

Davis Chacon-Hurtado

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EDUCATION

- 2018 **Ph.D.**, Lyles School of Civil Engineering, concentration in Transportation Engineering, Purdue University, West Lafayette, Indiana. *Dissertation*: “Investigating the role of transportation accessibility in regional economic resilience.”
Advisors: Dr. Nadia Gkritza and Dr. Jon D. Fricker.
- 2013 **Master of Science**, Department of Civil Engineering and Surveying, University of Puerto Rico at Mayaguez, Mayaguez, Puerto Rico.
- 2007 **Bachelor and Diploma**, Department of Civil Engineering, National University of San Antonio Abad, Cusco, Peru.

RESEARCH EXPERIENCE

Post-Doctoral Research Associate, Engineering for Human Rights Initiative, Human Rights Institute, University of Connecticut, Storrs, CT.

- 2019 - present Initiative sponsored by the UConn School of Engineering and the Human Rights Institute to promote research and teaching in a new area called “Engineering for Human Rights” (ENG-HR). This initiative aims to understand the impact of engineering on society using human rights principles. Tasks included:
- Developed a theoretical paper describing the concept of ENG-HR and the principles for its application in engineering.
 - Organized two workshops (April 25 and October 22, 2019) focused on the research clusters and curriculum development of the ENGR-HR initiative, respectively.
 - Conducted meetings with individual research clusters to discuss specific projects and activities in each cluster.
 - Organized outreach activities with organizations such as Engineering Without Borders (EWB), USA, and offices such as the Engineering Diversity and Outreach Center (EDOC).

Graduate Research Assistant, Lyles School of Civil Engineering, Purdue University, West Lafayette, IN.

- 2017 – 2019 Joint Transportation Research Program (JTRP) project 4162, *Incorporating Economic Resilience into INDOT’s Transportation Decision-making*. Developed spatial econometric models and a tool framework to assess the impacts of transportation infrastructure improvements on the economic resilience of counties in Indiana. Co-facilitated weekly and quarterly meetings with the research team and advisory committee of the Indiana Department of Transportation (INDOT), respectively.
- 2015 – 2017 JTRP project 3912, *Economic Development Impact of Corridor Improvements Projects*. Designed a sketch-level tool based on Microsoft Excel and VBA to measure the economic development impacts of six Transportation Systems Management and Operations (TSMO) strategies. Developed user guide, case study examples, and training workshops for planners from INDOT and Indiana Metropolitan Planning Organizations.

2014 – 2015 JTRP project 3912, *FHWA Implementation Grant Program for the EconWorks Tools for Wider Economic Benefits (WEB)*. Performed two case studies in Indiana using the EconWorks Reliability and Connectivity tools. Presented results in an FHWA Volpe webinar, which is available as training material in the EconWorks WEB website.

Graduate Research Assistant, Department of Civil Engineering and Surveying, University of Puerto Rico at Mayagüez, Mayagüez, Puerto Rico.

2011-2013 Worked as part of an interdisciplinary research project funded by a grant from the National Science Foundation to develop and provide participatory research and educational opportunities in Appropriate Technology for faculty and graduate students.

Master Thesis: Implementation of a framework for transportation decision making incorporating communities' preference and sustainability criteria." Conducted research focused on participatory decision-making and context-sensitive design. Collected data in the study about community preferences for a highway redevelopment and built visualizations reflecting those preferences. Implemented a logistic model to understand the characteristics that influenced community preferences.

