

Geoff Boeing

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EDUCATION

- PhD City and Regional Planning, University of California, Berkeley, 2017
MS Information Management, Arizona State University, 2006
BS Computer Information Systems *summa cum laude*, Arizona State University, 2004

APPOINTMENTS

- 2019– University of Southern California
Associate Professor, Department of Urban Planning and Spatial Analysis, 2025–
Faculty Affiliate, Spatial Sciences Institute, 2021–
Assistant Professor, Department of Urban Planning and Spatial Analysis, 2019–25
- 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: geospatial data science, analytics, modeling, and visualization

Spatial networks and urban morphology: network design, access, equity, and health impacts

Urban technologies' impacts on housing markets, residential mobility, and spatial segregation

PUBLICATIONS

Journal Articles

- 2026 G. Boeing and Y. Zhou. "Travel Time Prediction from Sparse Open Data." *International Journal of Geographical Information Science*, published online ahead of print. doi:10.1080/13658816.2026.2628193
- 2025 G. Boeing. "Topological Graph Simplification Solutions to the Street Intersection Mismatch Problem." *Transactions in GIS* 29 (3), e70037. doi:10.1111/tgis.70037
- 2025 G. Boeing. "Modeling and Analyzing Urban Networks and Amenities with OSMnx." *Geographical Analysis* 57 (4), 567–577. doi:10.1111/gean.70009
- 2025 M. Barthélemy and G. Boeing. "Universal Model of Urban Street Networks." *Physical Review Letters* 135, 137401. doi:10.1103/1v74-n8vn

