Geoff Boeing

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EDUCATION

Ph.D.   City and Regional Planning, University of California, Berkeley, 2017

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

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

APPOINTMENTS

2019–   University of Southern California
Assistant Professor, Department of Urban Planning and Spatial Analysis, 2019–
Faculty Affiliate, Spatial Sciences Institute, 2021–

2021–   Brookings Institution
Nonresident Senior Fellow, Metropolitan Policy Program

2018–19   Northeastern University
Assistant Professor, School of Public Policy and Urban Affairs
Faculty Affiliate, Network Science Institute
Faculty Affiliate, Global Resilience Institute

2017–18   University of California, Berkeley
Postdoctoral Researcher, Department of City and Regional Planning

RESEARCH AREAS

Urban informatics and geospatial data science: computational statistics, visualization, and spatial analysis

Transportation planning: street network design, access, equity, and urban form

Housing: emerging technology platforms' impacts on markets, residential mobility, and segregation

PUBLICATIONS

Journal Articles

2022   G. Boeing, Y. Lu, and C. Pilgram. "Local Inequities in the Relative Production of and Exposure to Vehicular Air Pollution in Los Angeles." *Urban Studies*, in press.

2022   G. Boeing. "Street Network Models and Indicators for Every Urban Area in the World." *Geographical Analysis*, 54 (3), 519–535. doi:10.1111/gean.12281

2022   G. Boeing and W. Riggs. "Converting One-Way Streets to Two-Way Streets to Improve Transportation Network Efficiency and Reduce Vehicle Distance Traveled." *Journal of Planning Education and Research*, published online ahead of print. doi:10.1177/0739456X221106334

2022   G. Boeing, C. Higgs, S. Liu, B. Giles-Corti, J. F. Sallis, E. Cerin, M. Lowe, D. Adlakha, E. Hinckson, A. V. Moudon, D. Salvo, M. A. Adams, L. V. Barrozo, T. Bozovic, X. Delclòs-Alió, J. Dygrýn, S. Ferguson, K. Gebel, T. P. Ho, P. Lai, J. C. Martori, K. Nitvimol, A. Queralt, J. D. Roberts, G. H. Sambo, J. Schipperijn, D. Vale, N. Van de Weghe, G. Vich, and J. Arundel. "Using Open Data and Open-Source Software to Develop Spatial Indicators of Urban Design and Transport Features for Achieving Healthy and Sustainable Cities." *The Lancet Global Health*, 10 (6), 907–918. doi:10.1016/S2214-109X(22)00072-9

2022   B. Giles-Corti, A. V. Moudon, M. Lowe, D. Adlakha, E. Cerin, G. Boeing, C. Higgs, J. Arundel, S. Liu, E. Hinckson, D. Salvo, M. A. Adams, H. Badland, A. A. Florindo, K. Gebel, R. F. Hunter, J. Mitáš, A. L. Oyeyemi, A. Puig-Ribera, A. Queralt, M. P. Santos, J. Schipperijn, M. Stevenson, D. Van Dyck, G. Vich, and J. F. Sallis. "Creating Healthy and Sustainable Cities: What Gets Measured Gets Done." *The Lancet Global Health* 10 (6), 782–785. doi:10.1016/S2214-109X(22)00070-5

2022   M. Lowe, D. Adlakha, J. F. Sallis, D. Salvo, E. Cerin, A. V. Moudon, C. Higgs, E. Hinckson, J. Arundel, G. Boeing, S. Liu, P. Mansour, K. Gebel, A. Puig-Ribera, P. B. Mishra, T. Bozovic, J. Carson, J. Dygrýn, A. A. Florindo, T. P. Ho, H. Hook, R. F. Hunter, P. Lai, J. Molina-García, K. Nitvimol, A. L. Oyeyemi, C. D. G. Ramos, E. Resendiz, J. Troelsen, F. Witlox, and B. Giles-Corti. "City Planning Policies to Support Health and Sustainability: An International Comparison of Policy Indicators for 25 Cities." *The Lancet Global Health*, 10 (6), 882–894. doi:10.1016/S2214-109X(22)00069-9

2022   E. Cerin, J. F. Sallis, D. Salvo, E. Hinckson, T. L. Conway, N. Owen, D. Van Dyck, M. Lowe, C. Higgs, A. V. Moudon, M. A. Adams, K. L. Cain, L. B. Christiansen, R. Davey, J. Dygrýn, L. D. Frank, R. Reis, O. L. Sarmiento, D. Adlakha, G. Boeing, S. Liu, and B. Giles-Corti. "Determining Thresholds for Spatial Urban Design and Transport Features that Support Walking to Create Healthy and Sustainable Cities: Findings from the IPEN Adult Study." *The Lancet Global Health*, 10 (6), 895–906. doi:10.1016/S2214-109X(22)00068-7

2022   B. Giles-Corti, A. V. Moudon, M. Lowe, E. Cerin, G. Boeing, H. Frumkin, D. Salvo, S. Foster, A. Kleeman, S. Bekessy, T. Hérick de Sa, M. Nieuwenhuijsen, C. Higgs, E. Hinckson, D. Adlakha, J. Arundel, S. Liu, A. L. Oyeyemi, K. Nitvimol, and J. F. Sallis. "What Next? Expanding Our View of City Planning and Global Health, and Implementing and Monitoring Evidence-Informed Policy." *The Lancet Global Health*, 10 (6), 919–926. doi:10.1016/S2214-109X(22)00066-3