PEER-REVIEWED ARTICLES

- **Chacón-Hurtado**, D., I. Kumar, K. Gkritza, J. Fricker, and L. Beaulieu, "Assessing the Role of Transportation Accessibility in Regional Economic Resilience." *Journal of Transport Geography*. <https://doi.org/10.1016/j.jtrangeo.2020.102695>. (2020).
- **Chacón-Hurtado**, D., L. Losada-Rojas, K. Gkritza, J.D. Fricker, and D. Yu, "A Proposed Framework for the Incorporation of Economic Resilience into Transportation Decision Making." *ASCE Journal of Management in Engineering*, 10.1061/(ASCE)ME.1943-5479.0000834 (2020).
- **Chacón-Hurtado**, D., I. Kumar, K. Gkritza, and J. Fricker, "Analysis of Spatial Mismatch and Equity Using Commuting and Labor Sheds: Trends in Indiana," *Transportation Research Record*, *Journal of the Transportation Research Board*, <https://doi.org/10.1177/0361198119849919>, (2019).
- **Chacón-Hurtado**, D., K. Gkritza, J. Fricker, and D. Yu, "Exploring the Role of Worker Income and Workplace Characteristics on the Journey to Work," *International Journal of Sustainable Transportation*, 13:8, 553-566, DOI: 10.1080/15568318.2018.1490466, (2018).
- **Chacón-Hurtado**, D., V.D. Pyrialakou, and K. Gkritza, "Investigating the Spatial Distribution of Manufacturing Employment: An Indiana Case Study," *Transportation Research Record*, *Journal of the Transportation Research Board*, Volume 2606, 122–129, (2017).
- **Chacón-Hurtado**, D., E. Bardaka, R. Yang, K. Gkritza, and J. Fricker, "Tools for the Wider Economic Impact Assessment of Corridor Improvements: Lesson Learned from the FHWA Implementation Assistance Program in Indiana," *ASCE Journal of Transportation Engineering Part A: Systems*, 143(5), (2017).

In Preparation:

- **Chacón-Hurtado**, D., K. Kaserounian, S. Hertel, J. Mellor, J. Barry, S. Tulasi, "Engineering for Human Rights: The Theory and Practice of a Human Rights-Based Approach to Engineering."
- **Chacón-Hurtado**, D., C. Atkinson-Palombo, N. Garrick, and A. Maher, "Spatio-Temporal Patterns of Shared Ride-hailing Trips in New York City."
- **Chacón-Hurtado**, D., D. Yu, K. Gkritza, J. Fricker, and I. Kumar, "A Metric of Regional Economic Resilience for Infrastructure and Regional Planning."

CONFERENCE PROCEEDINGS

- **Chacón-Hurtado, D., K. Gkritza, J. Fricker, and D. Yu,** “Exploring the Role of Accessibility on Employment Locations in Indiana: A Bottom-Up Approach,” In Proceedings of the 58th Annual Transportation Research Forum, April 20–21, Chicago, Illinois (2017).
- **Chacón-Hurtado, D., E. Bardaka, R. Yang, K. Gkritza, and J. Fricker,** “Wider Economic Impact Assessment of Transportation Projects at the Middle-Stage Planning Level: An Application of the SHRP2 C11 Tools and a Regional Economic Model,” In Proceedings of the 95th Transportation Research Board Annual Meeting, January 10–14, Washington D.C. (2016).
- **Chacón-Hurtado, D., Papadopoulos, C. M., Figueroa Medina, A. M., Castro Sitiriche, M. J., & Valdés-Díaz, D. M.** Embedding Community Preferences in Visualizations: Case Study of Context-Sensitive Design in Puerto Rico. Presented at the Transportation Research Board 93rd Annual Meeting Transportation Research Board. Washington D.C. (2014).

PRESENTATIONS

- **Chacón-Hurtado, D., I. Kumar, K. Gkritza, and J. Fricker,** “Exploring a Measure of Commuting Burden for Low Income Workers in Indiana using Census Transportation Planning Products Program (CTPP) Data,” Annual Meeting of the Transportation Research Board, January 12–16, Washington DC (2020).
- **Chacón-Hurtado, D., I. Kumar, K. Gkritza, and J. Fricker,** “Accessibility to Diversity of Jobs in Indiana,” North American Meetings of the Regional Science Association International (RSAI) sponsored by the North American Regional Science Council (NARSC), November 13–16, Pittsburgh, Pennsylvania (2019).
- **Chacón-Hurtado, D., Y. Ke, L. Losada, K. Gkritza, and J. Fricker,** “Addressing Economic Resilience in Transportation Decision Making: The Case of Indiana,” 105th Annual Purdue Road School & Expo, March 4–7, West Lafayette, Indiana (2019).
- **Chacón-Hurtado, D., S. Hertel,** “Engineering and Social justice,” School of Engineering Diversity and Outreach Center (EDOC), University of Connecticut, February 21, Storrs, Connecticut (2019).
- **Chacón-Hurtado, D.,** “Accessibility to Jobs: A (Human) Right for Everyone? Exploring the role of worker income and workplace characteristics on the journey to work.” Economic and Social Rights Group at the Human Rights Institute, University of Connecticut, February 18, Storrs, Connecticut (2019).
- **Chacón-Hurtado, D., I. Kumar, K. Gkritza, and J. Fricker,** “Analysis of Spatial Mismatch and Equity Using Commuting and Labor Sheds: Trends in Indiana,” Transportation Research Record, Annual Meeting of the Transportation Research Board, January 13–17, Washington DC (2019).
- **Chacón-Hurtado, D., I. Kumar, K. Gkritza, and J. Fricker,** “Analysis of Spatial Mismatch and Equity Using Commuting and Labor Sheds: Trends in Indiana,” Transportation Research Record, Annual Meeting of the Transportation Research Board, January 13–17, Washington DC (2019).
- **Chacón-Hurtado, D., K. Gkritza, and J. Fricker,** “Evaluating the Economic Development Impacts of Arterial Signal Coordination Strategies,” TRB 16th National “Tools of The Trade” Conference on Transportation Planning for Small and Medium-Sized Communities, August 22–24, Kansas City, Missouri (2018).
- **Chacón-Hurtado, D., I. Kumar, K. Gkritza, and J. Fricker,** “Accessibility to Diversity of Jobs and Resilience to Economic Shocks in Indiana,” International Transportation and Economic Development Conference (I-TED), June 6–8, Washington D.C. (2018).
- **Ke, Y., Chacón-Hurtado, D., K. Gkritza, J. Fricker,** “Evaluating Economic Development Impacts of Preservation Projects,” 104th Annual Purdue Road School & Expo, March 6–7, West Lafayette, Indiana (2018).