- 2025 M. Barthelemy, G. Boeing, A. J. F. Chiaradia, and C. Webster. "Surfacic Networks." *PNAS Nexus* 4 (1), pga585. doi:10.1093/pnasnexus/pgae585
- 2025 C. Higgs, M. Lowe, B. Giles-Corti, G. Boeing, X. Delclòs-Alió, A. Puig-Ribera, D. Adlakha, S. Liu, J. Borello Vargas, M. Castillo-Riquelme, A. Jafari, J. Molina-García, V. Heikinheimo, A. Queralt, E. Cerin, E. Resendiz, D. Singh, S. Rodriguez, E. Suel, M. Domínguez-Mallafre, Y. Ye, and A. Alderton. "Collaborative Development of an Open Science Urban Indicator Toolkit for Assessing Healthy and Sustainable Cities Internationally." *Environment and Planning B: Urban Analytics and City Science* 52 (5), 1252–1270. doi:10.1177/23998083241292102.
- 2025 R. Turner, C. Higgs, C. Sun, E. Resendiz, K. Peng, X. Cheng, R. Hunter, G. Boeing, D. Pugacheva, R. Chen, D. Adlakha, V. Kedar, G. Longo Rosa, A. Oyeyemi, R. Schifanella, P. Serra del Pozo, G. Peraza-Mues, J. Valson, E. Cerin, A. Puig-Ribera, E. Hinckson, and M. Lowe. "Development and Validation of the Global Urban Heat Vulnerability Index (GUHVI)." *Urban Climate* 64, 102716. doi:10.1016/j.uclim.2025.102716
- 2025 R. Turner, C. Higgs, V. Heikinheimo, R. Hunter, J. Celso Borello Vargas, S. Liu, E. Resendiz, G. Boeing, D. Adlakha, R. Schifanella, G. Longo Rosa, D. Pugacheva, R. Chen, M. Baghaie Poor, J. Molina-García, A. Queralt, A. Puig-Ribera, P. Serra del Pozo, C. Garza, J. Valson, D. Salvo, E. Cerin, E. Hinckson, and M. Lowe "Validated Global Indicators of Large Public Urban Green Space Using Open Data." *Geographical Analysis* 57 (4), 793–808. doi:10.1111/gean.70023
- 2024 J. G. Harten and G. Boeing. "Access to the Exclusive City: Home Sharing as an Affordable Housing Strategy." *Urban Studies* 61 (16), 3069–3085. doi:10.1177/00420980241258297
- 2024 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* 44 (3), 1670–1678. doi:10.1177/0739456X221106334
- 2024 G. Boeing and J. Ha. "Resilient by Design: Simulating Street Network Disruptions across Every Urban Area in the World." *Transportation Research Part A: Policy and Practice* 182, 104016. doi:10.1016/j.tra.2024.104016
- 2024 G. Boeing, C. Pilgram, and Y. Lu. "Urban Street Network Design and Transport-Related Greenhouse Gas Emissions around the World." *Transportation Research Part D: Transport and Environment* 127, 103961. doi:10.1016/j.trd.2023.103961
- 2024 M. Lore, J. G. Harten, and G. Boeing. "A Hybrid Deep Learning Method for Identifying Topics in Large-Scale Urban Text Data: Benefits and Trade-offs." *Computers, Environment and Urban Systems* 111, 102131. doi:10.1016/j.compenvurbsys.2024.102131
- 2024 M. Barthelemy and G. Boeing. "A Review of the Structure of Street Networks." *Findings*, August. doi:10.32866/001c.122117
- 2024 M. Nieuwenhuijsen, G. M. C. Dyer, S. Khomenko, D. Adlakha, S. Anenberg, J. Angelova, M. Behnisch, G. Boeing, X. Chen, M. Cirach, K. de Hoogh, A. Diez Roux, M. Esperon-Rodriguez, B. Flueckiger, A. Gasparrini, H. Khreis, M. Kondo, T. Lungman, P. Masselot, R. McDonald, F. Montana, R. Mitchell, N. Mueller, M. O. Nawaz, E. Pereira, E. Pisoni, R. Prieto-Curiel, J. Ramasco, N. Rezaei, D. Rybski, R. Schifanella, S. Shabou, L. Tatah, H. Taubenböck, C. Tonne, D. Velázquez-Cortés, J. Woodcock, and Q. Zhang. "A Road Map for Future Data-Driven Urban Planning and Environmental Health Research." *Cities* 155, 105340. doi:10.1016/j.cities.2024.105340
- 2024 G. M. C. Dyer, S. Khomenko, D. Adlakha, S. Anenberg, M. Behnisch, G. Boeing, M. Esperon-Rodriguez, A. Gasparrini, H. Khreis, M. Kondo, P. Masselot, R. McDonald, F. Montana, R. Mitchell, N. Mueller, M. O. Nawaz, E. Pisoni, R. Prieto-Curiel, N. Rezaei, H. Taubenböck, C. Tonne, D. Velázquez-Cortés, and M. Nieuwenhuijsen. "Exploring the Nexus of Urban Form, Transport, Environment and Health in Large-Scale Urban Studies: A Scoping Review." *Environmental Research* 257, 119324. doi:10.1016/j.envres.2024.119324

- 2023 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* 60 (12), 2351–2368. doi:10.1177/00420980221145403
- 2023 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* 43 (3), 525–537. doi:10.1177/0739456X20904435
- 2023 M. Seyedrezaei, B. Becerik-Gerber, M. Awada, S. Contreras, and G. Boeing. "Equity in the Built Environment: A Systematic Review." *Building and Environment* 245, 110827. doi:10.1016/j.buildenv.2023.110827
- 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, 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. Mavoia, 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* 40 (4), 321–334. doi:10.1080/0811146.2022.2076215
- 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. "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* (pp. 503–516), edited by S. Rey and R. Franklin. Cheltenham, England: Edward Elgar. doi:10.4337/9781789903942.00039
- 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 Circuitry 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

- 2023 G. Boeing, J. G. Harten, and R. Sanchez-Moyano. "Digitalization of the Housing Search: Homeseekers, Gatekeepers, and Market Legibility." *Bringing Digitalization Home: How Can Technological Changes Address Housing-Related Challenges?* Cambridge, MA: Harvard University Joint Center for Housing Studies. <https://bit.ly/3IIQ61d>
- 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. Mavoia, 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