2022   S. Liu, C. Higgs, J. Arundel, G. Boeing, N. Cerdera, D. Moctezuma, E. Cerin, D. Adlakha, M. Lowe, and B. Giles-Corti. "A Generalized Framework for Measuring Pedestrian Accessibility around the World Using Open Data." *Geographical Analysis*, 54 (3), 559–582. doi:10.1111/gean.12290

2022   C. Higgs, A. Alderton, J. Rozek, D. Adlakha, H. Badland, G. Boeing, A. Both, E. Cerin, M. Chandrabose, C. De Gruyter, A. De Livera, L. Gunn, E. Hinckson, S. Liu, S. Mavoa, J. F. Sallis, K. Simons, and B. Giles-Corti. "Policy-Relevant Spatial Indicators of Urban Liveability And Sustainability: Scaling From Local to Global." *Urban Policy and Research*, published online ahead of print. doi:10.1080/08111146.2022.2076215

2022   M. Lowe, J. F. Sallis, D. Salvo, E. Cerin, G. Boeing, C. Higgs, S. Liu, E. Hinckson, D. Adlakha, J. Arundel, A. V. Moudon, E. Resendiz, and B. Giles-Corti. "A Pathway to Prioritizing and Delivering Healthy and Sustainable Cities." *Journal of City Climate Policy and Economy*, 1 (1), 111–123. doi:10.3138/jccpe-2022.1.1.0008

2021   G. Boeing. "Off the Grid… and Back Again? The Recent Evolution of American Street

Network Planning and Design." *Journal of the American Planning Association* 87 (1), 123–137. doi:10.1080/01944363.2020.1819382

2021   G. Boeing, M. Besbris, A. Schachter, and J. Kuk. "Housing Search in the Age of Big Data: Smarter Cities or the Same Old Blind Spots?" *Housing Policy Debate* 31 (1), 112–126. doi:10.1080/10511482.2019.1684336

2021   G. Boeing. "Spatial Information and the Legibility of Urban Form: Big Data in Urban Morphology." *International Journal of Information Management* 56, 102013. doi:10.1016/j.ijinfomgt.2019.09.009

2021   G. Boeing, M. Besbris, D. Wachsmuth, and J. Wegmann. "Tilted Platforms: Rental Housing Technology and the Rise of Urban Big Data Oligopolies." *Urban Transformations* 3, 6. doi:10.1186/s42854-021-00024-2

2020   G. Boeing, J. Wegmann, and J. Jiao. "Rental Housing Spot Markets: How Online Information Exchanges Can Supplement Transacted-Rents Data." *Journal of Planning Education and Research*, published online ahead of print. doi:10.1177/0739456X20904435

2020   G. Boeing. "Online Rental Housing Market Representation and the Digital Reproduction of Urban Inequality." *Environment and Planning A: Economy and Space* 52 (2), 449–468. doi:10.1177/0308518X19869678

2020   G. Boeing. "Planarity and Street Network Representation in Urban Form Analysis." *Environment and Planning B: Urban Analytics and City Science* 47 (5), 855–869. doi:10.1177/2399808318802941

2020   G. Boeing. "The Right Tools for the Job: The Case for Spatial Science Tool-Building." *Transactions in GIS* 24 (5), 1299–1314. doi:10.1111/tgis.12678

2020   G. Boeing. "A Multi-Scale Analysis of 27,000 Urban Street Networks: Every US City, Town, Urbanized Area, and Zillow Neighborhood." *Environment and Planning B: Urban Analytics and City Science* 47 (4), 590–608. doi:10.1177/2399808318784595

2020   G. Boeing. "Urban Street Network Analysis in a Computational Notebook." *Region: Journal of the European Regional Science Association* 6 (3), 39–51. doi:10.18335/region.v6i3.278

2019   W. Kang, T. Oshan, L. J. Wolf, G. Boeing, V. Frias-Martinez, S. Gao, A. Poorthuis, and W. Xu. "A Roundtable Discussion: Defining Urban Data Science." *Environment and Planning B: Urban Analytics and City Science* 46 (9), 1756–1768. doi:10.1177/2399808319882826

2019   G. Boeing. "Urban Spatial Order: Street Network Orientation, Configuration, and Entropy." *Applied Network Science* 4 (1), 67. doi:10.1007/s41109-019-0189-1

2019   G. Boeing. "Street Network Models and Measures for Every US City, County, Urbanized Area, Census Tract, and Zillow-Defined Neighborhood." *Urban Science* 3 (1), 28. doi:10.3390/urbansci3010028

2019   M. Padgham, G. Boeing, D. Cooley, N. Tierney, M. Sumner, T. Phan, and R. Beare. "An Introduction to Software Tools, Data, and Services for Geospatial Analysis of Stroke Services." *Frontiers in Neurology* 10, 743. doi:10.3389/fneur.2019.00743

2018   G. Boeing. "Measuring the Complexity of Urban Form and Design." *Urban Design International* 23 (4), 281–292. doi:10.1057/s41289-018-0072-1

2018   G. Boeing. "Estimating Local Daytime Population Density from Census and Payroll Data." *Regional Studies, Regional Science* 5 (1), 179–182. doi:10.1080/21681376.2018.1455535

2018   G. Boeing. "The Effects of Inequality, Density, and Heterogeneous Residential Preferences on Urban Displacement and Metropolitan Structure: An Agent-Based Model." *Urban Science* 2 (3), 76. doi:10.3390/urbansci2030076

2018   G. Boeing. "Pynamical: Model and Visualize Discrete Nonlinear Dynamical Systems, Chaos, and Fractals." *Journal of Open Source Education* 1 (1), 15. doi:10.21105/jose.00015