- **Chacón–Hurtado, D., K. Gkritza, and J. Fricker**, “Exploring the Effects of an Economic Recession on Accessibility to Jobs in Indiana,” North American Meetings of the Regional Science Association International (RSAI) sponsored by the North American Regional Science Council (NARSC), November 8–11, Vancouver, British Columbia, Canada (2017).
- **Chacón–Hurtado, D., R. Yang, E. Bardaka, K. Gkritza, and J. Fricker**, “Evaluating the Economic Development Impacts of Arterial Signal Coordination Strategies”, ITE Great Lakes 2017 Annual Meeting, April 19–20, Ann Arbor, Michigan (2017).
- **Chacón–Hurtado, D., R. Yang, E. Bardaka, K. Gkritza, and J. Fricker**, “Assessing the Induced Wider Economic Benefits of Transportation Projects at the Middle–Stage Planning,” 2016 Tools of the Trade Conference, September 12–14, Charleston, South Carolina (2016).
- **Chacón–Hurtado, D., R. Yang, E. Bardaka, K. Gkritza, and J. Fricker**, “Transportation and Economic Development: An Assessment of the SHRP2 C11 Tools and their Synergies with Economic Simulation Models for the Evaluation of the Wider Economic Benefits of Transportation Projects,” ASCE/T&DI International Conference on Transportation & Development, June 26–29, Houston, Texas (2016).
- **Chacon-Hurtado D., and R. Yang**, “SHRP2 C11 Economic Development Impact of Corridor Improvements,” Indiana Model Users Group (iMUG) meeting, May 26, Indianapolis, Indiana (2016).
- **Chacón Hurtado, D., K. Gkritza, and J. Fricker**, “Transportation and Economic Development: Characterization of Economic Development Impact of Corridor Improvements,” Session 169, 101st Annual Purdue Road School, March 10–11, West Lafayette, Indiana (2015).
- **Chacon-Hurtado, D. and A. Figueroa Medina**, “Sustainable Development and Transportation Decision Making: Incorporating Public Preferences using Visualization,” Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) National Conference, October 3-6, San Antonio, Texas (2013).
- **Chacon-Hurtado, D. and A. Figueroa Medina**, “Before and After Highway Safety Evaluation Using Empirical Bayes Approach: A Case Study in Indiana,” Society of Hispanic Professional Engineers (SHPE) National Conference, November 14-18, Fort Worth, Texas (2012).
- **Chacon-Hurtado, D., V. Oyanedel-Craver, and V. Kasaraneni**, “Establishing a Method for Extraction of Polycyclic Aromatic Hydrocarbons from Contaminated BMP Soils,” Ana G. Mendez University System (AGMUS) Research Symposium, September 16-17, San Juan, Puerto Rico (2011).

