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Nikhil Kaza November 1, 2021

Education

| mpaign |
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| Champaign |
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| t Kharagpur, India |
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Professional Experience

| Jul'21 - present | Professor, Dept. of City & Regional Planning, University of North Carolina at Chapel Hill |
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| | Director, Center for Urban and Regional Studies |
| Jul'16 - present | Adjunct Associate Professor, Environment, Ecology and Energy Program, University of North Carolina at Chapel Hill |
| Jul'15 - Jul '21 | • Associate Professor, Dept. of City & Regional Planning, University of North Carolina at Chapel Hill |
| Jan'11 - present | • Fellow, Institute for the Environment |
| Jan '19 - May '19 | Host Professor, Ecole Polytechnique Fédérale de Lausanne |
| Jul'15 - Jul '17 | • Associate Chair, Dept. of City & Regional Planning, University of North Carolina at Chapel Hill |
| Jul'09 - Jun'15 | • Assistant Professor, Dept. of City & Regional Planning, University of North Carolina at Chapel Hill |
| Jan'12 - Jul '16 | Adjunct Assistant Professor, Curriculum of Environment and Ecology |
| Jan'08 - Dec'08 | Sustainability Systems Modeller, EDAW Inc., Irvine CA |
| Nov'07 - Jun'09 | Post doctoral Fellow, National Center for Smart Growth Education & Research, University of Maryland at College Park |

Honors

- Excellence in Doctoral Education, '18, UNC Chapel Hill
- Schwab Academic Excellence Award, '17, Institute for the Arts & Humanities, UNC Chapel Hill
- Progress Energy Fellowship, '12, Institute for the Environment, UNC Chapel Hill
- Department Excellence Award, '08, Department of Urban and Regional Planning, UIUC.
- Merit based research fellowship, '03-'04, Program in Environmental and Resource Economics, UIUC.
- Pre-Doctoral fellow, '01-'02, Department of Urban and Regional Planning, UIUC.

Honors (contd.)

• National Merit Scholar '93, Ministry of Human Resources, Union Government of India.

Bibliography

Book Chapters

Accepted

• Becker, J. and Kaza, N. Tale of Two Sprawls: Energy planning and challenges for Smart Growth 2.0, Chakraborty, A., Lewis. R., G. Knaap (eds.) *Handbook of Smart Urban Growth*

2011

 Kaza, N. and G. Knaap, Principles of Planning for Economists, K. Donaghy, N. Brooks, G. Knaap (eds.) Oxford Handbook of Economics and Planning. Chap 2. 29-50, New York, NY: Oxford University Press

2007

• Kaza, N., and L. D. Hopkins, Ontology for Land Development Decisions and Plans. In *Ontologies for Urban Development*, ed(s). J. Teller, J. Lee, and C. Roussey, Chap 5, 47–59, Studies in Computational Intelligence series, Berlin: Springer-Verlag.

2005

• Hopkins, L. D., N. Kaza, and V. G. Pallathucheril, A Data Model to Incorporate Plans and Regulations in Urban Simulation Models. In *GIS*, *Spatial Analysis and Modeling* ed(s). D.G. Maguire, M. Batty, and M. Goodchild, Chap 7, 173–202, Redlands, CA: ESRI Press.

Refereed Articles

In review

 Wang, J., N. Kaza, N. McDonald, N. and K. Khanal. Examining the Socio-Economic Disparities in Activity-Travel Behavior Adaptation During the COVID-19 Pandemic: A Case Study in North Carolina *Transport Policy*

In press

- Li, C., Y. Song, N. Kaza and R. Burghardt. Explaining spatial variations in residential energy usage intensity in Chicago: The role of urban form and geomorphometry *Journal of Planning Education and Research*
- Branham, J., N. Kaza, T. K. BenDor, D. Salvesen and K. Onda, Does subsidy removal reduce coastal development? Measuring the effect of the U.S. Coastal Barrier Resources Act Frontiers in Ecology and Environment

2021

- Branham, J., K. Onda, N. Kaza, T. K. BenDor and D. Salvesen, How does the removal of federal subsidies affect investment in coastal protection infrastructure? *Landuse Policy* 102:105245
- Kaza, N. and K. Nesse, Characterizing the Regional Structure in the United States: A county-based analysis of labor market centrality *International Regional Science Review* 44(5):560-581