2017   G. Boeing. "OSMnx: New Methods for Acquiring, Constructing, Analyzing, and Visualizing Complex Street Networks." *Computers, Environment and Urban Systems* 65, 126–139. doi:10.1016/j.compenvurbsys.2017.05.004

2017   G. Boeing 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* 37 (4), 457–476. doi:10.1177/0739456X16664789

2017   G. Boeing. "OSMnx: A Python Package to Work with Graph-Theoretic OpenStreetMap Street Networks." *Journal of Open Source Software* 2 (12), 1. doi:10.21105/joss.00215

2016   G. Boeing. "Honolulu Rail Transit: International Lessons from Barcelona in Linking Urban Form, Design, and Transportation." *Planext* 2, 28–47. doi:10.17418/planext.2016.3vol.02

2016   G. Boeing. "Visual Analysis of Nonlinear Dynamical Systems: Chaos, Fractals, Self-Similarity, and the Limits of Prediction." *Systems* 4 (4), 37. doi:10.3390/systems4040037

2014   G. Boeing, D. Church, H. Hubbard, J. Mickens, and L. Rudis. "LEED-ND and Livability Revisited." *Berkeley Planning Journal* 27 (1), 31–55. doi:10.5070/BP327124500

Book Chapters

2022   G. Boeing, M. Batty, S. Jiang, and L. Schweitzer. "Urban Analytics: History, Trajectory, and Critique." In: *Handbook of Spatial Analysis in the Social Sciences*, edited by S. Rey and R. Franklin. Cheltenham, England: Edward Elgar. In press.

2021   G. Boeing and D. Arribas-Bel. "GIS and Computational Notebooks." In: *The Geographic Information Science & Technology Body of Knowledge*, edited by J. P. Wilson. Ithaca, NY: University Consortium for Geographic Information Science. doi:10.22224/gistbok/2021.1.2

2021   G. Boeing. "Exploring Urban Form Through OpenStreetMap Data: A Visual Introduction." In: *Urban Experience and Design: Contemporary Perspectives on Improving the Public Realm* (pp. 167–184), edited by J. B. Hollander and A. Sussman. New York, NY: Routledge. doi:10.4324/9780367435585-15

2019   G. Boeing. "The Morphology and Circuity of Walkable and Drivable Street Networks." In: *The Mathematics of Urban Morphology* (pp. 271–287), edited by L. D'Acci. Basel, Switzerland: Birkhäuser. doi:10.1007/978-3-030-12381-9_12

2017   J. M. Barajas, 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. doi:10.31235/osf.io/v88hh

Conference Proceedings

2022   C. Higgs, A. Alderton, J. Rozek, D. Adlakha, H. Badland, G. Boeing, A. Both, E. Cerin, M. Chandrabose, C. De Gruyter, L. Gunn, A. De Livera, E. Hinckson, S. Liu, S. Mavoa, J. Sallis, K. Simons, and B. Giles-Corti. "Calculation of Policy-Relevant Spatial Indicators of Urban

Liveability: Experiences of Scaling a Research Programme from Local to Global." *10th State of Australasian Cities Conference*. Melbourne, Australia: APO. doi:10.25916/jbnk-hp52

2019   G. Boeing. "Street Network Patterns, Orientation, and Entropy around the World." *Compendium of the Transportation Research Board 98th Annual Meeting*. Washington, DC: Transportation Research Board. https://trid.trb.org/view/1573315

2018   A. Abdelkader, G. Boeing, B. T. Fasy, and D. L. Millman. Topological Distance between Nonplanar Transportation Networks. *Proceedings of the 28th Fall Workshop on Computational Geometry*. New York, NY: City University of New York. https://bit.ly/3lHhqAD

2018   G. Boeing. "The Relative Circuity of Walkable and Drivable Urban Street Networks." *Compendium of the Transportation Research Board 97th Annual Meeting*. Washington, DC: Transportation Research Board. https://trid.trb.org/view/1495502

Edited Articles and Reviews

2018   G. Boeing. "Automated Street Network Analysis for Urban Planners with OSMnx." *Planning and Technology Today* 117 (Spring), 10–11. doi:10.31235/osf.io/mkbp3

2017   G. Boeing. "A Review of the Structure and Dynamics of Cities: Urban Data Analysis and Theoretical Modeling." *Journal of the American Planning Association* 83 (4), 418. doi:10.1080/01944363.2017.1362306

2017   G. Boeing. "Understanding Cities through Networks and Flows." *Berkeley Planning Journal* 28 (1), 118–123. doi:10.5070/BP328133862

2016   G. Boeing. "How Our Neighborhoods Lost Food, and How They Can Get It Back." *Progressive Planning* 206 (Winter), 35–37. doi:10.31235/osf.io/a5e2q

Reports and Other Publications

2021   G. Boeing, Y. Lu, C. Pilgram, and P. Mannino. "Race, Class, and the Production of and Exposure to Vehicular Pollution in Los Angeles." US Department of Transportation, Pacific Southwest Region UTC. Technical report. https://bit.ly/31RQjgM

2020   G. Boeing. "How Much Does It Cost to Rent an Apartment, Anyway?" Planetizen's Journal of Planning Education and Research Blog Series. Mar 10. https://bit.ly/37SU4lf

2018   P. Waddell, G. Boeing, M. Gardner, and E. Porter. "An Integrated Pipeline Architecture for Modeling Urban Land Use, Travel Demand, and Traffic Assignment." US Department of Energy SMART Mobility Urban Science Pillar: Coupling Land Use Models and Network Flow Models. Technical report. doi:10.31235/osf.io/74zaw

2017   G. Boeing. "Making Street Network Analysis Easy for Planners with OpenStreetMap." Association of Collegiate Schools of Planning Blog Series. Apr 11. https://bit.ly/3n5ac9K

Patents

2014   A. E. Beck, 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.

INVITED TALKS

2022   "Digitalization of the Housing Search: Homeseekers, Gatekeepers, and Market Legibility." University of Washington, Interdisciplinary Ph.D. Program in Urban Design and Planning

and Ph.D. Program in the Built Environment. Seattle, Washington. May 20.

