

MIT DUSP: 11.201 – Gateway Planning Action

# Technology & Planning

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# Outline

- Review readings
- Discuss Land use and transportation models (LUT, LUTE, ..)
  - Review evolution since 1950s
  - Compare comprehensive master planning and environmental impact assessment
  - Where do GIS, PPGIS, Web, crowd sourcing, ... fit in?
- Distinctions between
  - Planning vs. planning support systems
  - Planned vs. responsive cities
- Boston 'MetroFuture' example (if time)

# Readings

- Pitkin, “A Historical Perspective of Technology and Planning,” Berkely Planning Journal, 2001.
- Klosterman, “Planning Support Systems: A New Perspective on Computer-Aided Planning,” JPER, 1997.
- Ferreira, “Information Technologies That Change Relationships between Low-Income Communities and the Public and Non-Profit Agencies That Serve Them,” Chapter 7 in High Technology and Low-Income Communities: Prospects for the Positive Use of Advanced IT, MIT Press, 1998.
- Lee, “Retrospective on Large-Scale Urban Models,” JAPA, 1994.

# Pitkin: “A Historical Perspective of Technology and Planning” (2001)

- Technology as savior
  - Mitchell, Negroponce, ...
  - Locational advantage of cities (Hall, Castells, ...)
  - Productivity paradox
- Technocratic ideology & ‘rational’ planner
  - Replace public debates with technical expertise
- Contrast with
  - *Social constructivist* camp
    - Technical innovation depends on social processes and adaptation
  - *Advocacy planning*
    - Political lobbying and community organizing
- Examples (with unintended consequences)
  - Energy technologies: decentralize the city, with side effects
  - Automobiles: suburban utopia until congestion and social inequities
  - Information technology: aid technocratic planning but ignores politics

# Pitkin: “A Historical Perspective of Technology and Planning” - II

- Conclusions
  - Impact of technology on cities & planning is part of complex social process
  - Disparities may result from new technologies
  - Planners tend to ignore possibility of unintended consequences from technological innovation
  - New technologies can further planning goals by informing analysis and democratizing data

# Klosterman: “Planning Support Systems: A New Perspective on Computer-Aided Planning” (1997)

- Changing views of computer-aided planning
  - 1960s: applied science (optimization)
  - 1970s: politics
  - 1980s: discourse & communication
  - 1990s: collective design (reasoning together)
- Evolving concerns
  - 1960s: data & automation
  - 1970s: information & management
  - 1980s: knowledge & executive decision making
  - 1990s: intelligence & collective design
- Corresponding conceptions of IT
  - EDP (Electronic data processing)
  - MIS (management information systems)
  - DSS (decision support systems)
  - PSS (planning support systems) [...with GIS]

# Ferreira, “Information Technologies That Change Relationships...”

- Data Sharing & Community Empowerment through IT
  - Problem with ‘spelling errors’
    - Can’t easily group & categorize parcel ownership
  - Three solutions
    - Top down, bottom up, and middle out
  - Implications
    - IT allows more promising organizational strategies
    - But less ‘automation’ and more ‘enabling’ requires a more sophisticated labor force and attention to learning paths
    - Access to technology is not sufficient to evolve patterns of use that can take advantage of it

# Lee, “Retrospective on Large-Scale Urban Models,” 1994

- Earlier ‘Requiem’ paper
  - Attacked ‘black box,’ ‘general purpose’ tool, and ‘command-and-control’ perspective
- How to judge models
  - Advancing theory vs. advancing practice
  - Distinguish strategic, tactical, and implementation planning
- Where do GIS and contemporary models fit



# Land use and transportation models

- LUTE models: land use, transportation, and environment interaction
  - Review evolution since 1950s
  - Compare comprehensive master planning and environmental impact assessment
  - Where do GIS, PPGIS, Web, crowd sourcing, ... fit in?
- Distinctions between
  - Planning vs. planning support systems
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