- 2024 D. Adlakha, E. Resendiz, A. V. Moudon, J. Sallis, C. Higgs, B. Giles-Corti, D. Salvo, E. Cerin, G. Boeing, S. Liu, and M. Lowe. “El Observatorio Global de Ciudades Saludables y Sostenibles.” *Notas CPAU* 55, 2738. <https://bit.ly/3Xv8JOW>
- 2023 G. Boeing and W. Riggs. “Rethinking the One-Way Street.” *Transfers Magazine* 11 (Fall), 18–22. <https://bit.ly/3sjeP7J>
- 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

- 2023 R. Sanchez-Moyano, G. Boeing, and J. G. Harten. “The Promises and Pitfalls of Housing Search Digitalization.” Federal Reserve Bank of San Francisco. Jun 28. <https://bit.ly/43dlGwo>
- 2023 G. Boeing, J. Ha, Y. Zhou. “Improving the Accuracy of Intersection Counts and Densities for Measuring Urban Street Network Compactness and Resilience.” Caltrans, Pacific Southwest Region UTC. Technical report. <https://rosap.ntl.bts.gov/view/dot/67537>
- 2022 G. Boeing. “Around the World, Cities Are Falling Short on Health and Sustainability Goals.” Brookings Institution. Nov 16. <https://brook.gs/3ULDj2K>
- 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://rosap.ntl.bts.gov/view/dot/67432>
- 2020 G. Boeing. “How Much Does It Cost to Rent an Apartment, Anyway?” Planetizen. 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. 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

- 2026 “Universality in Urban Form.” Harvard University, co-sponsored by the Graduate School of Design, Center for Geographic Analysis, and Mellon Urban Initiative. Cambridge, Massachusetts. Mar 9.
- 2026 “A City Is Sometimes a Tree.” Harvard University, Mahindra Urban Conversations speaker series. Cambridge, Massachusetts. Mar 9.
- 2026 “Universality in Urban Street network Form.” University of Pennsylvania, Weitzman School of Design, annual Ken Steif Lecture. Feb 19.
- 2025 “Universality in Urban Street Networks.” NYU Urban Research Seminar. New York, New York. Oct 21.
- 2025 “The Science of Urban Networks.” University of Illinois, Institute for Geospatial Understanding through an Integrative Discovery Environment. Urbana-Champaign, Illinois. Jul 30.
- 2025 “Generalizing and Localizing the Science of Urban Networks.” London School of Economics, Department of Geography and Environment. London, England. May 27.
- 2025 “Generality and Universality in Urban Network Science.” University College London, Centre for Advanced Spatial Analysis. London, England. May 23.
- 2025 “Generality and Universality in Urban Network Science.” University of Liverpool, Geographic Data Science Lab. Liverpool, England. May 20.
- 2025 “Development Pipelines for Open-Source Geospatial Software.” University of Liverpool, Geographic Data Science Lab. Liverpool, England. May 19.
- 2025 “Modeling and Analyzing Urban Accessibility and Resilience.” Tecnológico de Monterrey, Ciudad de México campus, Center for the Future of Cities. Mexico City, Mexico. Apr 3.
- 2025 “Generalizing and Localizing the Science of Urban Networks.” Tecnológico de Monterrey, Ciudad de México campus, Center for the Future of Cities. Mexico City, Mexico. Apr 2.
- 2025 “Democratizing Access to Open Data.” OECD Laboratory for Geospatial Analysis. Paris, France. Jan 24.
- 2024 “Generalizing and Localizing the Science of Urban Networks.” NYU Center for Urban Science and Progress. Brooklyn, New York. Oct 28.
- 2024 “Urban Mobility and Street Network Science.” Cornell University, Tech Campus. Urban Data invited lecture. New York, New York. Sep 12.
- 2024 “Searching for Housing Online: The Challenges and Opportunities of Digitalization.” University of Texas at Austin, Good Systems Smart Cities Consortium. Austin, Texas. Apr 1.
- 2024 “Generalizability in Urban Science.” Cornell University, Department of City and Regional Planning. Ithaca, New York. Mar 29.
- 2023 “Urban Informatics for Transport: Measuring Networks and Access around the World.” University Consortium for Geographic Information Science. Washington, DC. Feb 17.
- 2023 “Measuring Built Environments around the World: New Insights into Urban Sustainability and Health.” The Ohio State University, Center for Urban and Regional Analysis. Tech in the City Speaker Series. Columbus, Ohio. Feb 10.
- 2022 “Digitalization of the Housing Search: Homeseekers, Gatekeepers, and Market Legibility.” University of Washington, Interdisciplinary PhD Program in Urban Design and Planning and PhD 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.
- 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.