2022   "Street Network Models and Indicators for Every Urban Area in the World." National University of Singapore, Department of Real Estate seminar series. Singapore. Mar 14.

2021   "Urban Morphology and Street Network Science." University of Cincinnati, Department of Geography. Cincinnati, Ohio. Oct 15.

2021   "Street Network Science and New Urban Data." Cornell University, Tech Campus. Urban Data guest lecture. New York, New York. Oct 13.

2021   "Street Networks and the Evolving Urban Structure." CEMFI Empirical Microeconomics seminar series. Madrid, Spain. Apr 8.

2021   "Street Network Models and Indicators for Every Urban Area in the World." University of Bristol and Newcastle University Centre for Data. Spatial Analytics and Data seminar series. Newcastle upon Tyne, England. Jan 26.

2020   "Street Networks and the Evolving Urban Structure." University of Chicago, Center for Spatial Data Science and Mansueto Institute for Urban Innovation. Chicago, Illinois. Nov 18.

2020   "Street Network Models and Indicators for Every Urban Area in the World." Asian Institute of Management. The Science of Data seminar series. Makati, Philippines. Oct 26.

2020   "OSMnx for Urban Street Network Analysis." University of California, Los Angeles, Department of Urban Planning. Introduction to GIS and Spatial Data Science, guest lecture. Los Angeles, California. Oct 26.

2020   "Introduction to Street Network Analysis with OSMnx." Alan Turing Institute and University of Warwick. Data Science for Social Good lecture series. London, England. Aug 21.

2020   "Volunteered Geographic Information in Urban Analytics." University of California, Berkeley, Department of City and Regional Planning. Introduction to Urban Data Analytics, guest lecture. Berkeley, California. Jun 17.

2020   "Modeling and Visualizing Urban Spatial Form." California State University, Long Beach, Department of Mathematics and Statistics. Long Beach, California. Apr 24 (canceled due to pandemic).

2019   "Urban Data Science: Street Networks and Travel Behavior." Evidation Health. Data Science Seminar Series. Santa Barbara, California. May 16.

2019   "Network Science for Urban Transportation Modeling and Long-Range Planning." MIT Megacity Logistics Lab at the Center for Transportation and Logistics. Cambridge, Massachusetts. May 9.

2019   "Computational Modeling and Analysis in Transportation System Design." Cornell University. Systems Engineering Seminar Series. Ithaca, New York. Apr 12.

2019   "Growth, Access, and Resilience as Urban Technology Paradigms Shift." The World Bank, Global Facility for Disaster Reduction and Recovery. Washington, DC. Apr 3.

2018   "Computational Urban Street Network Analysis." Virginia Tech. Urban Computing Seminar Series. Arlington, Virginia. Dec 4.

2018   "Urban Science and Street Networks." Massachusetts Institute of Technology, Department of Urban Studies and Planning. Cambridge, Massachusetts. Nov 27.

2018   "Introduction to Street Network Analysis with OSMnx." University of Helsinki, Digital

Geography Lab. Helsinki, Finland. Nov 16.

2018   "Urban Street Network Science with OSMnx." Tufts University, Department of Urban and Environmental Policy and Planning. Somerville, Massachusetts. Nov 15.

2018   "Free Data for Free Spaces: Democratizing and Disseminating Spatial Network Data and Models for Better Urban Planning." Venice Biennale of Architecture. Venice, Italy. Oct 24.

2018   "Online Rental Housing Market Representation and the Digital Reproduction of Urban Inequality." Harvard University, Joint Center for Housing Studies. Cambridge, Massachusetts. Sep 20.

2018   "Urban Street Network Science: Modeling, Simulating, and Visualizing Complex Transportation Systems." Uber Technologies. San Francisco, California. Aug 20.

2018   "The Study of Street Networks in Urban Data Science." NYU Center for Data Science. New York, New York. Apr 18.

2018   "Computational Street Network Analysis in Urban Form Studies." Columbia University Graduate School of Architecture, Planning, and Preservation. New York, New York. Apr 17.

2018   "Scalable Methods for Acquiring, Analyzing, and Visualizing Urban Street Networks." NYU Center for Urban Science and Progress, Applied Urban Science Group. Brooklyn, New York. Apr 16.

2018   "Studying Urban Form and Resilience through Large-Scale Street Network Analysis." University of California, Santa Barbara, Department of Geography. Santa Barbara, California. Jan 30.

2018   "Seeing Cities through New Technologies and Big Data." University of Oregon, School of Planning, Public Policy, and Management. Eugene, Oregon. Jan 25.

2018   "Urban Form, Sustainability, and Large-Scale Street Network Analysis." Northeastern University, School of Public Policy and Urban Affairs. Boston, Massachusetts. Jan 18.

2018   "Understanding Urban Form and Circulation through Large-Scale Street Network Analysis." Dartmouth College, Department of Geography. Hanover, New Hampshire. Jan 15.

2017   "Street Network Analyses of Urban Form Resilience and Equity." University of Chicago, Mansueto Institute for Urban Innovation. Chicago, Illinois. Nov 2.

