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## ELIJAH KNAAP

### appointments

<i>University of California-Riverside</i> Center for Geospatial Sciences Associate Director	2019 –
School of Public Policy & Center for Geospatial Sciences Postdoctoral Scholar	2018 – 2019
<i>University of Illinois at Chicago</i> Dept. of Urban Planning and Policy Visiting Assistant Professor & Postdoctoral Research Associate	2017 – 2018
<i>University of Maryland</i> Dept. of Urban Studies and Planning & School of Information Studies Adjunct Professor	2016 – 2017
<i>Enterprise Community Partners, Inc.</i> Knowledge, Impact, & Strategy Team Bart Harvey Postdoctoral Research Fellow	2016 – 2017

### education

<i>Ph.D. - Urban Studies and Planning</i> , University of Maryland	2016
<i>M.A. - Community Planning</i> , University of Maryland	2013
<i>B.A. - Sociology</i> , University of Maryland	2011

### publications

<i>Refereed Articles</i>	
Lung-Amam, Willow S. <b>Knaap, Elijah</b> , Dawkins, Casey, and Knaap, Gerrit-Jan. Sept. 2018. Opportunity for Whom? The Diverse Definitions of Neighborhood Opportunity in Baltimore. <i>City &amp; Community</i> 17(3), 636–657. DOI: <a href="https://doi.org/10.1111/cico.12318">10.1111/cico.12318</a> .	
Rey, Sergio, <b>Knaap, Elijah</b> , Han, Su, Wolf, Levi, and Kang, Wei. 2018. Spatio-temporal analysis of socioeconomic neighborhoods. In: <i>Proceedings of the 16th Python in Science Conference</i> , pp.121–128. DOI: <a href="https://doi.org/10.25080/Majora-4af1f417-012">10.25080/Majora-4af1f417-012</a> .	
Nedovic-Budic, Zorica, <b>Knaap, Elijah</b> , and Ran, Jing. July 2018. Strategic Planning for GIS Design. <i>Geographic Information Science &amp; Technology Body of Knowledge</i> 2018(Q3). DOI: <a href="https://doi.org/10.22224/gistbok/2018.3.8">10.22224/gistbok/2018.3.8</a> .	

- Knaap, Elijah.** Nov. 2017. The Cartography of Opportunity: Spatial Data Science for Equitable Urban Policy. *Housing Policy Debate* **27**(6), 913–940. DOI: [10.1080/10511482.2017.1331930](https://doi.org/10.1080/10511482.2017.1331930).
- Knaap, Elijah,** Ding, Chengri, Niu, Yi, and Mishra, Sabyasachee. Jan. 2016. Polycentrism as a sustainable development strategy: empirical analysis from the state of Maryland. *Journal of Urbanism: International Research on Placemaking and Urban Sustainability* **9**(1), 73–92. DOI: [10.1080/17549175.2015.1029509](https://doi.org/10.1080/17549175.2015.1029509).
- Pendall, Rolf, Hayes, Christopher, George, Arthur, Dawkins, Casey, Jeon, Jae Sik, **Knaap, Elijah,** Blumenberg, Evelyn, Pierce, Gregory, and Smart, Michael. 2015. Driving to Opportunities: Voucher Users, Cars, and Movement to Sustainable Neighborhoods. *Cityscape* **17**(2), 57–87.
- Mishra, Sabyasachee, Welch, Timothy F. Torrens, Paul M. Fu, Cheng, Zhu, Haojie, and **Knaap, Elijah.** Mar. 2015. A tool for measuring and visualizing connectivity of transit stop, route and transfer center in a multimodal transportation network. *Public Transport* **7**(1), 77–99. DOI: [10.1007/s12469-014-0091-2](https://doi.org/10.1007/s12469-014-0091-2).
- Mishra, Sabyasachee, Welch, Timothy, Torrens, Paul, Zhu, Haojie, and **Knaap, Elijah.** 2014. Locating the Most Connected Transit Stop, Route, and Transfer Center: Tool for Users and Decision Makers. In: *Transportation Research Board 93rd Annual Meeting*. 14-5367.

#### *Technical Reports*

- Finio, Nicholas, Lung-Amam, Willow, Bedford, Brandon, Knaap, Gerrit, Dawkins, Casey, and **Knaap, Elijah.** 2018. *Toward an Equitable Region: Lessons from Baltimore's Sustainable Communities Initiative*. Tech. rep. Columbia, MD: Enterprise Community Partners, Inc. <https://www.enterprisecommunity.org/download?fid=9718%7B%5C&%7Dnid=6931>.
- Avin, Uri, Porter, Christopher, von Stroh, David, **Knaap, Elijah,** and Patnode, Paul. 2016. *NCHRP 08-36: Sketch Planning Tools for Regional Sustainability*. Tech. rep. Cambridge, MA: Cambridge Systematics, Inc. [http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP08-36\(117\)%7B%5C\\_%7DFR.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP08-36(117)%7B%5C_%7DFR.pdf).
- Pendall, Rolf, Hayes, Christopher, George, Arthur Taz, Mcdade, Zach, Dawkins, Casey, Jeon Sik, Jae, **Knaap, Elijah,** Blumenberg, Evelyn, Pierce, Gregory, and Smart, Michael. 2014. *Driving to Opportunity: Understanding the Links among Transportation Access, Residential Outcomes, and Economic Opportunity for Housing Voucher Recipients*. Tech. rep. March. Washington DC: Urban Institute, p. 68. <https://www.urban.org/research/publication/driving-opportunity-understanding-links-among-transportation-access-residential-outcomes-and-economic-opportunity-housing-voucher-recipients>.

