

# **Digital Cities**

## **Urban Processes and Urban Futures in the Information Age**

Tuesday/Thursday  
9:45-11:00 am  
7A Sparks

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865-6693  
Office Hours: Mondays, 3-5 pm

Advanced telecommunications, media and computer technologies are dramatically transforming the structure and dynamics of cities around the globe. Where people live, work, shop, and play are changing, with significant changes in urban governance, social outcomes and the social and cultural life of cities. New communications infrastructures simultaneously facilitate the intense concentration of people and movement within extending urban regions, whilst allowing cities to control global business and service networks across international distances. New communications technologies support urban regions of unrivalled size and complexity, while also collapsing the barriers between the 'local' and the 'global', allowing some spaces within cities to be more globally connected than locally tied in to their urban milieu. Thus, electronic infrastructures and services are everywhere implicated in the growing inequality and social divisions that seem to be evident in all types of cities, as global connections are combined with local disconnections in complex ways.

This course examines these inter-relations between the rapid diffusion of information technology (IT) and processes of urban development, in both developed and developing world contexts. It has two central objectives :

- To provide a broad and critical introduction to how new information and communications technologies are involved in all aspects of contemporary urban change; and
- To explore how city policy and planning is responding to the challenges of the so-called 'information society' from an international perspective.

At the end of this course you should:

- Have a full understanding of the urban development and planning issues surrounding information and communication technologies
- Be able to think critically and theoretically about cities, planning and ICTs
- Be able to explore urban IT issues using the Internet

## Course Requirements:

This is a reading and discussion intensive course. Students will be expected to perform at a high-level, and class-room time will be structured along the lines of a seminar, with students taking significant responsibility for presenting assigned readings. Lectures will be kept to a minimum.

1. **Everyone should check to make sure they can access class mail on the Angel system.** We will be using Angel for distributing class reading materials and discussion documents.
2. **Leading class discussions and class participation:** All students will be asked to lead discussions twice during the semester. Discussion assignments will be made on the second day of class. In preparing for leading discussions, students should prepare a brief memo related to the reading for that session. Formats may vary, but it may be useful to include:
  - Ideas, concepts, arguments which you found stimulating, worth remembering and building on;
  - Questions, concerns, disagreements with ideas encountered;
  - Connections, linkages, contradictions between one idea or approach and another.

Each memo HAS to include at least 3 new Web links to related web-sites and internet-based publications. Memos are due by 8:00 am the day of class, and should be sent to the class list via Angel. In addition, all students should arrive at class with questions, topics, and issues to be raised for discussion.

3. **Final research paper:** Students should produce a 20-30 page research paper which addresses a topic of their choice related to the themes of the course. Following are deadlines related to this paper:
  - a. **January 27<sup>th</sup>:** A one-page research proposal, outlining ideas for research paper. (5%)
  - b. **February 24<sup>th</sup>:** A 3-page out-line of your final research topic, potential argument and list of possible sources you will use. (5%)
  - c. **April 5<sup>th</sup>:** A 5-page developed outline of your final paper, indicating basic arguments in each section of the paper (15%).
  - d. **April 19-28 (individual dates to be selected):** Presentation of your research paper in class. (20%)
  - e. **April 29<sup>th</sup>:** Final paper due (30%).

Your grade in the course will be based 25% on your class participation and memo, and 75% on the final research project.

## Primary Course Materials:

Much of the reading material for the course will be made available on-line in Angel.

## Learning Environment and Academic Integrity:

The University's policy statement on academic integrity reads in part:

“Academic integrity mandates the pursuit of teaching, learning, research, and creative activity in an open, honest, and responsible manner. An academic community that values integrity promotes the highest levels of personal honesty, respect for the rights, property, and dignity of others, and fosters an environment in which students and scholars can enjoy the fruits of their efforts. Academic integrity includes a commitment neither to engage in acts of falsification, misrepresentation, or deception, nor to tolerate such acts by other members of the community.” <http://www.psu.edu/oldmain/prov/academicintegrity.htm>

Plagiarism, cheating, knowledge of these without reporting them, or any other form of academic dishonesty will result in a failing grade for the course and referral for further disciplinary action. In all written work, you must reference and attribute sources. If you have any questions as to what may or may not constitute plagiarism or other forms of academic dishonesty, please see the instructor. Any violations of academic integrity will be dealt with following the University's procedures, which are described in detail at <http://www.psu.edu/dept/oue/aappm/G-9.html>

## Reading Material

Books that we will read substantial portions of include:

Graham, Stephen and Marvin, Simon (2001) *Splintering Urbanism: Networked Infrastructures, Technological Mobilities and the Urban Condition* (London: Routledge)

Mitchell, William J. (2003) *Me++: The Cyborg Self and the Networked City* (Cambridge, MA: MIT Press)

Schön, Donald, Bish Sanyal, and William J. Mitchell, eds. (1999) *High technology and low-income communities : prospects for the positive use of advanced information technologies.* (Cambridge: MIT Press)

Other highly recommended books, that we will read smaller portions of include:

Graham, Stephen (2004) *Cybercities Reader* (London: Routledge)

Rheingold, Howard *Smartmobs: The Next Social Revolution* (New York: Basic Books)

Wellman, Barry and Carline Haythornthwaite, eds. (2003) *The Internet in Everyday Life* (Oxford: Blackwell Publishers)

Florida, Richard (2005) *Cities and the Creative Class* (London: Routledge)

Hanley, Richard. Ed. (2004) *Moving People, Goods, and Information in the 21<sup>st</sup> Century: The Cutting Edge Infrastructures of Networked Cities* (London: Routledge)

There is also a course web-site at <http://www.geog.psu.edu/courses/geog497b> which includes many useful web-links.

## Tentative Schedule (Subject to change as needed)

### I. INTRODUCTION & CONTEXT

#### 1/11—Personal & Course Introductions

#### 1/13—Technology, People, Politics & the Future

Winner, Langdon. 1980. "Do Artifacts Have Politics?" *Daedalus* Winter:121-136.

[Kurzweil, Ray \(1999\) \*The Age of Spiritual Machines: When Computers Exceed Human Intelligence\* \(New York: Viking Press\)](#) “Chapter six: Building New Brains...”, “Chapter Seven:...and Bodies”, and “Chapter Eleven: 2029”.

Winner, Langdon. 2003. “Are Humans Obsolete?”  
<http://www.rpi.edu/~winner/AreHumansObsolete.html>

### II. OVERVIEW AND GENERAL APPROACHES

#### 1/18—The Networked City

Graham, Stephen and Simon Marvin (2001) *Splintering Urbanism* (London: Routledge)  
Prologue and Chapter 1, “Introduction” pp. 1-36

Graham, Stephen (2002) “FlowCity: Networked Mobilities and the Contemporary Metropolis”  
*Journal of Urban Technology*, 2002, vol. 9, no. 1, pp. 1-20 (pdf file)

Graham, Stephen (2004) “Introduction” in Graham, Stephen (2004)ed. *Cybercities Reader*  
(London: Routledge), pp. 1-30.

#### 1/20—The Cyborg Self

Mitchell, William J. (2003) *The Cyborg Self and the Networked City* (Cambridge, MA: MIT Press). Pp. 1-62 (Prologue and Chapters 1-3)

Barney Warf (2000) “Compromising Positions: The Body in Cyber Space”, in Wheeler, Aoyama and Warf (2000) *Cities in the Telecommunications Age*. (London: Routledge). pp. 54-70

Durrschmidt Jorg. 2000. *Everyday Lives in the Global City: The delinking of locale and milieu*. London: Routledge Excerpts

Crang, M., P. Crang and J. May (eds.), 1999. *Virtual Geographies: Bodies, space and relations*. Routledge: London. Sussex Studies in Culture and Communication. Excerpts.

Timothy Luke (2004) “The Co-existence of Cyborgs, Humachines, and Environments in Postmodernity: Getting Over the End of Nature” in Graham, Stephen (2004) *Cybercities Reader* (London: Routledge) pp. 106-110

### III. URBAN ECONOMICS IN THE INFORMATION AGE

#### 1/25—CyberEconomy and Geography of the Internet

Edward Castronova (2001) “Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier” CESifo Working Paper No. 618 December 2001

Wheeler, Aoyama and Warf (2000) *Cities in the Telecommunications Age*. (London: Routledge). Chapter 4: “Where on earth is the internet? An empirical investigation of the geography of internet real estate”, by Martin Dodge and Marushige Shiode, pp. 42-53

Zook, M.A. (2000). “The Web of Production: The Economic Geography of Commercial Internet Content Production in the United States”. *Environment and Planning A*, Vol 32. 411-426.

#### 1/27—Learning & Innovation

Maskell, Peter, and Anders Malmberg. 1999. "The Competitiveness of Firms and Regions: Ubiquification and the Importance of Localized Learning." *European Urban and Regional Studies* 6:1, pp. 9-25.