Invited Symposium Talks

- 2026 Spatial Data Science Summit. Co-hosted by the Berkeley Institute for Data Science and PySAL developers. Berkeley, California. Mar 15–16.
- 2025 “AI and Urban Infrastructure Network Resilience to Flooding.” Bloomberg Center for Cities Research Conference. Hosted by Harvard University. Cambridge, Massachusetts. Nov 13–14.
- 2023 “Spatial Analytics to Benchmark and Monitor Healthy and Sustainable Cities.” Exploring the Research Opportunities from the Intersection of Advancing Planetary Health and Cardiovascular Disease: Improving Human Health. Hosted by the US National Institutes of Health. Virtual. Dec 14–15.
- 2023 “The 1,000 Cities Challenge.” Cities, Form, Environmental Exposures, and Health Impacts. Hosted by the Barcelona Institute for Global Health. Sitges, Spain. Oct 24–25.
- 2023 “The Evolving Housing Search: Digitalization and Market Legibility.” Southern California Association

- of Governments Annual Demographic Workshop. Los Angeles, California. Sep 20.
- 2022 “Using Open Data and Open-Source Software to Develop Spatial Indicators of Urban Design and Transport Features for Achieving Healthy and Sustainable Cities.” Global Launch of the Lancet Global Health Series on Urban Design, Transport, and Health. Hosted by *The Lancet Global Health*. Virtual. May 10–12.
- 2022 “Digitalization of the Housing Search: Homeseekers, Gatekeepers, and Market Legibility.” Bringing Digitalization Home: How Can Technological Changes Address Housing-Related Challenges? Hosted by the Harvard University Joint Center for Housing Studies and Graduate School of Design. Cambridge, Massachusetts. Mar 24–26.
- 2021 “Housing Search in the Age of Big Data: Smarter Cities or the Same Old Blind Spots?” The Intersection of Smart Cities with Housing and Community Development. Hosted by *Housing Policy Debate* and Virginia Tech. Virtual. 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.

Campus Talks

- 2023 “Resilient by Design: Simulating Street Network Disruptions across Every Urban Area in the World.” METRANS University Transportation Center Speaker Series. Los Angeles, California. Nov 2.
- 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

- 2026 “Universality in Urban Form.” Keynote address. Italian Conference on Computational Social Science. Turin, Italy. May 19–21.
- 2024 “The Design of American Streets.” Keynote address. Induction ceremony of the Nu Theta chapter of Gamma Theta Upsilon, the international geographical honor society. Los Angeles, California. Apr 23.
- 2021 “Urban Mobility and Street Network Science.” Annual Regional Studies/Regional Science keynote lecture. Regional Studies Association Winter Conference. Virtual. Nov 8.
- 2019 “Geographic Information, Spatial Networks, and the New Urban Science.” 8th annual *Transactions in GIS* plenary address. American Association of Geographers Annual Meeting. Washington, DC. Apr 3–7.
- 2018 “The Legible and the Illegible: Urban Science, City Design, and Human Circulation.” Plenary address. The Architect of the Future Conference. Moscow, Russia. Sep 10–11.

Sessions Organized

- 2026 “Urban Spatial Analytics: Toward Problem-Driven Methods Instead of Methods-Driven Problems.” American Association of Geographers Annual Meeting. San Francisco, California. Mar 17–21.
- 2026 “AI and Spatial Networks.” American Association of Geographers Annual Meeting. San Francisco, California. Mar 17–21.
- 2017 “Emerging Computational Methods in Urban Design.” Association of Collegiate Schools of Planning Annual Conference. Denver, Colorado. Oct 12–15.

