

URP 402 / URP 610: Tech Clusters, Innovation Districts, and Smart Cities: Planning, Economic Development, and Social Consequences

Fall 2023

Tue/Thu 1:00-2:30pm 2222 A&AB

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This course examines the evolution, planning, design, funding, and future of high-tech clusters. These dense agglomerations of innovative enterprises take on various forms: suburban research parks, urban innovation districts, industrial corridors, tech incubators/accelerators, and smart cities. They range in scale from single megastructures to neighborhoods, cities, and regions. We examine the economic advantages of these clusters (higher levels of innovative learning-and-interaction, synergies across firms and sectors, higher wages and job advancement, a critical mass of entrepreneurial activity and venture capital), as well as the social and environmental costs (e.g., on housing affordability, labor markets, open space, pollution, inequality, traffic congestion, historic preservation). We contrast government versus private-driven tech clusters, and explore the role of research universities as hubs and instigators of tech parks. We trace the shifting geography of these tech centers: starting on the East Coast but later migrating south and west; moving from industrial cities to modern, campus-like suburban settings; and the recent “back-to-the city” push to build urban “innovation districts” (e.g., in Detroit and Boston). The overall theme is the dynamic interaction between place, urban form, technological innovation, and economic development.

We will engage a range of case studies from around the country and world, including:

- Silicon Valley (the quintessential late 20th century high tech region)
- Boston/Route 128 (the predecessor to Silicon Valley, re-emerging as a center of biotechnology)
- Seattle (the hub for Boeing, Microsoft, and Amazon)
- Southern California (the historic center of the US aerospace/defense industry)
- Research Triangle Park, North Carolina (a state effort to catapult this southern economy into a booming center of corporate R&D)
- Austin TX (the next Silicon Valley?)
- Amazon’s recent search for a second headquarters (HQ2), triggering a lively competition between 100+ cities and regions in North America (Northern Virginia won, and New York City won — then lost).
- Berlin (“Elektropolis”: the center of the European electronics revolution a century ago, and striving to again become a tech hub of Europe)
- Bangalore (Bengaluru), India's high-tech metropolis
- the promise and failure of Google’s Sidewalk Labs to build their ambitious “city of the future” in Toronto (and the reason why city residents strongly opposed the project)
- South Korea’s rising tech sector, including Songdo “smart city” (just outside Seoul)
- the rise of high-tech clusters in China (e.g., Beijing, Shanghai, and Shenzhen)