Storper, Michael (1997) *The Regional World: Territorial Development in a Global Economy* (New York: Guilford Press) chapter 2 “Regional Economies as Relational Assets” pp. 26-57

#### 2/1—Learning Region—Silicon Valley Case Study

Henton, Doug (2000) “A Profile of the Valley’s Evolving Structure” Lee, Chong-Moon et al, eds. *The Silicon Valley Edge: A Habitat for Innovation and Entrepreneurship* (Palo Alto: Stanford University Press)

Saxenian, AnnaLee (2000) “The Origins and Dynamics of Production Networks in Silicon Valley” in Kenney, Martin, ed. *Understanding Silicon Valley: The Anatomy of an Entrepreneurial Region*. (Palo Alto: Stanford University Press)

Kenney, Martin (2000) “Institutions and Economies: Creating Silicon Valley” in Kenney, Martin, ed. *Understanding Silicon Valley: The Anatomy of an Entrepreneurial Region*. (Palo Alto: Stanford University Press)

Johnson, Craig (2000) “Advising the New Economy: The Role of Lawyers” in Lee, Chong-Moon et al, eds. *The Silicon Valley Edge: A Habitat for Innovation and Entrepreneurship* (Palo Alto: Stanford University Press)

Joint Venture Silicon Valley: 2002 Index

<http://www.jointventure.org/resources/2002Index/index.html>

Video: Secrets of Silicon Valley, Produced by Alan Snitow and Deborah Kaufman

Silicon Valley Debug: <http://www.siliconvalleydebug.org/>

Working Partnerships USA, Growing Together or Drifting Apart. (pdf file)

#### 2/3—Science, Technology, Creative & Economic Development

Massey Doreen B., Quintas Paul, Wield David. 1992. *High-Tech Fantasies : Science Parks in Society, Science, and Space*. London: Routledge. Excerpts

Florida, Richard (2005) selections from *Cities and the Creative Class* (New York: Routledge)  
Castells, Manuel and Peter Hall (1994) *Technopoles of the World: The Making of Twenty-First Century Industrial Complexes* (London: Routledge) chapter 9 “Distilling the Lessons”

2/8—Culture Industries, Tourism and Urban Development

- Scott, Allen J. 1997. "The Cultural Economy of Cities." *International Journal of Urban and Regional Research* 21:2, pp. 323-339.
- Scott, Allen J. 1999. "The US recorded music industry: on the relations between organization, location, and creativity in the cultural economy." *Environment and Planning A* 31, pp. 1965-1984.
- Milne, Simon and Irena Ateljevic (2001) “Tourism, economic development and the local-global nexus: theory embracing complexity” *Tourism Geographies* 3(4) 369-393
- Hannes Werthner and Stefan Klein (1999) “ICT and the Changing Landscape of Global Tourism Distribution” *Electronic Markets* 9(4) 256-262
- Youcheng Wang\*, Quaehee Yu, Daniel R. Fesenmaier (2002) Defining the virtual tourist community: implications for tourism marketing, *Tourism Management* 23 (2002) 407–417
- Scott, Allen (2004) *On Hollywood: The Place, The Industry* (Princeton University Press)

2/10—eWork: Telework, Back Offices, Call Centers

- Duxbury Linda, Higgins Christopher. 2002. Telework: A Primer for the Millennium Introduction. In C Cooper, R Burke, ed. *The New World of Work: Challenges and Opportunities*. Oxford: Blackwell
- Elizabeth K Burns (2000) “Travel, Gender and Work: Emerging Commuting Choices in Inner-City Phoenix” in Wheeler, Aoyama and Warf (2000) *Cities in the Telecommunications Age*. (London: Routledge). pp. 267-282
- Gurstein Penny. 2001. *Wired to the World, Chained to the Home: Telework in Daily Life*. (Vancouver: UBC Press) chapters 1 & 9
- Richardson, Ranald and Vicki Belt (2001) “Saved by the Bell? Call Centres and Economic Development in Less Favoured Regions” *Economic and Industrial Democracy* 22:67-98 (pdf)
- Breatnach, P. (2000) ‘Globalisation, Information Technology and the Emergence of Niche Transnational Cities: The Growth of the Call Centre Sector in Dublin’, *Geoforum* 31: 477±85.
- Richardson, R., V. Belt and J.N. Marshall (2000) ‘Taking Calls to Newcastle: The Regional Implications of the Growth in Call Centres’, *Regional Studies* 34(4): 357±69.
- Uchitelle, Louis (2002) “Answering '800' Calls Offers Extra Income but No Security”, *New York Times*, March 27, 2002.
- Deloitte & Touche, (2001) *2000 Call Center Location Survey*