MENTORSHIP

- 2019 – Engineers Without Borders (EWB) UConn chapter. Tasks included:
 - Led activities as a travel mentor for a sanitation project in Peru. Participated in outreach activities with a local university in Cusco, Peru.
 - Mentored an EWB team for the RISE (Real Impact on Society and Environment) competition 2019 at UConn. The team was the first runner up.
- 2019 – Collaborator of the UConn learning community “La Comunidad Intelectual.”
- 2016 – 2017 Undergraduate research mentor. Mentored two undergraduate research assistants about research tasks such as literature review and case study developments as part of two Joint Transportation Research Projects.

UNIVERSITY, PROFESSIONAL, AND COMMUNITY SERVICE

University of Connecticut

- 2020 Panelist. “*Thriving at Work Series*,” Organized by Office for Diversity and Inclusion, University of Connecticut.
- 2019 Panelist. “*What’s my business with the environment: A conversation on the intersectionality of economics, corporate responsibility, and environmental sustainability*,” Organized by the Sustainability Subcommittee of the Undergraduate Student Government (USG), University of Connecticut.
- 2019 Presenter. “*My career path as a minority in academia*.” Organized by the Society of Hispanic Professional Engineers chapter at the University of Connecticut.
- 2019 Presenter. “*Engineering a Socially Just World*,” Organized by the Diversity and Outreach Center (EDOC), School of Engineering, University of Connecticut.

Other Venues

- 2015 – 2018 Volunteer, “Weeks of Welcome” for international students, International Students and Scholars (ISS), and the International Programs (IP), Purdue University.
- 08/2018 Judge, Summer Undergraduate Research Fellowship (SURF) Research Symposium, College of Engineering, Purdue University.
- 11/2017 Volunteer, Earth Science Passport Day 2017, Earth, Atmospheric, and Planetary Sciences Students Association, Purdue University and Imagination Station, Lafayette, IN.
- 10/2015 Volunteer, Big 10 - Grad Expo, Purdue University.
- 03/2015 Judge, Annual Math Competition for middle school students (“MathCounts”), Purdue University.
- 2013 – 2014 Tutor, Community center of “Dulces Labios,” Mayaguez, Puerto Rico.
- 2012 Tutor, University Center for Access (CUA), University of Puerto Rico, Mayaguez, Puerto Rico.

CERTIFICATES

- 06/2015 Applied Management Principles Certificate, Krannert School of Management, Purdue University, West Lafayette, Indiana.
- 08/2013 Graduate Leadership Institute (GLI), National Institute for Leadership Advancement (NILA), Society of Hispanic Professional Engineers, Denver, Colorado.

WORKSHOPS

- 06/2017 **Presenter**, “Tools for Operations – Economic Impact Analysis training,” Indiana Department of Transportation, Indianapolis, Indiana.
- 02/2017 **Presenter**, “Introduction to EconWorks,” webinar organized by the Volpe National Transportation Systems Center, U.S. Department of Transportation.
- 05/2016 **Presenter**, “SHRP2 C11 Tools: Market Access training,” Indiana Department of Transportation, Indianapolis, Indiana.

TEACHING EXPERIENCE

- Fall 2019 **Guest Lecturer**, (CE 5730) *Transportation Planning*. Civil and Environmental Engineering, University of Connecticut. Presented on modeling techniques for trip distribution, and techniques based on agent-based modeling. Graduate course with 8 students.
- Fall 2018 **Guest Lecturer**, (CE 361) *Introduction to Transportation Engineering*. Lyles School of Civil Engineering, Purdue University. Presented on sustainable development,

- autonomous vehicles, and travel demand management. Implemented active learning strategies such as think-pair-share in a class of 40 students.
- Fall 2013 **Teaching Assistant**, (INTD 3990) *Alternative and Appropriate Technologies: Technology for what? Technology for whom?* University of Puerto Rico at Mayaguez. Undergraduate class of 60 students. Assisted in grading and tutoring students.
- Spring 2011 **ArcGIS Lab Instructor**, (CE 4125) *Introduction to Land Information Systems*. Department of Civil Engineering and Surveying, University of Puerto Rico at Mayaguez. Taught ArcGIS labs covering topics such as geoprocessing tools, queries, geo-referencing, model builder, and raster analysis. Developed written and video tutorials for students. Undergraduate class with 50 students.

INTERNSHIPS

- Summer 2012 Indiana Local Technical Assistance Program (LTAP), Purdue University, West Lafayette, IN. *Study Title*: “Before and after highway safety evaluation using Empirical Bayes approach: A case study in Indiana.” Presented at the Eisenhower Showcase of the Annual Meeting of the Transportation Research Board.
- Summer 2011 Department of Civil and Environmental Engineering, University of Rhode Island, South Kingstown, RI. *Study Title*: “Establishing a method for extraction of polycyclic aromatic hydrocarbons from best management practices (BMP) Soils.” Helped in the “design of experiment” stage using ANOVA.