Sartori, Jason, Knaap, Gerrit, Liu, Chao, Niu, Yi, Ding, Chengri, **Knaap, Elijah**, and Sandborn, Avery. 2012. *Challenges and Opportunities for Economic Prosperity in the 21st Century: Sustainable and Equitable Economic Development in Maryland*. Tech. rep. College Park, MD: National Center for Smart Growth Research & Education. [http://smartgrowth.umd.edu/assets/documents/seed/seed%7B%5C\\_%7Dd1.pdf](http://smartgrowth.umd.edu/assets/documents/seed/seed%7B%5C_%7Dd1.pdf).

#### *Manuscripts in Progress*

**Elijah Knaap**, Levi Wolf, Sergio Rey, Su Han & Wei Kang, “Living Room: Making Space for the Neighborhood in Urban Science.” *Progress in Human Geography*. In Progress.

Nicholas Finio, Gerrit Knaap, Willow Lung-Amam, Casey Dawkins, & **Elijah Knaap**, “Metropolitan Planning in a Vacuum.” *Journal of Urban Affairs*. Under Review.

Willow Lung-Amam, Rolf Pendall & **Elijah Knaap**, “Mi Casa no es Su Casa: Transit-Induced Gentrification and the Fight for Equitable Development in an Inner-Ring, Immigrant Suburb..” *Journal of Planning Education & Research*. Under Review.

**Elijah Knaap**, Nicholas Finio, Wei Kang, Levi Wolf, & Sergio Rey, “Machines Learn the Chicago School: A Spatiotemporal Markov Model of Gentrification & Neighborhood Change.” *Environment and Planning B: Urban Analytics and City Science*. In Progress.

Levi Wolf, **Elijah Knaap** & Sergio Rey, “Geosilhouettes: Spatially-Aware Measures of Geographic Cluster Certainty.” *In Progress*. .

**Elijah Knaap**, Gerrit Knaap, Nicholas Finio & Sergio Rey, “Spatial Informatics for Measuring Urban Inequality in International Contexts.” *In Progress*. .

Su Han, Sergio Rey, **Elijah Knaap**, Wei Kang, Levi Wolf, “Adaptive Choropleth Mapper: A Web-based Tool for Synchronous Exploration of Multiple Variables at Multiple Spatial Scales.” *In Progress*. .

**awards** Innovative Student Contribution to Planning Tools Award - Scenario Planning Applications Network (2015)

Outstanding Graduate Assistant Award - National Center for Smart Growth (2014)

Robert Janes Award for contribution to the field of Urban Studies - University of Maryland Dept. of Urban Studies and Planning (2012)

**grants** All S.T.A.R. fellowship, \$10,000 fellowship from the University of Maryland Graduate School

URSP Course Development, \$10,000 grant from UMD Department of Urban Studies and Planning. Course: Urban Planning Technology (with Chao Liu). 2012–2013.

URSP Course Development, \$10,000 grant from UMD Department of Urban Studies and Planning. Course: Intermediate Geographic Information Systems (with Chao Liu). 2013–2014.

- invited talks**
- “The Geography of Neighborhood Change: Poverty, Immigration and Gentrification.” Makeover Montgomery 3, Balancing Change in America’s Suburbs. May 4, 2016.
  - “Retail Location and Transit: An Econometric Examination of Retail Location in Prince George’s and Montgomery County.” Transit, Development, and Forme Urbaine: Washington et Paris, Paris, France. March 14, 2015.
  - “The Promise and Challenge of Equitable Transit-Oriented Development in Diverse Suburbs.” Transit, Development, and Forme Urbaine: Washington et Paris, Washington, DC. October 18, 2014.
- conference talks**
- “Spatio-temporal Analysis of Socioeconomic Neighborhoods.” Sergio Rey & Elijah Knaap, 17th Python in Science Conference, Austin, Texas. July, 2018.
  - “Machines Learn the Chicago School: Spatiotemporal Markov Models of Neighborhood Change.” Elijah Knaap & Nicholas Finio, Association of Collegiate Schools of Planning, Denver, Colorado. October, 2017.
  - “The Cartography of Opportunity: Spatial Data Science for Equitable Urban Policy.” Elijah Knaap, American Association of Geographers, Boston, Massachusetts. April, 2017.
  - “Who Moves to Opportunity? Residential Sorting Models from a Unique Housing Mobility Program in Baltimore.” Elijah Knaap, Association of Collegiate Schools of Planning, Portland, Oregon. November, 2016.
  - “Regional Planning, Access to Opportunity, & Freddie Gray: Lessons from Baltimore.” Gerrit Knaap, Elijah Knaap, Nick Finio, Casey Dawkins, Willow Lung-Amam, Association of Collegiate Schools of Planning, Portland, Oregon. November, 2016.
  - “Opportunity, Transportation, and Neighborhood Choice: A Quantitative Examination of Housing Voucher Use in Baltimore.” Elijah Knaap, Association of Collegiate Schools of Planning, Houston, Texas. October, 2015.
  - “Networks and Neighborhood Effects: The Role of Accessibility in Economic Mobility.” Elijah Knaap & Casey Dawkins, Federal Reserve System Community Development Research Conference, Washington D.C.. April 3, 2015.
  - “Improving Social and Economic Equity in Maryland.” Chao Liu, Elijah Knaap & Gerrit Knaap, 14th Annual New Partners for Smart Growth Conference Tech Fair, Baltimore, Maryland. January 3, 2015.