2020

• Peng, K. and N. Kaza, Association between Neighborhood Food Access, Household Income, and Purchase of Snacks and Beverages in the United States *International Journal of Environmental Research and Public Health* 17(20):7517

- Kaza, N. Landscape Shape Adjusted Compactness Index for Urban Areas Geojournal
- Onda, K., J. Branham, T. K. BenDor, N. Kaza and D. Salvesen, Does Removing Federal Infrastructure Subsidies Discourage Development? An Evaluation of the Impact of the U.S. Coastal Barrier Resources Act, *PLOS ONE* 15(6): e0233888.
- He, M., J. Glasser, N. Pritchard, S. Bhamidi and N. Kaza Identifying Geographic Regions using Community Structure in Commuting Networks *PLOS ONE* 15(4):e0230941
- Kaza, N. Urban Form and Transportation Energy Consumption, *Energy Policy* 136:111049
- Pesantez, J., E. Berglund and N. Kaza, Modeling and Forecasting Short-Term Water Demand Reported by Smart Meters Environmental Modeling and Software 125:104633
- Peng, K.and N. Kaza, Built environment and the purchase of fruits and vegetables in United States households. *Public Health Nutrition* 22(13):2436-2447
 - Onda, K., P. Sinha, A. E. Gaughan, F. Stevens and N. Kaza, The missing millions: Undercounting urbanisation in India. *Population and Environment* 41:126-150
 - Kaza, N., Vain Foresight: Against the Idea of Implementation in Planning. *Planning Theory* 18(4):410-428
- Li, C., Y. Song and N. Kaza, Urban Form and Household Level Energy Consumption; A multi-level study *Energy & Buildings* 158(1):181-193
- Qiu, S. and N. Kaza. Evaluating the Clean Cities Program *Science of the Total Environment* 579: 254-262
- Hartley, D., N. Kaza and T. W. Lester. Explaining the Drivers of Inner-City Job Growth: Evidence from the 2000s. *Economic Development Quarterly* 30(2):137-158
 - Kaza, N., C. Tian, S. F. Riley and R. G. Quercia. Location Efficiency and Mortgage Risks for Low-Income Households *Housing Policy Debate* 26(4-5):750-765
- Zapata, M. and N. Kaza, Radical Uncertainty: Scenario Planning for Futures. *Environment & Planning B: Planning & Design* 42(4):754-770
 - Kaza, N., Time Dependent Accessibility Journal of Urban Management 4(1): 24-39
 - McCarty. J. and N. Kaza, Urban Form and Air Quality in the United States. *Landscape & Urban Planning* 139:168-179
- Kaza, N. and M. Patane., The Land Use Energy Connection. *Journal of Planning Literature* 29(4): 355-369

