Geoff Boeing

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EDUCATION

University of California, Berkeley

Ph.D. City and Regional Planning, 2017 (expected).

Dissertation: "Methods and Measures for Analyzing Complex Street Networks and Urban Form."

Committee: Paul Waddell (chair), Robert Cervero, Elizabeth Macdonald, David O'Sullivan.

Arizona State University

M.S. Information Management, 2006.

B.S. Computer Information Systems, 2004.

Graduated *summa cum laude* from the Barrett Honors College.

Minor, Psychology.

RESEARCH AND TEACHING INTERESTS

Urban planning and transportation-land use policy.

Urban form, including history and theories of form/design and contemporary paradigms.

Rental housing markets and affordability.

Urban data science: computational statistics, data visualization, spatial analysis, Python, big data.

Complex systems: complexity theories of cities, systems thinking, network analysis.

PUBLICATIONS

Peer-Reviewed Journal Articles

1. Boeing, G. and P. Waddell. 2016. "New Insights into Rental Housing Markets across the United States: Web Scraping and Analyzing Craigslist Rental Listings." *Journal of Planning Education and Research*, published online before print.
2. Boeing, G. 2016. "Honolulu Rail Transit: International Lessons from Barcelona in Linking Urban Form, Design, and Transportation." *Planext* 2, 28–47.
3. Boeing, G. 2016. "Visual Analysis of Nonlinear Dynamical Systems: Chaos, Fractals, Self-Similarity, and the Limits of Prediction." *Systems* 4(4), 37.
4. Boeing, G., D. Church, H. Hubbard, J. Mickens, and L. Rudis. 2014. "LEED-ND and Livability Revisited." *Berkeley Planning Journal* 27(1), 31–55.

Journal Article Manuscripts Under Review

5. Boeing, G. 2017. "The Effects of Inequality, Density, and Heterogeneous Residential Preferences on Urban Displacement and Metropolitan Structure: An Agent-Based Model." Revise and resubmit at *Journal of Artificial Societies and Social Simulation*.

6. Boeing, G. 2017. "OSMnx: New Methods for Acquiring, Constructing, Analyzing, and Visualizing Complex Street Networks." Revise and resubmit at *Computers, Environment and Urban Systems*.

Book Chapters and Other Articles

7. Barajas, J. M., G. Boeing, and J. Wartell. 2017. "Neighborhood Change, One Pint at a Time: The Impact of Local Characteristics on Craft Breweries." In: *Untapped: Exploring the Cultural Dimensions of Craft Beer*, edited by N. G. Chapman, J. S. Lellock, and C. D. Lippard. Morgantown, WV: West Virginia University Press.

8. Boeing, G. 2017. "Understanding Cities through Networks and Flows." *Berkeley Planning Journal* 28(1), 118–123.

9. Boeing, G. 2016. "How Our Neighborhoods Lost Food, and How They Can Get It Back." *Progressive Planning* 206(Winter), 35–37.

Patents

10. Beck, A. E., G. Boeing, and D. Shannon. 2014. *Systems and Methods for Analyzing Requirements*. Patented in various jurisdictions as: United States patent US8650186B2, European patent EP2413256, Australian patent AU2011204935, Canadian patent CA2747481, and Chinese patent CN102346763.

Manuscripts in Preparation

11. Boeing, G. 2017. "Socio-demographic and Spatial Representation of Online Rental Listings: Evidence from Craigslist."

12. Boeing, G. 2017. "New Methods for Collecting and Analyzing Historical Online Rental Listings."

13. Boeing, G. 2017. "Comparative Visualization of Urban Form and Street Networks: Planning and Communication Tools for Urban Designers."

14. Boeing, G. 2017. "A Multi-Scale Analysis of 27,000 Urban Street Networks."

15. Boeing, G. 2017. "Methods for Measuring the Complexity of Urban Form and Design."

16. Nguyen, D. and G. Boeing. 2017. "Economic Trends in Craigslist's Online Market for Used Cars."

CONFERENCE PRESENTATIONS

2016. "Craigslist and U.S. Rental Housing Markets." American Planning Association Annual Conference. Phoenix, Arizona.

2016. "Understanding Informal Rental Housing Markets through Public Data." Association of American Geographers Annual Meeting. San Francisco, California.

2015. "Methods for Measuring the Aggregate Complexity Outcomes of Urban Design." International Conference on Complex Systems. Tempe, Arizona.

2015. "Pedagogy of Urban Informatics." College of Environmental Design Circus. Berkeley, California.

