codifying and using local knowledge. Item (5) is a chapter of Dr. Raj Singh's PhD dissertation on the use of web services architectures to support collaborative planning. The Urban Institute proposal involves several community groups in several cities that are part of the National Neighborhood Indicators Partnership (NNIP) that Tom Kingsley and others at the Urban Institute have organized. They propose to build several 'decision support tools' that can help 'grassroots' efforts. The MIT/MAPC proposal suggests an architecture for improving the practicality of community information systems by making it easier to share 'official' data and to incorporate local knowledge when interpreting city data. Raj's thesis suggests a 'web services' approach for the sharing of planning data and models. Item (6) is the URL for the Google Earth 3D viewer and a

website discussing how Google Earth allows users to publish their own georeferenced data that can be viewed using Google Earth.

Skim through the NICS site to get a sense of the people, organizations, issues, and strategies that have been discussed through the various NICS activities during the past few years. Then read the UMI overview and the two project proposals. You may want to skim through the NNIP site to see what cities, organizations, and projects are involved. Finally, read at least the one chapter of Raj's thesis to understand the reasoning about why and how service-oriented information systems architecture would be qualitatively different from traditional approaches toward land use planning and neighborhood analysis.

The Google Earth links are to stimulate your thinking about appropriate user interfaces for viewing community data and viable ways of decomposing the 'information at your fingertips' idea can be decomposed into manageable pieces of 'local knowledge', 'city knowledge', 'web-based viewing tools. If you don't have access to Google Earth and haven't seen it before, then *don't* spend time on that - focus on the other readings instead. It will be on CRN machines later this semester and we don't want the whole-earth data and nice 3D graphics to distract us from our discussion of city knowledge, community empowerment, and data sharing.

Discussion questions;

(a) What 'problems' are framed in the UMI overview? Who is supporting the UMI effort? What do they want, what do they assume, and what do they anticipate doing differently as a result?

(b) What is the 'city knowledge' needed to support the kinds of decision support tools that are envisioned in the UMI proposals? In what way, if any, are the data, decision support tools and methods in the Urban Institute proposal different from those that a city agency might have designed and built?

(c) How does the MIT/MAPC 'middleware' approach differ from the traditional way of building the types of decision support tools that UI proposes? What applications are most promising to demonstrate the feasibility of the approach?

(d) What 'middleware' system architecture is practical today? What skill set is needed by whom in order for it to deliver useful assistance to community groups? What partners make sense? What role can/should a regional planning organization (such as MAPC) play? What institutional and organizational obstacles might we anticipate?

Notes about readings for the first two classes:

Fabio's presentation (Discussion Note 1):

- Better GIS data at parcel scale can have large urban management payoff
- Modern IT allows 'city knowledge' to be collected and maintained in new ways that are affordable, sustainable, and very useful

Joe's presentation:

- [National Infrastructure for Community Statistics](#) (NICS): frustration with
  - data gathering difficulties
  - complexity of indicator development (numerator A / denominator B) for various times and geographies
  - difficulties integrating of local knowledge
- [Urban Markets Initiative (UMI)](#): getting right information to right actors at neighborhood level
- Intelligent Middleware for Understanding Neighborhood Markets
  - can' t empower communities just by broadcasting official city data
  - 'spelling errors' never go away - official data always needs 'tweaking'
  - codify and accumulate 'local knowledge' separate from official city data
  - distributed data and knowledge requires complex infrastructure - worth the effort to distinguish basemaps, facades, rules, reports, thematic maps
- Urban Institute - [(NNIP)](#) - Decision Support Tools To Guide Urban Land Markets
  - NGOs are developing sustainable (but labor intensive) community information systems
  - non-governmental partnerships can share knowledge effectively
- Singh, Raj. Collaborative Urban Information Systems: A Web Services Approach. Dissertation. MIT, 2004.
  - to support planning, urban modeling must be part of a continual planning process among dispersed actors
  - web services architecture can make distributed modeling practical for planning
  - need a planning and modeling markup language
- Google Earth - http://www.philb.com/googleearth.htm
  - 3D viewer for map mashups
  - giant datasets with highly distributed servers and modern streaming/caching technologies
  - web service protocols for integrating user-supplied georeferenced data