- Lester, T.W., N. Kaza and S. Kirk, Making Room for Manufacturing: Understanding Threats to Industrial Land Conversion in Cities. *Journal of American Planning Association* 79(4):295-313
- Kaza. N., Persons, Polities and Planning. *Planning Theory* 13(2):136-151
- Kaza. N., R. Quercia and C. Tian, Home Energy Efficiency and Mortgage Risks. *Cityscape* 16(1):279-298. An extended abstract also appears in *Community Development Investment Review* Federal Reserve Bank of San Francisco 10(1):63-69. Also featured in *Communities & Banking magazine* Federal Reserve Bank of Boston 26(1):22-23
- Brookshire, D. and N. Kaza. Planning for Seven Generations: Energy Planning of American Indian Tribes. *Energy Policy* 62:1506-1514
 - Kaza, N., T. W.Lester and D. A. Rodriguez, The spatio-temporal clustering of green buildings in the US. *Urban Studies* 50(16):3262-3282
 - Kaza, N., The Changing Urban Landscape of Continental United States Landscape and Urban Planning 110:74-86
 - Kaza, N. and T. K. BenDor, Land Value Impacts of Aquatic Ecosystem Restoration. *Journal of Environmental Management* 127:289–299
- BenDor, T. K. and N.Kaza, A Theory of Spatial Systems Archetypes. *System Dynamics Review* 28(2):109–130
 - Kaza, N. and L. D. Hopkins, Intentions, Urban Plans and Information Systems. *International Journal of Geographic Information Science* 26(3):557–576
- Kaza, N., C. Towe and X. Ye, A Hybrid Land Conversion Model Incorporating Multiple End Uses. *Agricultural and Resource Economics Review* 40(3):341–359
 - Kaza, N., I. Knaap, G. Knaap and R. Lewis, Peak Oil, Urban Form and Public Health: Exploring the Connections *American Journal of Public Health* 101(9):1598–1606
 - Chakraborty, A., N. Kaza, G. Knaap and B. Deal, Robust Plans and Contingent Plans: Scenario Planning for Uncertain Times. *Journal of American Planning Association* 77(3):251–266
- Kaza, N., Understanding Household Energy Consumption through Quantile Regression Approaches. *Energy Policy* 38(11): 6574–6585
 - Kaza, N., D. Finn and L. D. Hopkins, Updating Plans: A Historiography of Decisions Over Time. *Journal of Information Technology in Construction*. 15:159–168
- Kaza, N. and L. D. Hopkins, In What Circumstances Should Plans be Public? *Journal of Planning Education and Research* 28(4): 491–502
- Kaza, N., Tyranny of the Median and Costly Consent: A Reflection on the Justification for Participatory Urban Planning Processes. *Planning Theory* 5(3): 255–270.

2005

• Hopkins, L. D., N. Kaza, and V. G. Pallathucheril, Representing urban development plans and regulations as data: A planning data model. *Environment & Planning B*: *Planning & Design* 32(4): 597–615.

Book Reviews

2015

• Review of Land Policy: Planning and the Spatial Consequences of Property Benjamin Davy. *Planning Theory* 14(2): 212–224

2012

• Review of The Exposed City: Mapping the Urban Invisibles Nadia Amoroso. Journal of Regional Science 52(2): 392–394

2009

• Methods, Information Systems and Mapping. Review of *Planning Support Systems* for cities and regions Edited by Richard Brail. *Journal of American Planning Association* 76(1):123

Working Papers

- Hino, M., T.K. BenDor, J. Branham, N. Kaza, A. Sebastian and S. Sweeney *One step forward, two steps back: Managing floodplain development in North Carolina*
- Branham, J., D. Salvesen, N. Kaza and T.K. BenDor, *Growth Machines and Venue Shopping in Coastal Development*

Conference Papers (selected)

2019

- N. Kaza, Urban Form and Transportation Energy Consumption ACSP Conference, Columbia, SC
- Peng, K. and N. Kaza, Effects of street connectivity and duration of exposure on visiting fast food restaurants: a GPS-based, case study of the Atlanta (USA) region ACSP Conference, Columbia, SC
- Onda, K., J. Branham, T. K. BenDor, N. Kaza and D. Salvesen, Does Removing Federal Infrastructure Subsidies Discourage Development?—The Third International Conference on Natural Resource Management and Public Policy, Wuhan, China
- He, M., J. Glasser, N. Pritchard, S. Bhamidi and N. Kaza, Community Detection in Strongly Self Looping Weighted Networks Statistical Inference for Network Models, Burlington, VT

2018

- Gadiraju, K. K., R. R. Vatsavai, N.Kaza, E. Wibbels, Anirudh Krishna, Machine learning approaches for slum detection using very high resolution satellite images *IEEE International Conference on Data Mining Workshops*, Singapore
- Kaza, N., Sinha, P., Stevens, F. and Gaughan, A.E. The missing millions: Undercounting urbanization in India, *World Congress of RSAI*, Goa, India

2016

- Li, C., Y. Song and N. Kaza, Effects of Urban Form on Residential Energy Consumption: A structural analysis of Chicago —*ACSP Conference*, Portland, OR
- Kaza. N., Knaap, G. and Hopkins, L. D. Vain Foresight: Against Implementation ACSP Conference, Portland, OR

2014

• Kaza, N., Whose plan is it anyway? Energy Planning by American Indian tribes in the United States — *ACSP Conference*, Philadelphia, PA