2017   "Measuring Urban Form Sustainability with Topological and Geometric Street Network Analysis." Stanford University, Sustainable Urban Systems Initiative. Palo Alto, California. Oct 26.

2017   "Graph-Theoretic Representation and Analysis of Urban Street Networks." Montana State University, Department of Computer Science. Bozeman, Montana. Oct 16.

2017   "OpenStreetMap Network Data for Transportation Planning." Remix Transit Planning. San Francisco, California. Aug 16.

2017   "Street Networks: Urban Form and Resilience." University of Florida, Department of Urban and Regional Planning. Gainesville, Florida. May 8.

2017   "Scalable Methods for Acquiring, Analyzing, and Visualizing Urban Street Networks." The Santa Fe Institute. Santa Fe, New Mexico. Feb 2.

2016   "Urban Data Science for Studying Housing Affordability and Urban Form." NYU Center for Urban Science and Progress. Brooklyn, New York. Dec 14.

2016	"New Insights into Rental Housing Markets: Web Scraping and Analyzing Craigslist Rental Listings." City of Oakland. Oakland, California. May 12.
2016	"New Insights into Rental Housing Markets: Web Scraping and Analyzing Craigslist Rental Listings." City of San Francisco, Citywide Planning Division. San Francisco, California. Apr 19.
2016	"Smart Cities, Technology, and Representation: Prospects and Challenges." Adobe Systems. Sustainability Speaker Series. San Jose, California. Jan 28.

Campus Talks

2022	"Local Inequities in the Relative Production of and Exposure to Vehicular Air Pollution in Los Angeles." METRANS University Transportation Center Speaker Series. Los Angeles, California. Mar 30.
2020	"Street Network Models and Indicators for Every Urban Area in the World." METRANS University Transportation Center Speaker Series. Los Angeles, California. Oct 27.
2018	"Urban Street Network Science with OSMnx." Northeastern University Seattle Campus. Seattle, Washington. Nov 28.
2018	"The Legibility of Urban Spatial Order in Computational Street Network Analysis." NUVis: Northeastern University Visualization Consortium. Boston, Massachusetts. Oct 18.
2017	"Urban Street Network Analysis with OSMnx." Geospatial Innovation Facility, College of Natural Resources, University of California, Berkeley. Berkeley, California. Oct 5.

CONFERENCE ACTIVITY

Keynote and Plenary Addresses

2021	"Urban Mobility and Street Network Science." Regional Studies Association Winter Conference, Regional Studies Regional Science keynote lecture. Online. Nov 8.
2019	"Geographic Information, Spatial Networks, and the New Urban Science." American Association of Geographers Annual Meeting, 8th annual *Transactions in GIS* plenary address. Washington, DC. Apr 3–7.
2018	"The Legible and the Illegible: Urban Science, City Design, and Human Circulation." The Architect of the Future Conference, plenary address. Moscow, Russia. Sep 10–11.

Sessions Organized

| 2017 | "Emerging Computational Methods in Urban Design." Association of Collegiate Schools of Planning Annual Conference. Denver, Colorado. Oct 12–15. |

Sessions Chaired

2021	"Big Data and Machine Learning for Urban Mobility." Association of Collegiate Schools of Planning Annual Conference. Miami, Florida. Oct 21–23.
2019	"Machine Learning Methods." Association of Collegiate Schools of Planning Annual Conference. Greenville, South Carolina. Oct 24–27.
2019	"Social Systems." International Conference on Network Science. Burlington, Vermont. May 27–31.

2018   "Smart Cities Technologies for Transportation Systems." Smart Cities: Critical Infrastructure Symposium. Seattle, Washington. Nov 29.

Invited Panelist

2022   "Teaching Data Science in Urban Planning." Panelist with Marta González, Shan Jiang, and Anthony Vanky; chaired by Adam Millard-Ball. Association of Collegiate Schools of Planning Annual Conference. Toronto, Canada. Nov 3–6.

2022   "City Intelligence with Open Data." Panelist with Stephanie Dietrick, Cy Chan, and Sobhan Moosavi; chaired by Hua Wei. ACM International Conference on Web Search and Data Mining. Phoenix, Arizona. Feb 21–25.

2021   "Machine Learning in Public Health." Panelist with Catherine D'Ignazio, Jing Gao, and Alykhan Mohamed; chaired by Rumi Chunara. Conference on Neural Information Processing Systems. Online. Dec 6–14.

2021   "Plenary Session: AI and Big Data in Real Estate and Urban Studies." Panelist with Stephanie Sy, Thies Lindenthal, Man Cho, and Warren Wan; chaired by Tien Foo Sing. Joint Real Estate Conference of the American Real Estate and Urban Economics Association, Asian Real Estate Society, and Global Chinese Real Estate Congress. Singapore. Jul 18–21.

2020   "Nationwide Studies of Urban Form: Evolution, Innovation, and New Opportunities." Panelist with Reid Ewing, Shima Hamidi, and Catherine Brinkley; chaired by Steven Richter. Association of Collegiate Schools of Planning Annual Conference. Online. Nov 5–8.

2020   "Urban Data Science Beyond the Hype: Understanding the Challenges and Opportunities of Incorporating Data Science into Urban Planning Pedagogy and Practice." Panelist with Karen Chapple and Atul Pokharel; chaired by Abigail Cochran and Manuel Santana. Association of Collegiate Schools of Planning Annual Conference. Online. Nov 5–8.