Session Chair/Discussant

- 2026 Getis-Ord Lecture in Spatial Analysis, keynote discussant. Western Regional Science Association Annual Meeting. Santa Fe, New Mexico. Feb 11–14.
- 2021 “Big Data and Machine Learning for Urban Mobility.” Association of Collegiate Schools of Planning Annual Conference. Virtual. 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

- 2026 “Open Source Spatial Data Science.” Panelist. American Association of Geographers Annual Meeting. San Francisco, California. Mar 17–21.
- 2025 “Plenary Panel: AI in Urban Planning.” Panelist with Michael Goodchild, Shashi Shekhar, and Petra Hurtado; chaired by Zhong-Ren Peng. Association of Collegiate Schools of Planning Annual Conference. Minneapolis, Minnesota. Oct 22.
- 2025 “The State of Urban Spatial Analytics Education: Challenges and Opportunities in an Evolving Field.” Panelist with Xiofan Liang, Xiaojiang Li, and Mjumba Poe; chaired by Elizabeth Delmelle. Association of Collegiate Schools of Planning Annual Conference. Minneapolis, Minnesota. Oct 23–25.
- 2022 “Teaching Data Science in Urban Planning.” Panelist with Marta González, Sarah Williams, 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. Virtual. Dec 6–14.
- 2021 “Plenary Panel: 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. Virtual. 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. Virtual. 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.

Conference Papers Presented¹

- 2026 V. Heikinheimo, G. Boeing, R. Schifanella, and C. Higgs. “Transferable Open-Source Tools for Monitoring Healthy and Sustainable Built Environments.” World Planning Schools Congress. Helsinki, Finland. Jun 29–Jul 3.
- 2026 G. Boeing. “Urban Spatial Analytics for Benchmarking and Monitoring Progress toward Global Health and Sustainability Goals.” American Association of Geographers Annual Meeting. San Francisco, California. Mar 17–21.
- 2025 G. Boeing. “Universality in Urban Street Networks.” Association of Collegiate Schools of Planning Annual Conference. Minneapolis, Minnesota. Oct 23–25.
- 2025 G. Boeing, J. Kim, D. Simon-Thompson, J. Ha, and R. Chen. “Do Green Space Accessibility Analyses Vary by Which Data Source You Use?” Association of Collegiate Schools of Planning Annual Conference. Minneapolis, Minnesota. Oct 23–25.
- 2025 J. G. Harten and G. Boeing. “Sharing Domesticity: What Can Online Rental Listing Texts Reveal about Homemaking Among Strangers?” International Sociological Association Forum. Rabat, Morocco. Jul 6–11.
- 2025 J. G. Harten and G. Boeing. “New Sociospatial Narratives in Qualitative Housing Data.” American Association of Geographers Annual Meeting. Detroit, Michigan. Mar 24–28.
- 2024 G. Boeing and *Y. Zhou*. “Uncongested Travel Time Prediction from Sparse Open Data.” Association of Collegiate Schools of Planning Annual Conference. Seattle, Washington. Nov 7–9.
- 2024 J. G. Harten, G. Boeing, and M. Lore. “Revealing the Exclusionary Language of Shared Rental Ads Through AI.” Association of Collegiate Schools of Planning Annual Conference. Seattle, Washington. Nov 7–9.
- 2024 M. Lowe, C. Higgs, G. Boeing, X. Delclòs Alió, A. Queralt, E. Resendiz, D. Adlakha, B. Giles-Corti, E. Cerin, J. Sallis, A. Vernez Moudon, J. Arundel, S. Liu, V. Heikinheimo, J. Schipperijn, and D. Salvo. “1,000 Cities Challenge Workshop: Calculating Policy and Spatial Indicators of Healthy and Sustainable Cities.” Urban Transitions Conference. Sitges, Spain. Nov 5–7.
- 2024 G. Boeing, C. Higgs, S. Liu, V. Heikinheimo, B. Giles-Corti, J. F. Sallis, E. Cerin, M. Lowe, D. Adlakha, E. Hinckson, A. V. Moudon, D. Salvo, E. Resendiz, and J. Arundel. “Spatial Indicators for the 1,000 Cities Challenge.” International Society for Physical Activity and Health Congress. Paris, France. Oct