- 2013
- Kaza, N., C. Tian and R. Quercia. Home Energy Efficiency and Mortgage Risks ACEEE finance Forum, Chicago, IL
- Kaza, N. Industrial Land Transformation in Cities Urban Affairs Association, San Francisco, CA
- Kaza, N., P. Berke and D. Spurlock, Plans and Non-Plans: The uses of Planning AESOP-ACSP Joint Congress, Dublin

2012

- Brookshire, D. and N. Kaza. Sustaining the Seventh Generation: Strategic Energy Planning of American Indian Tribes. —2012 Society of Government Economists, Washington, DC
- Kaza, N., Persons, Polities and Planning 26th AESOP Conference, Ankara
- Kaza, N., The Changing Urban Landscape of United States 50th WRSA Conference, Kauai, HI

2011

- Zapata, M. and N. Kaza Scenario Planning for Uncertain Futures: Incorporating Multiple Futures and Multiple Publics.— 51st ACSP Conference, Minneapolis, MN.
- BenDor, T. and N. Kaza Land Value Impacts of Aquatic Ecosystem Restoration: An Analysis of the Research Triangle Region of North Carolina — 51st ACSP Conference, Salt Lake City, UT.

2010

- Kaza, N., Towe, C. and Ye, X. Scenarios Using Land Conversion Model for Multiple Land uses, 50th ACSP Conference, Minneapolis, MN..
- Knaap, G., Kaza, N. and Lewis, R. Density and Public Health: It is not that simple, 50th ACSP Conference, Minneapolis, MN.
- Blohm, A., Becker, J., Kaza, N., Knaap, G, Moglen, G. and Ruth, M., Envisioning a sustainable Maryland: Comparing alternative development scenarios considering energy consumption and water quality 49th WRSA Conference, Sedona, AZ

2009

- Kaza, N., Knaap, G, and Clfiton, K., Economic Scenarios and Development Patterns in the Baltimore-Washington Region— 49th ACSP Conference, Crystal City, VA
- Kaza, N., Towe, C., Ye, X. and Thapa, B., An Economic model of Land Conversion Incorporating Multiple Land uses— American Agricultural Economics Association Annual Meetings, Milwaukee, WI

2008

- Kaza, N., Knaap, G, and Meade, D., Exploring alternative Futures Using a Spatially Explicit Econometric Model— 55th North American Meetings of the Regional Science Association., Brooklyn, NY
- Knaap, G., A. Chakraborty, and N. Kaza, Planning a new era in the smart growth state: A primer on state development plans 2008 ACSP-AESOP Joint Congress, Chicago, IL.

2007

Kaza, N., Plans in Decision Support Systems and Decisions in Planning Support Systems 48th ACSP Conference, Milwaukee, WI.

Teaching Activities

Instructor

- PLAN 704 Theory of Planning I, Fall '09 (Enrollment-14), '10(19), '11 (11), '12 (16) & '18(13), Spring '10 (25) & '14 (23), '15(41), '16(45), '17(40), '20(32), '21(24)
- PLAN 672 / 590.003 Urban Data Analytics, Fall '18(10) '20(7), Spring '20(19)

Teaching Activities (contd.)

- PLAN 499 / 590 / 547 Seminar on Energy, Transportation & Land use, Spring '10 (15), '11 (9), '12 (16), Fall '13 (14), '14 (15), '15(21), '16(19) & '18(17)
- PLAN 673 Ethics and Politics of New Urban Analytics, Fall '19(5), '20(5)
- PLAN 057(H) What is Good City? Spring'14 (9), Fall '15 (9)
- PLAN 823 Planning Workshop, Spring '11 (16) & Fall '11 (9)
- PLAN 805 Theory of Planning II, Fall '10 (7), '12 (8), '14 (9), '17(6) & '19(6)
- PLAN 896 Independent Study, Spring '10 (2), '16(1), Fall '10 (1) & 14 (2)
- PLAN 992 Master's Project, Spring '10 (2), '11 (3), '12 (2), '13 (1), '14 (3), '15(3), '16(4), '17(2), '18(2) & '19(1)
- Research Methods for Planners, Spring '09.