2019   "Urban Data Science: Methods and Models for Our Changing Cities." Panelist with Vanessa Frias-Martinez, Wenfei Xu, Song Gao, and Ate Poorthuis; chaired by Levi Wolf and Wei Kang. American Association of Geographers Annual Meeting. Washington, DC. Apr 3–7.

2018   "Big Ideas Session on Civic Analytics and Urban Science." Panelist with Luis Bettencourt, Marta González, and Sarah Williams; chaired by Constantine Kontokosta. Association of Collegiate Schools of Planning Annual Conference. Buffalo, New York. Oct 25–28.

2018   "Who Benefits from 'Smart City' Technologies? How Can They Be a Piece of the Puzzle Toward Social and Environmental Justice?" Panelist with Lisa Schweitzer, Clint Andrews, and Tom Sanchez; chaired by Mehdi Heris. Association of Collegiate Schools of Planning Annual Conference. Buffalo, New York. Oct 25–28.

2017   "Public Communication Strategies for Planning Academics." Panelist with Jennifer Dill, Yingling Fan, and Justin Hollander; chaired by Carissa Slotterback. Association of Collegiate Schools of Planning Annual Conference. Denver, Colorado. Oct 12–15.

Symposia

2022   Global Launch of the Lancet Global Health Series on Urban Design, Transport, and Health. Hosted by *The Lancet Global Health*. Online. May 10–12.

2022   Bringing Digitalization Home: How Can Technological Changes Address Housing-Related Challenges? Hosted by Harvard University's Joint Center for Housing Studies and Graduate School of Design. Cambridge, Massachusetts. Mar 24–26.

2021   The Intersection of Smart Cities with Housing and Community Development. Hosted by *Housing Policy Debate* and Virginia Tech. Online. Feb 15.

2019   Spatial Data Science Symposium: Setting the Spatial Data Science Agenda. Hosted by the University of California, Santa Barbara. Santa Barbara, California. Dec 9–11.

Conference Papers Presented[1]

2023   G. Boeing, *C. Pilgram*, and Y. Lu. "Street Network Design and Transport-Related Greenhouse Gas Emissions around the World." Transportation Research Board Annual Meeting. Washington, DC. Jan 8–12.

2022   J. Harten and G. Boeing. "Negotiating Vulnerability: The Role of Gender in Shared Housing". Association of Collegiate Schools of Planning Annual Conference. Toronto, Canada. Nov 3–6.

2022   G. Boeing, C. Higgs, S. Liu, B. Giles-Corti, J. F. Sallis, E. Cerin, M. Lowe, D. Adlakha, E. Hinckson, A. V. Moudon, D. Salvo, M. A. Adams, L. V. Barrozo, T. Bozovic, X. Delclòs-Alió, J. Dygrýn, S. Ferguson, K. Gebel, T. P. Ho, P. Lai, J. C. Martori, K. Nitvimol, A. Queralt, J. D. Roberts, G. H. Sambo, J. Schipperijn, D. Vale, N. Van de Weghe, G. Vich, and J. Arundel. "Using Open Data and Open-Source Software to Develop Spatial Indicators of Urban Design and Transport Features for Achieving Healthy and Sustainable Cities." International Society for Physical Activity and Health Congress. Abu Dhabi, United Arab Emirates. Oct 23–26.

2022   G. Boeing. "Measuring Healthy, Sustainable Cities: Global Urban Indicators from Open Data." World Planning Schools Congress. Nusa Dua, Indonesia. Aug 29–Sep 2.

2022   G. Boeing, *Y. Lu*, C. Pilgram, and P. Mannino. "Race, Class, and the Production of and Exposure to Vehicular Pollution in Los Angeles." Association for Public Policy Analysis & Management Fall Conference. Austin, Texas. Mar 27–29.

2022   G. Boeing, Y. Lu, C. Pilgram, and P. Mannino. "Local Inequities in the Relative Production of and Exposure to Vehicular Air Pollution in Los Angeles." American Association of Geographers Annual Meeting. New York, NY. Feb 25–Mar 1.

2022   G. Boeing, *Y. Lu*, C. Pilgram, and P. Mannino. "Local Inequities in the Relative Production of and Exposure to Vehicular Air Pollution in Los Angeles." Transportation Research Board Annual Meeting. Washington, DC. Jan 9–13.

2021   S. Jamal, E. Desjardins, G. Boeing, R. Lovelace, and A. Paez. "Using R to Develop Open Source Course Packages with Computational Notebooks: An Example of Transportation Geography." Innovations in Education Conference. Hamilton, Canada. Dec 9–10.

2021   C. Higgs, J. Rozek, A. Alderton, B. Giles-Corti, H. Badland, C. De Gruyter, D. Adlakha, K. Simons, A. Both, G. Boeing, E. Cerin, A. De Livera, S. Liu, M. Chandrabose, J. F. Sallis, L. Gunn, and E. Hinckson. "Calculation of Policy-Relevant Spatial Indicators of Urban Liveability: Experiences of Scaling a Research Programme from Local to Global." State of Australasian Cities Conference. Melbourne, Australia. Dec 1–3.

2021   G. Boeing, *Y. Lu*, C. Pilgram, and P. Mannino. "Race, Class, and the Production of and Exposure to Vehicular Pollution in Los Angeles." Association of Collegiate Schools of Planning Annual Conference. Miami, Florida. Oct 21–23.

2021   S. Liu, C. Higgs, J. Arundel, G. Boeing, N. Cerdera, and D. Moctezuma. "A Generalized Framework for Measuring Pedestrian Accessibility around the World Using Open Data."

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[1]Presenting author *italicized* if other than first author.

