Geoff Boeing

Department of City and Regional Planning
University of California, Berkeley
Berkeley, California 94720

Email: gboeing@berkeley.edu
Web: http://geoffboeing.com/
Phone: +1 917 267 2297

EDUCATION

Ph.D. City and Regional Planning, University of California, Berkeley, 2017
Methods and Measures for Analyzing Complex Street Networks and Urban Form
Committee: Paul Waddell, Robert Cervero, Elizabeth Macdonald, David O'Sullivan

M.S. Information Management, Arizona State University, 2006

B.S. Computer Information Systems *summa cum laude*, Arizona State University, 2004

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: statistics/machine learning, visualization, spatial analysis, big data, Python

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

PUBLICATIONS

Peer-Reviewed Journal Articles

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

2017 Boeing, G. "OSMnx: A Python package to work with graph-theoretic OpenStreetMap street networks." *Journal of Open Source Software* 2(12).

2016 Boeing, G. and P. Waddell. "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.

2016 Boeing, G. "Honolulu Rail Transit: International Lessons from Barcelona in Linking Urban Form, Design, and Transportation." *Planext* 2, 28–47.

2016 Boeing, G. "Visual Analysis of Nonlinear Dynamical Systems: Chaos, Fractals, Self-Similarity, and the Limits of Prediction." *Systems* 4(4), 37.

2014 Boeing, G., D. Church, H. Hubbard, J. Mickens, and L. Rudis. "LEED-ND and Livability Revisited." *Berkeley Planning Journal* 27(1), 31–55.

Journal Article Manuscripts Under Review

2017 Boeing, G. "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*.

2017 Boeing, G. "A Multi-Scale Analysis of 27,000 Urban Street Networks." Under review at *Environment and Planning B*.

2017 Boeing, G. "Methods for Measuring the Complexity of Urban Form and Design." Under review at *Urban Design International*.

Book Chapters and Other Articles

2017 Barajas, J. M., G. Boeing, and J. Wartell. "Neighborhood Change, One Pint at a Time: The Impact of Local Characteristics on Craft Breweries." In: *Untapped: Exploring the Cultural Dimensions of Craft Beer* (pp. 155–176), edited by N. G. Chapman, J. S. Lellock, and C. D. Lippard. Morgantown, WV: West Virginia University Press.

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

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

Patents

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

Manuscripts in Preparation

2017 Boeing, G. "Sociodemographic and Spatial Representativeness of Online Rental Listings: Evidence from Craigslist."

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

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

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

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.

CONFERENCE PRESENTATIONS

2017 "New Methods for Acquiring and Analyzing Worldwide Street Network Data: A Multiscale Analysis of 27,000 Urban Street Networks." American Collegiate Schools of Planning Annual Conference. Denver, Colorado. Oct 12–15 (upcoming).

2016 "Craigslist and U.S. Rental Housing Markets." American Planning Association Annual Conference. Phoenix, Arizona. Apr 2–5.

2016 "Understanding Informal Rental Housing Markets through Public Data." Association of American Geographers Annual Meeting. San Francisco, California. Mar 29–Apr 2.

2015 "Methods for Measuring the Aggregate Complexity Outcomes of Urban Design." International Conference on Complex Systems. Tempe, Arizona. Sep 28–Oct 2.

2015 "Pedagogy of Urban Informatics." Environmental Design Circus. Berkeley, California. Mar 6.

2014 "Web Scraping Urban Data: Lessons from the Lab and the Classroom." American Collegiate Schools of Planning Annual Conference. Philadelphia, Pennsylvania. Oct 30–Nov 2.

2014 "LEED-ND and Perceptions of Livability." Environmental Design Circus. Berkeley, California. Mar 13.

CONFERENCE PANELS ORGANIZED

2017 "Emerging Computational Methods in Urban Design." American Collegiate Schools of Planning Annual Conference. Denver, Colorado. Oct 12–15 (upcoming).

RESEARCH EXPERIENCE

2013–16 Graduate Student Researcher
UC Berkeley Urban Analytics Lab
Principal Investigator: Paul Waddell

TEACHING EXPERIENCE

University of California, Berkeley

2015–16 Co-Lead Instructor (Fall 2016, Fall 2015)
Urban Informatics and Visualization
Graduate course

2013–14 Graduate Student Instructor (Fall 2014, Fall 2013)
Urban Informatics and Visualization
Graduate course

SERVICE POSITIONS

University of California, Berkeley

2015–16 Ph.D. program faculty representative

2013–14 Book review editor, *Berkeley Planning Journal*

FELLOWSHIPS, GRANTS, AND AWARDS

2016–17 University of California Doctoral Completion Fellowship

2016 University of California Graduate Division Travel Grant

2014 Kaye Bock Award for Best Journal Article

2012–16 University of California Regents' Fellowship

2010 Accenture Inventor Innovation Award

PROFESSIONAL AFFILIATIONS

American Planning Association (APA)

Association of American Geographers (AAG)

Complex Systems Society (CSS)

Python Software Foundation (PSF)

Association for Computing Machinery (ACM)

Project Management Institute (PMI)

CREDENTIALS

Project Management Professional (PMP)

U.S. Department of Defense secret clearance

U.S. Department of Homeland Security public trust

CONSULTING ENGAGEMENTS

2017– Calthorpe Associates

2016– UrbanSim, Inc.

2013– Avalon Health Economics

2013 Raimi & Associates

2009–13 Accenture

PROFESSIONAL EXPERIENCE

2013–16 University of California, Berkeley
Graduate Student Researcher and Instructor
Berkeley, California

2009–13 Accenture
Project Manager and Consultant
London, England; New York, New York; San Diego, California

2007–09 Permission Data
Front-End Systems Product Manager
New York, New York

2004–07 Acumen, Inc.
Web Systems Developer
Mesa, Arizona

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.

International Experience

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

Updated June 2017