Co-Instructor

• Sustainable Transportation Seminar, Spring '08.

Diss. Chair

• Ke Peng, Essays On Associations Of Built Environment With Use Of Restaurants and Food Stores And Food Purchase In The United States, (2018)

Diss. Committee

- Alfredo Rojas, Farming and Cooperation in Northwestern Côte d'Ivoire, Anthropolgy (Exp 2022)
- Mark He, Essays on Community Detection in Networks, *Statistics & Operations Research* (Exp 2021)
- Ahmed Rachid El-Khattabi, Managing Demand for Scarce Water Resources: An evaluation of current approaches (May 2020)
- Yan Chen, Analyzing Determinants of Urban Vibrancy: A Big Data Approach on Connecting Built Environment, Social Activity, and Images of Place (May 2019)
- Chaosu Li, Essays on Climate Change Mitigation, Building Energy Efficiency and Urban Form (May 2018)
- William L. Bishop, Value Capture Relevant Value Creation Resulting from Public Investment in Light Rail Transit Infrastructure and Transit Oriented Development (May 2018)
- Allison Forbes, Linked Through Skill: Labor Market Interdependencies Across the Automotive Value Chain (June 2018)
- Allan Mathew Freyer, Towards an embedded practice model for community bargaining in firm location decisions, (May 2017)
- Lilah Besser, Neighborhood Built Environment Characteristics and Cognition in Non-demented Older Adults, (May 2017)
- Marc Howlett, Who Plans? The Role of Metropolitan Planning Organizations in Regional Freight Planning, (May 2016)
- Lyndsey Ward Lyles, Stakeholder Network Influences on Local-Level Hazard Mitigation Planning Outputs, (December 2012)

Teaching Activities (contd.)

Comp. Committee

2011-2013

2010-2012

 Lilah Besser (2017), Marc Howlett (2016), Danielle Spurlock (2014), Louis Merlin (2014), Allan Fryer (2017), Jun Huh (Withdrew), Kevin Park (2015), William Bishop (2018), Matthew Palmer, Kirstin Frescoln (2017), Ke Peng (2018), Erik Vergel (2017), Joshu Shih (Withdrew), Chaosu Li (2016), Jane Zhao, Helena Cardenas, Jordan Barnham, Tibor Vegh, Nora Schwaller, Matthew Wilson, Alfredo Rojas, Kshitiz Khanal

| | Grants (only direct costs are listed) |
|-----------|--|
| 2020-2020 | Monitoring Economic Recovery in North Carolina North Carolina Policy Collaboratory, Co-Principal Investigator with Noreen McDonald, Nichola Lowe \$287,028, 17% |
| 2019-2020 | • Evaluating the Buyouts in North Carolina, <i>North Carolina Policy Collaboratory</i> , Investigator with Todd BenDor, Dave Salvesen, Miyuki Hino \$424,878, 3.1% |
| 2018-2019 | Creating an Interdisciplinary Network to Investigate the Drivers of Urban Biodiversity, University of North Carolina Institutional Planning Grant, Co-Principal Investigator with Sara Gagne, Rachel Urbanek, Christopher Dumas \$22,000,0% |
| 2017-2018 | • Smart Management of Water Resources and Infrastructure with the Internet of Things <i>University of North Carolina Institutional Planning Grant</i> , Co-Principal Investigator with Emily Berglund, Kumar Mahinthakumar, James Bowen and Mohammed Anwar \$75,000, 10% |
| 2017-2019 | • Relationships Between Removal of Infrastructure Subsidies and Coastal Development: The Impact of the U.S. Coastal Barrier Resources Act. <i>National Science Foundation</i> , Co-Principal Investigator with Todd BenDor and David Salvesen \$240,349, 30% |
| 2016-2017 | • Property Rights and Land Tenure in the Slums of Bangalore, India <i>Omidiyar Network</i> Co-Principal Investigator with Anirudh Krishna, Erik Webbels and Ranga Raju Vastavai \$70.476, 10% |
| 2014-2015 | • Research on Urban Form: A typology of carbon emissions by neighborhood type in Ningbo, China <i>World Bank</i> Co-Principal Investigator with Yan Song \$120,689, 10% |
| 2014-2017 | Quantifying risks from changing U.S. PM2.5 distributions due to climate variability and warming with large multi-model ensembles and high-resolution downscaling, US Environmental Protection Agency STAR grant, Investigator with Arlene Fiore (Principal Investigator) and Jason West (co-Principal Investigator), \$540,154, 1% |
| 2013 | • Junior Faculty Development Award, University of North Carolina at Chapel Hill \$7,500 |
| 2012-2014 | • The Mortgage Performance of Energy Efficient Homes, <i>Institute for Market Transformation</i> Co-Investigator with Roberto Quercia \$42,000, 29% |
| 2012-2013 | • Incubator Study on Industrial Land Use, <i>What Works Collaborative, Urban Land Institute</i> Co-Investigator with T. William Lester, Daniel Rodriguez, Yan Song and Philip Berke \$65,173, 10% |
| 2011-2012 | • Accessibility in a Gendered Economy, <i>Carolina Transportation Program</i> , Principal Investigator, \$5,000, 5.4% |