Association of Collegiate Schools of Planning Annual Conference. Miami, Florida. Oct 21–23.

2021   G. Boeing. "Street Network Models and Indicators for Every Urban Area in the World." Transportation Research Board Annual Meeting. Online. Jan 25–29.

2020   G. Boeing. "Street Network Models, Indicators, and Relationships with Vehicular Emissions for Every Metropolitan Area in the World." Association of Collegiate Schools of Planning Annual Conference. Online. Nov 5–8.

2020   G. Boeing. "Off the Grid… and Back Again? The Recent Evolution of American Street Network Planning and Design." Western Regional Science Association Annual Meeting. Honolulu, Hawaii. Mar 18–21 (canceled due to pandemic).

2020   G. Boeing. "The Street Grid and Car Ownership: Trends in US Transportation Network Design." Transportation Research Board Annual Meeting. Washington, DC. Jan 12–16.

2019   G. Boeing. "Off the Grid: The Evolution of American Street Network Planning and Design." Association of Collegiate Schools of Planning Annual Conference. Greenville, South Carolina. Oct 24–27.

2019   G. Boeing and *W. Riggs* "Converting One-Way Streets to Two-Way Streets to Improve Transportation Network Efficiency and Reduce Emissions." Association of Collegiate Schools of Planning Annual Conference. Greenville, South Carolina. Oct 24–27.

2019   G. Boeing. "Urban Spatial Order: Street Network Orientation, Configuration, and Entropy." International Conference on Network Science. Burlington, Vermont. May 27–31.

2019   G. Boeing. "The Legibility of Urban Form: Spatial Information Platforms and Visualization." International Conference on Urban Experience and Design. Medford, Massachusetts. Apr 26.

2019   G. Boeing. "Online Rental Housing Market Representation and the Digital Reproduction of Urban Inequality." Boston Area Research Initiative Annual Conference. Boston, Massachusetts. Apr 26.

2019   G. Boeing. "The Evolution of American Street Network Design and Planning." Urban Affairs Association Annual Conference. Los Angeles, California. Apr 24–27.

2019   A. Abdelkader, G. Boeing, *B. T. Fasy*, and D. L. Millman. "Local Persistent Homology-Based Distances between Nonplanar Road Networks." Joint Mathematics Meetings. Baltimore, Maryland. Jan 16–19.

2018   A. Abdelkader, G. Boeing, B. T. Fasy, and D. L. Millman. "Topological Distance Between Nonplanar Transportation Networks." Fall Workshop on Computational Geometry. Queens, New York. Oct 26–27.

2018   G. Boeing. "Sociodemographic Representation of Online Rental Housing Listings: Information Surpluses and Deficits." Association of Collegiate Schools of Planning Annual Conference. Buffalo, New York. Oct 25–28.

2018   P. Waddell, I. Garcia-Dorado, S. Maurer, G. Boeing, M. Gardner, E. Porter, and D. Aliaga. "Urban Modeling Without Zones: A Metropolitan Graph-Based Microsimulation of Real Estate Markets and Transportation." Association of Collegiate Schools of Planning Annual Conference. Buffalo, New York. Oct 25–28.

2018   G. Boeing. "Transportation Network Modeling and Urban Equity." Dukakis Center for Urban and Regional Policy Transportation Equity Conference. Boston, Massachusetts. Oct 19.

2018   P. Waddell, I. Garcia-Dorado, S. Maurer, G. Boeing, M. Gardner, E. Porter, and D. Aliaga.

"Architecture for Modular Microsimulation of Real Estate Markets and Transportation." Symposium on Applied Urban Modelling. Cambridge, England. Jun 27–29.

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

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

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

2016   J. M. Barajas, G. Boeing, and *J. Wartell*. "Neighborhood Change, One Pint at a Time: The Impact of Local Characteristics on Craft Breweries." Urban Affairs Association Annual Conference. San Diego, California. Mar 16–19.

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

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

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

2014   G. Boeing, D. Church, H. Hubbard, J. Mickens, and L. Rudis. "LEED-ND and Perceptions of Livability." Environmental Design Circus. Berkeley, California. Mar 13.

GRANTS AND AWARDS

Awards and Honors

2022   USC Price Bronze Research Award

2021   USC Price ASPD Golden Apple Award for teaching excellence

2021   USC Price Bronze Research Award

2020   Stough-Johansson Springer Award, best WRSA paper by an early-career scholar

2019   Network Science Society Visualization Prize finalist

2018   Information Is Beautiful Awards shortlist

2014   Kaye Bock Award, best journal article

2010   Accenture Inventor Innovation Award

Grants and Fellowships

2020–22   Connections Between Built Environments, Policy, and Public Health ($200,000). The Public Good Projects research grant. PI.

2021–22   Improving the Accuracy of Intersection Counts and Densities for Measuring Urban Street Network Compactness and Resilience ($100,000). Caltrans/Pacific Southwest Region University Transportation Center research grant. PI.