## 2/15—Technology and Global Human Development

Human Development Report 2001, *Making New Technologies Work for Human Development*, <http://hdr.undp.org/reports/global/2001/en/default.cfm> especially Chapter two: “Today’s technological transformations—creating the network age.” And Chapter Three: “Managing the Risks of Technological Change”

Intermediate Technology Development Group critique of the Human Development Report: *Enabling people to make technologies work for them.*

[http://www.itdg.org/home.html?html/whats\\_new/human\\_development\\_report.htm~mainFrame](http://www.itdg.org/home.html?html/whats_new/human_development_report.htm~mainFrame)

## **IV. INFRASTRUCTURE AND URBAN FORM**

### 2/17—Networked Infrastructures and the Urban Condition

Graham, Stephen (2000) “Constructing premium network spaces: reflections on infrastructure networks and contemporary urban development” *International Journal of Urban and Regional Research* 24.1, 183-2000

Coutard, Olivier (2002) ‘Premium Network Spaces: A Comment’, *International Journal of Urban and Regional Research* 26.1, March, 166-74

Graham, Stephen (2002) “On Technology, Infrastructure, and the Contemporary Urban Condition: A Response to Coutard” *International Journal of Urban and Regional Research* 26.1, 175-82

### 2/22—The Rise and Fall of The Modern Ideal of Infrastructure

Graham, Stephen and Simon Marvin (2001) *Splintering Urbanism* (London: Routledge), Chapter 2, “Constructing the Modern Networked City, 1850-1960”, chapter 3, “The Collapse of the Integrated Ideal”, pp. 37-136

### 2/24—City as Sociotechnical Process

Graham, Stephen and Simon Marvin (2001) *Splintering Urbanism* (London: Routledge), Chapter 4, “Practices of Splintering Urbanism” & Chapter 5, “City as Socio-Technical Process”, pp.137-216.

### 3/1—Intelligent Transportation Systems

Broucke, M. and Varaiya, P. (1997) “The Automated Highway System: A Transportation Technology for the 21<sup>st</sup> Century” *Control Engineering Practice* Vol 5, No. 11. pp. 1583-1590

“California Pioneers High-Tech Traffic Solutions” *Arizona Daily Sun*, October 6, 2002

Schonfeld, Erick (2001) “Future Boy: The Web on Wheels” *Business 2.0*, November 2001 Issue

### 3/3—Water Provision

Tagliabue, John (2002) “As Multinationals Run the Taps, Anger Rises Over Water for Profit” *New York Times* August 26, 2002.

Laila Smith and Ahmedi Vawda (2002) “Citizen vs. customer—Different Approaches to Public Participation in Service Delivery in Cape Town” Unpublished manuscript

Laila Smith and David MacDonald (2001) .Municipal Services Project Occasional Paper No. 7: Privatizing Cape Town: Service Delivery and Policy Reforms Since 1996.

Municipal Services Project (Water Provision in South Africa)  
<http://qsilver.queensu.ca/~mspadmin/>

Polaris Institute— <http://www.polarisinstitute.org>

3/8-3/10—No Class, Spring Break

## V. URBAN SOCIAL AND CULTURAL LIFE

3/15—Splintering Urbanism

Graham, Stephen and Simon Marvin (2001) *Splintering Urbanism* (London: Routledge), chapter 6 “Social Landscapes of Splintering Urbanism”, chapter 7, “‘Glocal’ Infrastructure and the Splintering of Urban Economies”, pp. 217-378

Schön et al., eds. (2001) *High Technology and Low-Income Communities* (Cambridge: MIT Press) Introduction and Part I Setting the Context, pp. 1-150.

3/17—Unequal Technological Access

Schön et al., eds. (2001) *High Technology and Low-Income Communities* (Cambridge: MIT Press), chapter 6 “Equitable access to the Online World” by William J. Mitchell, pp. 151-162

US Dept of Commerce (2000) *Falling Through the Net: Toward Digital Inclusion* (pdf file)

Servon, Lisa, (2002) *Bridging the Digital Divide: Technology, Community and Public Policy* (Oxford: Blackwell), excerpts

Benton Foundation Communications Policy & Practice <http://www.benton.org/cpphome.html>

International Labour Review Vol. 140, No. 2, 2001. *Special issue on The Digital Divide: Employment and Development Implications.*

Digital Opportunity Task Force: <http://www.dotforce.org/>

<http://www.digitaldividenetwork.org>

3/22—Community Computing

Schön et al., eds. (2001) *High Technology and Low-Income Communities* (Cambridge: MIT Press), Chapters 12-15, pp. 287-369