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

- 28–31.
- 2024 J. G. Harten and G. Boeing. “Single Women Wanted: The Role of Gender in Accessing Shared Housing.” International Conference on Urban Affairs. New York, New York. Apr 24–27.
- 2024 G. Boeing and J. Ha. “Resilient by Design: Simulating Street Network Disruptions across Every Urban Area in the World.” American Association of Geographers Annual Meeting. Honolulu, Hawaii. Apr 16–20.
- 2024 M. Awad, S. Bacq, G. Boeing, D. Dentoni, and S. Osbourne. “Collective Organizing for Urban Problems: An Integrative Review and Interdisciplinary Roadmap from Entrepreneurship, Public Management, and Urban Planning.” Journal of Management Studies Conference. Edinburgh, Scotland. Mar 5–6.
- 2023 M. Lore, J. G. Harten, and G. Boeing. “Computer-Assisted Methods for Thematic Coding of Large-Scale Text Data in Urban Planning.” Association of Collegiate Schools of Planning Annual Conference. Chicago, Illinois. Oct 19–21.
- 2023 G. Boeing and *Y. Zhou*. “Improving the Accuracy of Intersection Counts and Density Measures of Urban Street Networks.” Association of Collegiate Schools of Planning Annual Conference. Chicago, Illinois. Oct 19–21.
- 2023 G. Boeing and *J. Ha*. “Simulating Street Network Resilience and Robustness around the World.” Association of Collegiate Schools of Planning Annual Conference. Chicago, Illinois. Oct 19–21.
- 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. G. 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, New York. 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. Virtual. 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.” Association of Collegiate Schools of Planning Annual Conference. Virtual. Oct 21–23.
- 2021 G. Boeing. “Street Network Models and Indicators for Every Urban Area in the World.” Transportation Research Board Annual Meeting. Virtual. 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. Virtual. Nov 5–8.
- 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 US 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

- 2026 AAG SAM Emerging Scholar Award
- 2025 Nobel Sustainability Award for Outstanding Research and Development (joint)
- 2025 Zephyr Foundation Exceptional Technical Achievement Award
- 2024 USC Price High Impact Research Award
- 2023 National Planning Institute of Australia Award for Planning Research Excellence (joint)
- 2022 Planning Institute of Australia (Victoria) Award for Planning Excellence—Planning Research (joint)
- 2021 USC Price ASPD Golden Apple Award for teaching excellence
- 2020 Stough-Johansson Springer Award for best WRSA paper by an early-career scholar
- 2019 Network Science Society Visualization Prize finalist
- 2018 Information Is Beautiful Awards shortlist
- 2018 ACSP FWIG Emerging Scholar Award
- 2014 Kaye Bock Award for best journal article
- 2010 Accenture Inventor Innovation Award

Competitive Grants and Fellowships

- 2025–27 Policy Bridge: Policy Assessment and Reporting for Healthy, Sustainable Cities (\$13,361). Worldwide Universities Network research development grant. Co-I.

- 2024–25 Measuring Street Network Disruptions’ Impacts on Real-World Trips to Design More Resilient Infrastructure (\$100,000). US Department of Transportation/Pacific Southwest Region University Transportation Center research grant. PI.
- 2024–25 Alleviating Health Inequities from Air Pollution in the Gateway Cities Region: An Evidence-Based, Community-Engaged, and Interdisciplinary Approach (\$249,992). USC President’s Sustainability Initiative Award. Co-I.
- 2024–25 The Center for Emissions Reduction, Resiliency, and Climate Equity in Transportation (\$239,888). US Department of Transportation research grant. Co-I.
- 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.
- 2020–22 Connections Between Built Environments, Policy, and Public Health (\$200,000). The Public Good Projects 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 I research grant. Co-PI.
- 2019 NU CSSH summer research matching grant (\$6,000). PI.
- 2019 NU Lab for Maps, Texts, and Networks research grant (\$2,500). PI.
- 2016–17 University of California Doctoral Completion Fellowship (\$36,655)
- 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

