The role of PSS in the planning profession: do we need a normative framework?

Discussant: Madhu C Dutta-Koehler

The increasing complexity of our urban environment has left an indelible impression on our cities. The locus of the city has shifted considerably, reflecting fundamental alterations in the identities and growth of urban environments. Communal relations, attitudes toward work, social and economic interaction, and physical manifestations of the urban fabric have all been transformed. Given this context, the field of planning has embraced a vast spectrum of new challenges as the profession itself evolves. The purview of the planner has come to include a broader range of subjective, economic and social criteria apart from the traditional aspects of physical planning. With these increased set of responsibilities it has become incumbent upon design and planning professionals to develop methods for ameliorating conflicts among environmental, cultural and economic priorities in urban planning and to effectively address the fluctuating transfer of power between participants in the process of realizing valid interventions in the urban landscape.

In an effort to address these very needs, increasingly fueled by computational advancements, the use of planning support systems (PSS) has gained considerable acceptance in the field. From the rudimentary, yet revolutionary application of Herman Holerith's punch-card machine[1] in the US Population Census of 1890, to the sophisticated computing systems that facilitate data management, analysis and decision making, through advanced simulations and modeling, planning support systems have become central to the planning profession, especially in North America and Europe.

However, as much as the evolution of technology has offered a wide variety of PSS, adopted for various functions and scales, the lack of interoperability between systems and incompatibilities between the available PSS and actual planning practices are some of the critical obstacles to the streamlined and widespread implementation (Stillwell et al., 1999) of PSS by planners today. The current state of PSS forms a body of disaggregated planning practices, where efforts at various levels are replicated or reinvented, engendering dissimilar agendas in planning. A range of reasons have been cited for this, from market demands to limitations of existing systems in terms of expertise and complexity, technology orientation rather than problem orientation, and even the need for a longer gestation period for PSS to mature (Batty and Densham, 1996). Various scholars and practitioners have engaged in this discourse, suggesting alternatives to existing software, to frameworks that structure the organization of PSS, and to strategies of participation, collaboration, communication and representation (Batty, 2003; Bishop, 1998; Couclelis, 1989; Geertman and Stillwell, 2003a,b; Harris and Batty, 1993; Hopkins,1999; Klosterman and Landis, 1988; Sheppard *et al.,* 1999; Uran and Janssen, 2003).

The development of a comprehensive and collaborative vision of how we should mold our learning and practice to shape research agendas is central to the effectiveness of our work. Using this statement as a corollary in the context of the role of PSS in the planning profession, I propose the following questions to guide the discussion further:

- In an effort to integrate planning support systems effectively into the profession, is it important to foster consensus on the methods and ultimate aims if we are to solve the relevant problems at hand, or is the status quo adequate?

- If current approaches are inadequate, then do we need (a) normative framework(s) to establish these methods and aims? What should the basis of these frameworks be?

[1] The invention of the punch-card machine led to the formation of IBM, the world's largest computer company in 1924.

Readings:

Vonk, G. Geertman S. and Schot P. (2007). A SWOT analysis of planning support systems. *Environment and Planning A*, v.39, 1699-1714.

Klosterman, R. and Pettit, C. (2005). An update on planning support systems (editorial). *Environment and Planning B: Planning and Design*, v.32, 477-484

(For further readings please refer to references)

References:

Batty, M. and Densham, P. (1996). Decision support, GIS, and urban planning. *Systemma Terra*, v.1, 72-76.

Batty, M. (2003). Planning support systems: technologies that are driving planning. *Planning Support Systems in Practice* Eds S Geertman, J Stillwell (Springer, Berlin) v–viii.

Bishop, I. (1998). Planning Support: hardware and software in search of a system. *Computers Environment and Urban Systems,* v.22, 189-202.

Couclelis, H. (1989). Geographically informed planning: requirements for planning relevant GIS. Proceedings of 36th North American Meeting of Regional Science Association, Santa Barbara.

Geertman, S. and Stillwell, J. (2003)a. Planning support systems: an inventory of current practice. *Computers Environment and Urban Systems*, v.28, 291-310.

Geertman, S. and Stillwell, J. (2003)b. Planning support systems: an introduction. *Planning Support Systems in Practice* Eds S Geertman, J Stillwell (Springer, Berlin) 3–23.

Harris, B. and Batty, M. (1993). Locational models, geographical information and planning support systems. *Journal of Planning Education and Research*, v.12, 84 -98.

Hopkins, L. (1999). Structure of a planning support system for urban development. *Environment and Planning B: Planning and Design,* v.26 333-343.

Klosterman, R. and Landis, J. (1988). Microcomputers in US planning: past, present and future. *Environment and Planning B: Planning and Design,* v.15, 355-368.

Sheppard, E., Couclelis, H., Graham, S., Harrington, J. and Onsrud, H. (1999). Geographies of the information society. *International Journal of Geographical Information Science*, v.13, 797-823.

Uran, O. and Janssen, R. (2003). Why are spatial decision support systems not used? Some experiences from the Netherlands" Computers. *Environment and Urban Systems,* v.27, 511-526.