Marianas, United States Navy, Principal Investigator, \$121,199, 16%

United States Navy, Principal Investigator, \$117,170, 28%

• Joint Region Marianas Energy Investment Program Development Extension NAVFAC

• Joint Region Marianas Energy Investment Program Development NAVFAC Marianas,

Grants (only direct costs are listed) (contd.)

• Decision Support Systems for Eastern North Carolina, Southeast Regional Partnership for Planning and Sustainability, Co-Investigator with Todd Bendor, Phil Berke, Yan Song, David Salvesen, \$42,548, 3.7%

• Toward a transportation modeling system for Maryland, *University Transportation Center*, Co-Investigator with Gerrit Knaap, \$224,528, 29%

Linking Econometric Models with Chesapeake Bay Models, Updating Nutrient Loading Models, and Coordinating to Support the Maryland State Development Plans, US
 Environmental Protection Agency, Co-Investigator with Charles Towe, Glenn Moglen

Other Professional Activities

• Associate Editor for Environmental Science & Policy

and Gerrit Knaap, \$111,486, 6%

- Member of Editorial Board for Planning Theory
- Reviewer for European Journal of Decision Processes, Applied Energy, Journal of American Planning Association, Journal of Planning Education and Research, American Journal of Public Health, Journal of Environmental Planning & Management, Future Internet, Land Use Policy, Urban Studies, European Journal of Operations Research, Energy Policy, Landscape and Urban Planning, Environment Systems & Decisions, Journal of Transport & Landuse, International Journal of Geographic Information Science, Transportation Research D, Cities, Journal of Environmental Management, EPJ Data Science
- Member of planning tools task force for Greater Washington 2050 Region Forward '09
- Organiser for symposium on "Using Plans" honouring Lew Hopkins's contributions '08
- Member of Ph.D. Committee, AY '11-'12
- Member of MCRP Committee, Fall '12
- Reviewer for Indo-US Science & Technology Forum (IUSSTF), American Association for the Advancement of Science (AAAS), '12
- Member of Scientific Committee, Conference of Computers in Urban Planning and Urban Management, '13
- Member of Organising Committee, Cities, Rivers, and Cultures of Change: Rethinking and Restoring the Environments of the Global American South, AY '13-'14
- Director of Undergraduate Studies, AY '13-'14
- Search Committee Member for Urban Design Position, AY '13-'14
- Search Committee Member for Lecturer in Sustainability, AY '14-'15
- Associate Editor, Journal of Urban Management '15
- Associate Chair, City & Regional Planning, AY '14-'16
- Director of Graduate Studies & MCRP Committee Chair, AY '14-'16
- Summer School Administrator, City & Regional Planning, AY'14-'17
- Member, Website Task Force, AY '17
- Co-Chair for Land Use & Governance Track, Association of Collegiate Schools of Planning Annual Conference '16-'19
- Member, Data Science Working Group, Fall '18
- Member, Search Committee, E3P Cluster Hire, Fall '18
- Member, Review Committe, Institute for the Environment, AY '18-'19