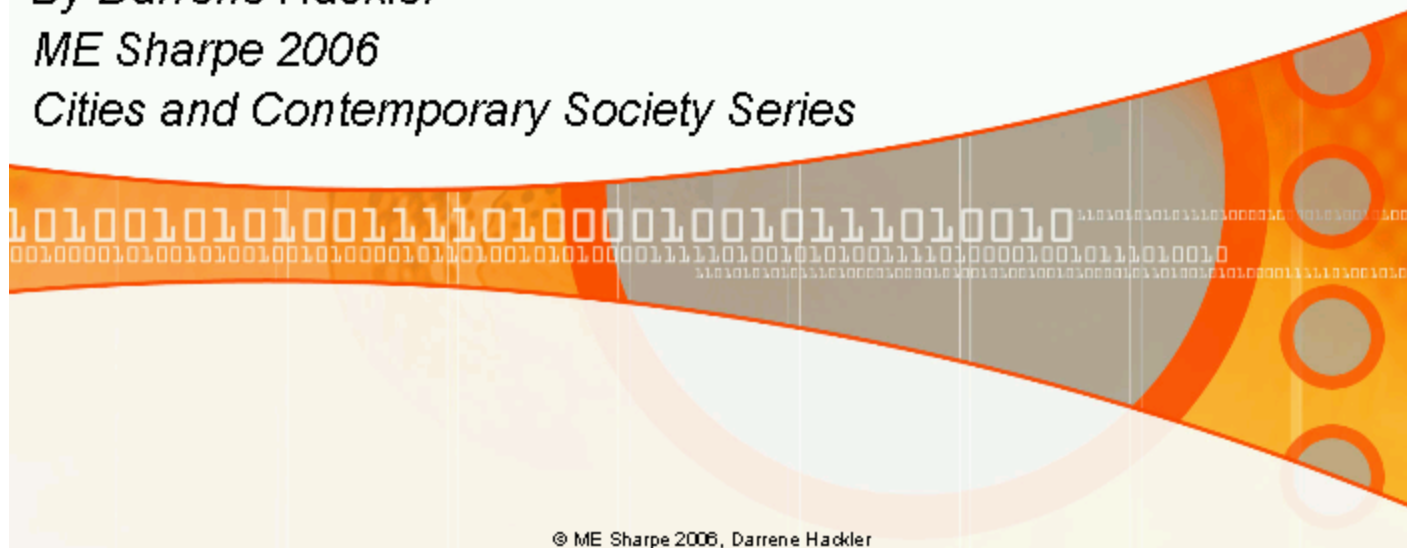


Cities in the Technology Economy

By Darrene Hackler

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Cities and Contemporary Society Series

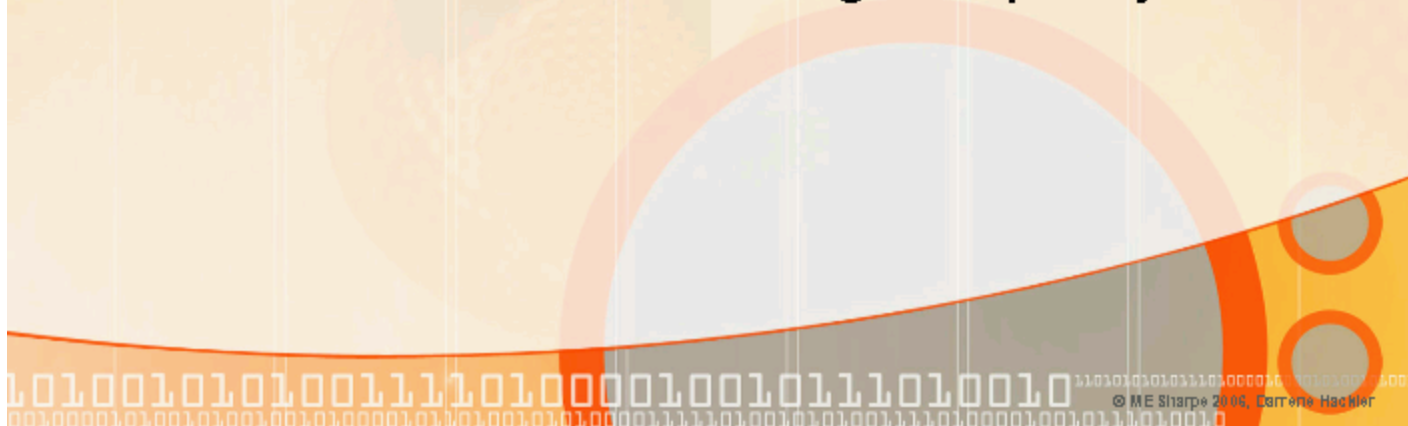


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Cities in the Technology Economy

Key Issues

- *Need for an improved definition encompassing technology sectors and infrastructure*
- *Cities are locus of policy action.*
- *Disparities exist and are persistent.*
- *No systematic accounting of city actions*
- *Need for more informed, targeted policy*



Key Issues

What is the technology economy?

