URP 489 & URP 589
Tech Clusters and Smart Cities: Planning, Economic Development, and Social Consequences of Urban Innovation

Fall 2025
Tuesday & Thursday, 10:00 - 11:20 am (2213 A&AB)
Instructor: Prof. Scott Campbell (sdcamp@umich.edu)

This combined undergrad (489) & grad (589) course explores the interplay of cities and technology: both the dynamics of urban tech clusters and the transformative impact of technologies on urban life (smart cities). (1) How do cities provide the environment to creatively generate technological innovations? and (2) How do technologies enable cities to thrive and concentrate people, businesses and culture in dense urban spaces? Our guiding theme is the dynamic interaction between place, urban form, tech innovation, and economic development.

We begin with the evolution, planning, design, funding, and future of high-tech clusters. What are their economic advantages (higher levels of learning-and-interaction, synergies across firms, higher wages and job advancement, a critical mass of entrepreneurial activity and venture capital)? What are the social and environmental costs: on housing affordability, labor markets, open space, pollution, climate change, inequality, traffic?

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 (and around the world); moving from industrial cities to modern, campus-like suburban settings; and the recent "back-to-the city" push to build urban "innovation districts." Overall, why do people, businesses, capital and ideas tend to cluster together in specific locations at specific historical moments, then break apart and recombine elsewhere? What are the resulting urban landscapes and social cultures? Should we view them as models of ideal future information-based communities, or as toxic and distorted landscapes of techno-boosterism and inequality -- or a bit of both? (Many of you will end up living and working in these tech clusters, so it's worthwhile to get to know them.)

We then turn to the rise of "smart cities." What is the promise and dangers of treating cities as if they are computer networks? We examine privacy, surveillance, sensors and big data; NextGen urban mobility (automated vehicles, Uber/Lyft; etc.); Generative AI-driven urban planning/design.

Case studies include:

Silicon Valley (a quintessential 20th century tech region)
Boston/Route 128 (the predecessor to Silicon Valley)
Seattle (the hub for Boeing, Microsoft, and Amazon)
Southern California (aerospace/defense electronics)
Research Triangle Park, North Carolina
Austin TX (the next Silicon Valley?)
Amazon's search for a second headquarters (HQ2)
Berlin ("Elektropolis")

Los Alamos (and secret military tech cities)
Bangalore (Bengaluru), India's high-tech metropolis
The rise of the city-state Singapore
Fintech Centers (New York, London, Frankfurt, etc.).
Google's failed Sidewalk Labs project in Toronto
Songdo "smart city" (just outside Seoul)
Chinese tech cities (eg, Beijing, Shanghai, and Shenzhen)

This course is open to both undergraduate (URP489) and graduate (URP589) students. *In past years fall we had students from multiple programs: Urban Technology, Urban Planning, Architecture, Urban Design, SEAS, Ross School of Business, School of Information, LSA, Real Estate, Civil Engineering, Public Policy and Computer Science.*

Course syllabus: https://websites.umich.edu/~sdcamp/urp489/