- “Trajectories of Neighborhood Attainment: Evidence from MTO in Baltimore.” Elijah Knaap, Association of Collegiate Schools of Planning, Philadelphia, Pennsylvania. October, 2014.
- “The Use and Misuse of Opportunity Maps.” Elijah Knaap & Chao Liu, Association of Collegiate Schools of Planning, Philadelphia, Pennsylvania. October, 2014.
- “Identifying Maryland Transportation Place Types.” Chao Liu, Ting Ma, Elijah Knaap, & Gerrit Knaap, Association of Collegiate Schools of Planning, Philadelphia, Pennsylvania. October, 2014.
- “Opportunity Mapping Tools to Improve Social and Economic Equity in Maryland.” Elijah Knaap, Chao Liu, & Gerrit Knaap, Makeover Montgomery II, Silver Spring, Maryland. October, 2014.
- “Locating the Most Connected Transit Stop, Route, and Transfer Center: Tool for Users and Decision Makers.” Mishra, S., Welch, T. F., Torrens, P. M., Zhu, H., & Knaap, E., Transportation Research Board 93rd Annual Meeting, Washington D.C.. October, 2014.
- “Opportunity Mapping: A Conceptual Analysis and Application to the Baltimore Metropolitan Area.” Chao Liu, Elijah Knaap & Gerrit Knaap, Annual Conference of the Association for Public Policy Analysis & Management, Washington D.C.. 2013.
- “Opportunity Mapping: Concepts and Techniques.” Elijah Knaap, Chao Liu, & Gerrit Knaap, Joint Meeting of the Association of Collegiate Schools of Planning & Association of European Schools of Planning, Dublin, Ireland. 2013.
- “Reclassification of Sustainable Neighborhoods: An Opportunity Indicator Analysis in Baltimore Metropolitan Area.” Chao Liu, Elijah Knaap, & Gerrit Knaap, Joint Meeting of the Association of Collegiate Schools of Planning & Association of European Schools of Planning, Dublin, Ireland. 2013.
- “Economic Clusters and Transit Oriented Development: Two for the Price of One.” Elijah Knaap, Yi Niu, Chengri Ding, Sabyasachee Mishra, Tim Welch, Annual Meeting of the Association of Collegiate Schools of Planning & Association, Cincinnati, Ohio. 2012.
- “Improving Opportunity Accessibility for Underserved Populations: A Sustainable and Equitable Economic Development (SEED) Initiative for the State of Maryland.” Chao Liu, Gerrit Knaap, Jason Sartori & Elijah Knaap, Annual Meeting of the Association of Collegiate Schools of Planning & Association, Cincinnati, Ohio. 2012.

courses  
taught

UPP 461: GIS for Urban Planners

Fall 2017

URSP 688Y: Smart Cities and Urban Data Science

Spring 2017

URSP 688Q: Intermediate GIS (Co-Taught with Chao Liu)	Spring 2014
URSP 688G: Urban Planning Technology; (Co-Taught with Chao Liu)	Fall 2014
URSP 688G: Urban Planning Technology; (Co-Taught with Chao Liu)	Spring 2013

## public history

*Selected media coverage*

Baltimore's Housing Voucher Program Almost Gets It Right - *CityLab*, January 5, 2016

Defining 'opportunity' in Baltimore - *The Baltimore Sun*, August 3, 2015

## service

*Service to the Profession*

Member: American Association of Geographers 2013 -

Member: Association of Collegiate Schools of Planning 2013 -

Member: American Sociological Association 2015 -

Member: Regional Science Association International 2018 -

## computing

*Programming*

Python, R, Git, HTML5/CSS, LaTeX, Postgresql/PostGIS, STATA, Javascript

*Geographic Information Systems*

ArcGIS, QGIS, GeoDa, STARS, PySAL, GeoPandas, sf, spdep