Technology Infrastructure

- *Information Technology*
 - (Dedrick, Gurbaxani, and Kraemer 2003, Jorgenson and Stiroh 2000; Oliner and Sichel 2002)
- *Telecommunications*
 - (Rondinelli 2001, Yilmaz and Dinc 2002, Atkinson and Gottlieb 2001)

Technology Sectors

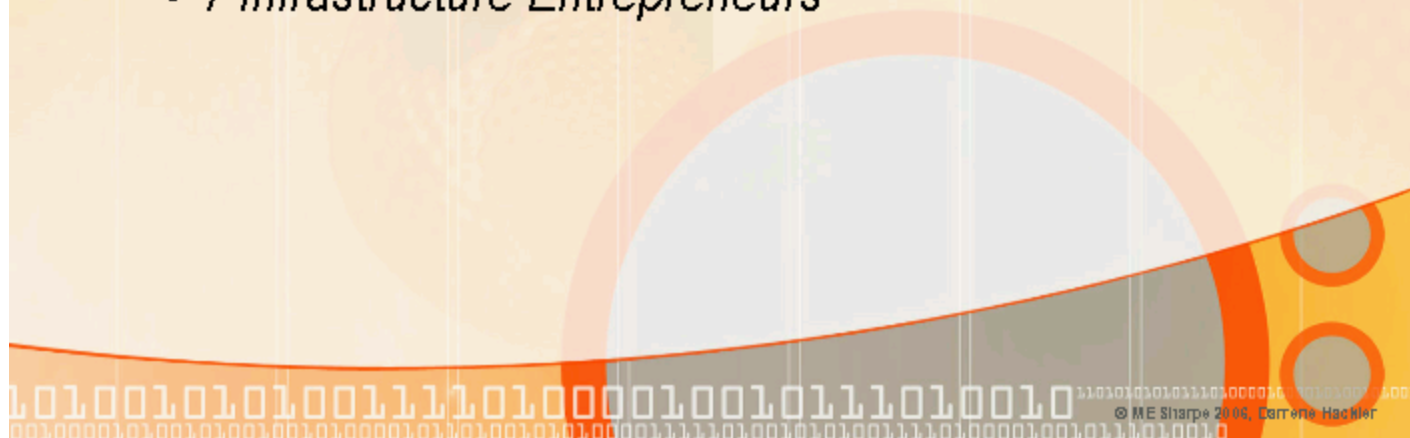
- *Technology Employers*
 - (Chapple et al. 2004, Romer 1986; Lucas 1988; Glaeser 1998; Glaeser 2000; Florida 2002)
- *Technology Generators*
 - (Bresnahan and Gambardella 2004; Eisinger 1988; Clarke and Gaile 1998)

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What is the technology economy?

Approach and Methods

- *Triangulation of methods*
 - *National level data*
 - *US Census Data, FCC, FBI, Patents*
 - *Survey Data*
 - *252 cities, 28% response rate, +/- 5% margin of error*
 - *Case Studies*
 - *7 Infrastructure Entrepreneurs*



Approach and Methods

Technology Sectors

- *Rankings indicate regional clusters*
- *Cities with greater technology employment*
 - *fare well economically, have greater innovative activity, higher concentrations of college graduates and younger populations, yet less minority concentration*
- *Large gains in technology employment are correlated with*
 - *younger populations, higher rates of innovation, more college graduates, and the integration of technology infrastructure as part of local economic development strategies*

Technology Sectors

City Perspectives

- *Technology infrastructure plays a key role in their economies.*
- *Cities are providers but not the main providers.*
- *Conflict exists between the public and private sectors regarding technology infrastructure growth.*
- *Cities lack knowledge about the capacity and location of their local technology infrastructure.*

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City Perspectives

Infrastructure Entrepreneurs

- *Tacoma, Washington*
- *Lansing, Michigan*
- *San Jose, California*
- *Roanoke, Virginia*
- *Mesa, Arizona*
- *Portland, Oregon*
- *Charlotte, North Carolina*

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Infrastructure Entrepreneurs

Technology Infrastructure Assets

- *Economic development planning*
 - *IT initiatives, “tech savvy” city*
- *Specific policy device or action to generate economic growth*
 - *Wi-Fi hot spots, technology zones, E-streets*
- *Direct input into the cultivation of a certain type of business climate*
 - *Investment and deployment plans*
- *Infrastructure Inventories*
 - *Location, capacity, and ownership*

Technology Infrastructure Assets

Infrastructure Inventories

- ***Economic development***
 - *Buildings or developable lands meet functional telecommunications requirements of business*
- ***Rights-of-way management for transportation coordination***
 - *Limit chaos and costs associated with multiple network deployments and construction*
- ***Rights-of-way management for greater capacity***
 - *Licenses and franchises through which the city negotiates for extra functionality for schools, underserved areas, and/or public spaces*
 - *Joint venture opportunities*

Infrastructure Inventories

City Actions

- *Leverage existing assets*
 - *Municipal utility, joint venture infrastructure*
- *Infrastructure inventories*
- *Leadership and vision*
- *Public outreach and partnerships*
 - *Educate multiple private sector providers about areas that lack service and where opportunities exist.*
- *Holistic policy approach*
 - *Economic development, planning, transportation, public works, and finance departments*

City Actions

Policy Implications

- *Intergovernmental constraints*
 - *Federal*
 - *Lack of broadband policy*
 - *16th in 2005 in global broadband penetration*
 - *Down from 4th in 2001 (ITU)*
 - *Prevention of municipal infrastructure actions*
 - *State*
 - *Prevention of municipal infrastructure actions*
 - *Movement to state franchises*

Policy Implications

Localities Need Legal Flexibility

- *Cities aim for a close collaboration between local governments and the private providers.*
- *Local governments view their role as steering the boat, promoting better investment decisions in the private market through information exchange.*
- *Cities do not want to be redlined out of private traditional market expansions and must have the authority to address the lack of capacity on their own.*

Localities Need Legal Flexibility

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