2020–21	Race, Class, and the Production of and Exposure to Vehicular Pollution in Los Angeles ($100,000). US Department of Transportation/Pacific Southwest Region University Transportation Center research grant. PI.
2019	Urban Form Impact: Humans, Environment, Equity ($50,000). NU Tier 1 research grant. Co-PI with Sara Carr and Jay Cephas.
2019	NU CSSH summer research matching grant ($6,000). PI.
2019	NU Lab for Maps, Texts, and Networks research grant ($2,500). PI.
2018	ACSP FWIG Emerging Scholar travel grant ($500)
2018	NU Lab for Maps, Texts, and Networks travel grant ($1,000)
2018	Northeastern University research fund ($25,000)
2016–17	University of California Doctoral Completion Fellowship ($36,655)
2016	UC Berkeley DCRP travel grant ($500)
2016	University of California Graduate Division travel grant ($900)
2015	UC Berkeley DCRP travel grant ($500)
2012–16	University of California Regents' Fellowship ($158,025)

COURSES TAUGHT

University of Southern California

Urban Informatics

Advanced Urban Analytics

Data, Evidence, and Communication for the Public Good

Northeastern University

Urban Theory and Science

Advanced Spatial Analysis of Urban Systems

Big Data for Cities

University of California, Berkeley

Urban Informatics and Visualization (graduate student instructor)

Planetizen

Python for Planners

Data Analysis and Visualization for Planners

Geospatial Data Analysis

Street Network Analysis

SERVICE

Academic Journal Editorial Boards

Urban Studies, 2021–

Urban Findings, 2020–

Academic Journal Peer Review

American Behavioral Scientist

American Journal of Sociology

American Sociological Review

Annals of the American Association of Geographers

Applied Network Science

Case Studies on Transport Policy

Cities

Computers, Environment and Urban Systems

Environment and Planning A: Economy and Space

Environment and Planning B: Urban Analytics and City Science

European Physical Journal: Data Science

Geo: Geography and Environment

Geographical Analysis

International Journal of Geographical Information Science

International Planning Studies

International Regional Science Review

ISPRS International Journal of Geo-Information

Journal of the American Planning Association

Journal of Open Source Education

Journal of Planning Education and Research

Journal of Planning Literature

Journal of Transport and Land Use

Journal of Transport Geography

Journal of Urban Design

Journal of Urban History

Journal of Urban Technology

Journal of Urbanism

Landscape and Urban Planning

Mathematics

Nonlinear Dynamics

Physica A: Statistical Mechanics and Its Applications

PLOS One

Proceedings of the National Academy of Sciences

The Professional Geographer

Region

Research in Transportation Economics

Scientific Reports

Social Forces

Social Indicators Research

Sustainability

Sustainable Cities and Society

Town Planning Review

Transactions in GIS

Transport Findings

Transport Policy

Transport Reviews

Transportation Research Part D: Transport and Environment

Transportation Research Record

Urban Design International

Urban Planning

Urban Science

Urban Studies

Academic Press Peer Review

Cambridge University Press

Routledge

Springer Nature

Funding Agency Peer Review

Israel Science Foundation

National Science Foundation

Research Grants Council of Hong Kong

Social Sciences and Humanities Research Council of Canada

United Arab Emirates University, Office of Associate Provost for Research

Service to the Field

Review and Appraisal Committee, Association of Collegiate Schools of Planning, 2021–22

Program Committee, Spatial Data Science Symposium, 2021–22

Co-Lead, Emerging Data and Technologies track, World Society for Transport and Land Use Research Conference, 2021

Outreach and Engagement Task Force, Association of Collegiate Schools of Planning, 2019–2021

Program Committee, Future Cities Challenge, 2019–20

Review and Appraisal Committee, Association of Collegiate Schools of Planning, 2018–20

Scientific Committee, Symposium on Simulation for Architecture and Urban Design, 2018–20

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

Service to the University

USC Healthy Campus Built Environment and Sustainability Committee, 2022–23

USC Price Ph.D. Degree Committee, 2020–23

USC Price Research Committee, 2020–21

USC Price Urban Planning and Development Ph.D. Admissions Subcommittee (chair), 2020–21

USC DUPSA Hiring Search Committee, 2019–20

Northeastern CSSH Standing Committee on Digital Proficiencies and Quantitative Methods, 2018–19

UC Berkeley DCRP Ph.D. program faculty representative, 2015–16

UC Berkeley DCRP Ph.D. program admissions committee, 2015–16

Doctoral Committees

Robert Binder, USC Price, exam committee

Seongmoon Cho, USC Price, exam committee

David Rosas Flores, USC Price, exam and dissertation committees

James Gross, USC Price, exam committee

Jaehyun Ha, USC Price, exam committee

Naomi Lee, USC Price, exam committee

Thu Nguyen, USC Price, exam committee

Clemens Pilgram, USC Price, exam and dissertation committees

Bonnie Wang, USC Price, exam committee

Mengya Xu, USC Spatial Sciences Institute, exam committee

Li Yi, USC Spatial Sciences Institute, exam and dissertation committees

Studio Review Jury

MIT, Workshop on Geographic Information Systems (Prof. Sarah Williams), Fall 2018

MEMBERSHIPS

American Association of Geographers

American Planning Association

Association of Collegiate Schools of Planning

Association for Computing Machinery

Complex Systems Society

Network Science Society

New York Academy of Sciences

Project Management Institute

Python Software Foundation

Regional Studies Association

Urban Affairs Association

CREDENTIALS

U.S. Department of Defense secret clearance

U.S. Department of Homeland Security public trust

Project Management Professional (PMP)

CONSULTING

2017–19   The Public Good Projects, New York, New York

2017–18   Calthorpe Analytics, Berkeley, California

2016–18   UrbanSim Inc., Berkeley, California

2013–18   Avalon Health Economics, Morristown, New Jersey

2013   Raimi & Associates, Berkeley, California

2010–11   Voluntary Service Overseas, London, England

PROFESSIONAL EMPLOYMENT

2009–13   Accenture, New York, New York; London, England; San Diego, California

2007–09   Permission Data, New York, New York

2004–07   Acumen Inc., Mesa, Arizona

<center>Updated October 2022</center>