Board of Directors

2024– The Public Good Projects, New York, New York

Academic Journal Editorship

- 2025– *Geographical Analysis*, editorial board
2025– *Annals of the American Association of Geographers*, editorial board
2025– *Cities*, editorial board
2020– *Urban Findings*, editorial board
2025–26 *Computers, Environment and Urban Systems*, special issue guest editor
2021–24 *Urban Studies*, editorial board
2023 *Transactions in GIS*, special issue guest editor
2021 *PLOS One*, guest academic editor
2013–14 *Berkeley Planning Journal*, book review editor

Service to the Field

- 2024– US NIST Artificial Intelligence Safety Institute Consortium
2022– Global Observatory of Healthy and Sustainable Cities, executive committee
2025–26 American Association of Geographers, local arrangements committee
2024–26 Association of Collegiate Schools of Planning, artificial intelligence task force
2025 ACM SIGSPATIAL, GeoAI workshop program committee
2025 International Land Use Symposium, scientific committee
2024–25 Western Wildfire Resilience Index, advisory committee
2024–25 Spatial Data Science across Languages, program committee
2021–22 Association of Collegiate Schools of Planning, review and appraisal committee
2021–22 Spatial Data Science Symposium, program committee
2021 World Society for Transport and Land Use Research, emerging data and technologies track co-lead
2019–21 Association of Collegiate Schools of Planning, outreach and engagement task force
2019–20 Future Cities Challenge, program committee
2018–20 Association of Collegiate Schools of Planning, review and appraisal committee
2018–20 Symposium on Simulation for Architecture and Urban Design, scientific committee

Service to the University

- 2025– USC Institute for Ethics & Trust in AI
2024– USC Price research committee
2025 Director, USC Price PhD programs
2024–25 USC Price dean search committee
2024–25 USC Department of Urban Planning and Spatial Analysis hiring search committee
2020–24 USC Price PhD program committee

- 2024 USC Price Chief Technology Officer search committee
- 2022–23 USC Healthy Campus built environment and sustainability committee
- 2020–21 USC Price research committee
- 2019–20 USC Department of Urban Planning and Spatial Analysis hiring search committee
- 2018–19 Northeastern CSSH standing committee on digital proficiencies and quantitative methods
- 2015–16 UC Berkeley DCRP PhD program admissions committee

Postdocs Supervised

- 2025–26 Adam Swietek

Doctoral Committees

- Robert Binder, USC Price, exam committee
- Ruoyu Chen, USC Price, exam committee
- Seongmoon Cho, USC Price, exam committee
- David Flores Moctezuma, USC Price, exam and dissertation committees
- James Gross, USC Price, exam and dissertation committees
- Jaehyun Ha, USC Price, exam and dissertation committees
- Jiyoon Kim, USC Price, exam committee
- Naomi Lee, USC Price, exam committee
- Madison Lore, University of British Columbia, dissertation committee
- Sihan Mao, USC Price, exam committee
- Thu Nguyen, USC Price, exam committee
- Clemens Pilgram, USC Price, exam and dissertation committees
- Marley Randazzo, USC Price, exam committee
- Qifan Shao, USC Price, exam committee
- Elana Simon, USC Price, exam committee
- Bonnie Wang, USC Price, exam committee
- Kurt Wyatt, USC Price, dissertation committee
- Mengya Xu, USC Spatial Sciences Institute, exam and dissertation committees
- Li Yi, USC Spatial Sciences Institute, exam and dissertation committees
- Yuquan Zhou, USC Price, exam and dissertation committees

Studio Review Jury

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

PEER REVIEW

Academic Journal Peer Review

American Behavioral Scientist

American Journal of Sociology
American Sociological Review
Annals of the American Association of Geographers
Applied Economic Letters
Applied Geography
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
Environmental Sociology
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 Geographical Systems
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
Nature Cities
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
Science
Scientific Reports
Social Forces
Social Indicators Research
Socio-Economic Planning Sciences
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
Taylor & Francis

Funding Agency Peer Review

European Science Foundation
Israel Science Foundation
US 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

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

US Department of Defense secret clearance
US 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
2013–15 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

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