Community Technology Center Network, <http://www.ctcnet.org/>

PolicyLink Technology Program: <http://www.policylink.org/technology/index.html>



### 3/24—Surveillance

Phil Agre (2001) “Your face is not a bar code: Arguments against automatic face recognition in public places” *Whole Earth* 106, 2001, pages 74-77. Available at: <http://dliis.gseis.ucla.edu/people/pagre/bar-code.html>

Koskela, Hille. 2000. 'The gaze without the eyes': video-surveillance and the changing nature of urban space. *Progress in Human Geography* 24:2, 243-65

## **VI. URBAN GOVERNANCE**

### 3/29—Reinventing government

Heeks, Richard, ed. (1999) *Reinventing Government in the Information Age* (London: Routledge) Chapters 1-3, pp. 1-74

Digital Government Research Center, <http://www.dgrc.org/>

Center for Technology in Government, <http://www.ctg.albany.edu/>

### 3/31--Management and Service Issues

Heeks, Richard, ed. (1999) *Reinventing Government in the Information Age* (London: Routledge) Chapters 5-6, pp. 113-155

Metropolis: The Information Society and The City commission Report on E-Government (pdf file)

UNDP Urban Governance Program <http://www.tugi.apdip.net/>

### 4/5—Democratization and Participation

Laila Smith and Ahmedi Vawda (2002) Citizen vs. customer—Different Approaches to Public Participation in Service Delivery in Cape Town. Unpublished manuscript

Heeks, Richard, ed. (1999) *Reinventing Government in the Information Age* (London: Routledge) Chapters 8-10, pp. 177-230

Schön et al., eds. (2001) *High Technology and Low-Income Communities* (Cambridge: MIT Press), chapter 7, “Information Technologies that Change Relationships between Low-Income Communities and the Public, and Nonprofit Agencies that Serve Them” by Joseph Ferreira, Jr., and chapter 8, “Planning Support Systems for Low-Income Communities”, by Michael J. Shiffer, pp. 163-212

InfoResources West Philly: <http://westphillydata.library.upenn.edu/>

Neighborhood Knowledge Los Angeles: <http://nkla.sppsr.ucla.edu/>

Digital Visualization of the Built Environment Resources from the Center for Advanced Spatial Analysis, <http://www.onlineplanning.org/>

### 4/7—Urban Social Movements

Castells, Manuel et al (1995-6) “Insurgents Against the Global Order: A comparative Analysis of the Zapatistas in Mexico, the American Militia and Japan’s AUM Shinrikyo” *Berkeley Journal of Sociology* Vol. XXXX

Rheingold, Howard *Smartmobs: The Next Social Revolution* (New York: Basic Books)

Wireless Text Messaging helped bring down Philippines President Joseph Estrada,  
<http://www.alteich.com/tidbits/t031901.htm>

Kellner, D. 1999. "New technologies: technocities and the prospects for democratization." in J Downey, J McGuigan, ed. *Technocities*. London: Sage

## VII. URBAN FUTURES

### 4/12—Policy Options—Urban Governance

Graham, Stephen and Simon Marvin (2001) *Splintering Urbanism* (London: Routledge) Chapter 8, "Conclusion", and Postscript, pp. 379-420

Schön et al., eds. (2001) *High Technology and Low-Income Communities* (Cambridge: MIT Press), chapter 16, "Information Technology and Urban Poverty: The Role of Public Policy", pp. 371-394

Graham, Stephen (2004) *Cybercities Reader* (London: Routledge) Part 3, Section VIII "Cybercity strategy and Policies" pp. 335-384

PolicyLink (2001) *Bridging the Organizational Divide: Toward a Comprehensive Approach to the Digital Divide* (pdf file)

Hall, Peter, Pfeiffer, Ulrich. 2000. *Urban Future 21: A Global Agenda for Twenty-First Century Cities*. London: E & FN Spon, especially Chapter 5 "Good Governance in Practice, An Action Plan"

### 4/14—Confronting the International Digital Divide—Policy Options

Bridging the Digital Divide Conference, <http://www.internetworldsummit.org/>  
[www.digitalopportunity.org](http://www.digitalopportunity.org)

UNESCO Communications and Information Sector:  
<http://www.unesco.org/webworld/index.shtml>

UN ICT Task Force, <http://www.unicttaskforce.org>

World Summit on the Information Society, <http://www.itu.int/wsis/>

## VIII. STUDENTS PRESENTATIONS

4/19

4/21

4/26

4/28