2014. "Web Scraping Urban Data: Lessons from the Lab and the Classroom." American Collegiate Schools of Planning Annual Conference. Philadelphia, Pennsylvania.

2014. "LEED-ND and Perceptions of Livability." College of Environmental Design Circus. Berkeley, California.

INVITED TALKS

2017. "Scalable Methods for Acquiring, Analyzing, and Visualizing Urban Street Networks." The Santa Fe Institute. Santa Fe, New Mexico.

2016. "Urban Data Science for Studying Housing Affordability and Urban Form." NYU Center for Urban Science and Progress. Brooklyn, New York.

2016. "Smart Cities, Technology, and Representation: Prospects and Challenges." Adobe Systems. San Jose, California.

TEACHING EXPERIENCE

University of California, Berkeley

Urban Informatics and Visualization, co-lead instructor (Fall 2013, Fall 2014, Fall 2015, Fall 2016).

Graduate-level data science course that teaches urban data analysis, computational statistics, visualization, and mapping using the Python programming language, open source analysis/visualization tools, and public data. Provides future city planners with a modern toolkit of technical skills for computational problem solving, reproducible research, policy analysis, and advocacy.

SERVICE POSITIONS

University of California, Berkeley

Ph.D. program faculty representative, 2015–2016.

Book review editor, *Berkeley Planning Journal*, 2013–2014.

FELLOWSHIPS, GRANTS, AND AWARDS

University of California Doctoral Completion Fellowship, 2016–2017.

University of California Graduate Division Travel Grant, 2016.

University of California Regents' Fellowship, 2012–2016.

Kaye Bock Award for Best Journal Article, 2014.

Accenture Inventor Innovation Award, 2010.

Honeywell Scholarship Award, 2003–2004.

Exxon Computer Information Systems Award, 2002–2003.

Samuel and Lorraine Reich Endowed Scholarship, 2002–2003.

Jerry Wistosky Memorial Scholarship, 2002–2003.

Alumni Association L. William Seidman Scholarship, 2002–2003.

AAL Scholarship Award, 2000–2004.

PROFESSIONAL AFFILIATIONS

Member, American Planning Association.

Member, Association of American Geographers.

Member, Complex Systems Society.

Member, Association for Computing Machinery.

Member, Project Management Institute.

CONSULTING ENGAGEMENTS

Calthorpe Associates, 2017–present.

UrbanSim Inc., 2016–present.

Raimi & Associates, 2013.

Avalon Health Economics, 2013–present.

Accenture, 2009–2013.

PROFESSIONAL EXPERIENCE

Unversity of California, Berkeley

Graduate Student Researcher and Instructor, 2013–2016.

Led affordable housing research project in the Urban Analytics Lab, collecting and analyzing big data from Craigslist rental listings. Co-taught Urban Informatics and Visualization course. Lecturer at the UC Berkeley D-Lab.

Accenture

Project Manager and Consultant, 2009–2013.

Led an international development knowledge management project to re-engineer how livelihoods information and knowledge resources are shared across cultural and geographical boundaries. Researched and developed information discovery tools and databases, using semantic ontologies and natural language processing.

Permission Data

Front-End Systems Product Manager, 2007–2009.

Developed data brokering systems for large data sets. Led collaborative teams to gather requirements, design, and build front-end systems and web services.

Acumen, Inc.

Web Systems Developer, 2004–2007.

Enterprise information systems analysis, design, development, and support for a non-profit organization. Designed and built online enterprise systems, reporting systems, and back-end databases.

SKILLS AND METHODS

Statistical and Computational Methods

Multivariate statistics and various machine learning algorithms, systems analysis, data mining, data wrangling and ETL, Python (including numpy, scipy, pandas, matplotlib, statsmodels, networkx, and scikit-learn), web scraping, agent-based modeling and microsimulation (including UrbanSim, NetLogo, and Mesa), R, Java, .NET, PHP, HTML, MySQL, Postgres, and various other databases.

Geospatial Methods

GIS, spatial analysis, network analysis, QGIS, ArcGIS, PostGIS, geopandas, urban modeling and simulation, Leaflet, Mapbox.

Project Management

I am a credentialed Project Management Professional (PMP), and have managed projects and led various teams in academia, the public sector, and the private sector.

International Experience

I have previously worked professionally in the United States, the United Kingdom, Malawi, Mozambique, South Africa, Cambodia, and Thailand.

Security Clearance

U.S. Department of Defense: secret clearance.
U.S. Department of Homeland Security: public trust.

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