LEADERSHIP

- 2019 – present Member, Post-doc Steering Committee at the University of Connecticut, Storrs Campus.
- 2016 – 2019 Graduate Global Ambassador for Peru, Purdue University.
- 08/2016 – 06/2017 Vice president, Purdue Institute of Transportation Engineers (ITE) Chapter, Purdue University.
- 01/2016 – 05/2016 Vice-President, Civil Engineering Graduate Student Advisory Council (CEGSAC), Purdue University.
- 08/2015 – 12/2015 Co-chair of the Community Committee, Civil Engineering Graduate Student Advisory Council (CEGSAC), Purdue University.
- 2013 – 2014 Vice-president, International Students Group at the University of Puerto Rico at Mayaguez.
- 2005 President, American Concrete Institute Student Chapter, University of San Antonio Abad, Cusco.

SELECTED PROFESSIONAL EXPERIENCE

- 2007 – 2010 **On-site engineer assistant**. COPESCO, Regional Government of Cusco. Cusco, Peru. Collaborated with field engineers in the scheduling and supervision of roadway maintenance tasks in the Sacred Valley of Cusco. Collaborated in writing monthly and final project reports.
- Project Designer**. COPESCO, Regional Government of Cusco. Cusco, Peru. Co-authored technical documents for rural highways. Responsible for the pavement design, retaining walls, and coordination with specialists for geotechnical, environmental, and hydrological studies.

HONORS AND AWARDS

- 06/2018 Outstanding Graduate Student Award, Lyles School of Civil Engineering, Purdue University.

- 05/2018 Outstanding Student Speaker Award, Institute of Transportation Engineers (ITE) chapter, Purdue University.
- 2017 Eldon J. Yoder Memorial Award, Outstanding Graduate Student in transportation engineering, Purdue University.
- 2017 College of Engineering Outstanding Service Scholarship, Purdue University.
- 2015 Winner, International Road Federation (IRF) student essay competition.
- 2013 Graduate student technical poster competition finalist, Society of Hispanic Professional Engineers National Conference.
- 2011-2012 Dwight David Eisenhower Transportation Fellowship Program (DDETFP).

TECHNICAL REPORTS

- Y Ke, LL Losada-Rojas, **Chacon-Hurtado**, D, K Gkritza, JD Fricker, “Incorporating Economic Resilience Metrics into INDOT’s Transportation Decision-Making.” Joint Transportation Research Program. (2020)
- **Chacón-Hurtado**, D., K. Gkritza, J. Fricker, and R. Yang, “Economic Development Impact of Corridor Improvement,” Joint Transportation Research Program Publication No. FHWA/IN/JTRP-2018/01), West Lafayette, IN, Purdue University. (2018).
- **Chacón-Hurtado**, D., R. Yang, E. Bardaka, K. Gkritza, and J. Fricker, “SHRP2 Tools for Assessing the Wider Economic Benefits of Transportation (C11)- Implementation Assistance,” Final report prepared for Indiana Department of Transportation and U.S. Department of Transportation. (2015).

PROFESSIONAL AFFILIATIONS

- 2019 – present Engineers Without Borders, USA
- 2014 – present Institute of Transportation Engineers
- 2014 – present Tau Beta Pi
- 2012 – present Society of Hispanic Professional Engineers (SHPE)
- 2011 – 2012 Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS)

GRANTS AND SCHOLARSHIPS

- 2020 PostDoc SEED Grant Award 2020, 2nd place, \$ 1000.
- 2017 Purdue University, College of Engineering travel scholarship, \$ 500.
- 2017 Eldon J. Yoder Memorial Award, \$1,000.
- 2013 Travel and lodging scholarship, Society for Advancement of Chicanos/Hispanics and Native Americans in Science national conference, \$1,500 (estimated).
- 2012 Travel Scholarship, Society of Hispanic Professional Engineers national conference, \$405.

LANGUAGES

Spanish (native), English (proficient)

SOFTWARE

ArcGIS Desktop, SAS, NLogit, Paver, AutoCAD, Python and VBA for Excel, Google SketchUp

ADDITIONAL INTERESTS

- Outreach for K-12 education
- Andean Culture