Jan Whittington

Associate Professor Department of Urban Design and Planning College of Built Environments University of Washington Gould Hall, Room 448D Seattle, WA 98195-5740

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PhD, City and Regional Planning

EDUCATION

2008 University of California, Berkeley

Advisor – David Dowall, City and Regional Planning

Outside Field Advisor – Oliver Williamson, Nobel Laureate, Economics, Business Administration, Law

Dissertation - The Transaction Cost Economics of Highway Project Delivery

1993 California Polytechnic State University, San Luis Obispo MCRP, City and Regional Planning

1987 University of California, Santa Cruz BA, Biology and Environmental Studies

AREAS OF SPECIALIZATION

Infrastructure Planning, Policy, Investment, Economics, Finance, and Systems Climate change, Mitigation, Adaptation, Resilience, Climate-Smart Capital Investment Public and Project Finance, Public-Private Partnerships, Strategic and Scenario Planning Information System Privacy and Security, Transaction Cost Analysis of Cyber-security Transaction Cost Economics, Information Economics, New Institutional Economics

ACADEMIC POSITIONS

2015 - present **Associate Professor (with Tenure)**

Department of Urban Design and Planning

University of Washington, Seattle

Director and Founder, UW Urban Infrastructure Lab

Associate, UW Tech Policy Lab

Advisory Board Member, Future of Privacy Forum (https://fpf.org/)

Member, National APA Board of Directors, Knowledge-Based Governance Task Force on Infrastructure

Associate Director, UW Center for Information Assurance and Cybersecurity Steering Committee Member, UW Interdisciplinary Planning PhD Program

Member, UW Privacy Steering Committee

2005 - 2015 Assistant Professor

Department of Urban Design and Planning

University of Washington, Seattle

Associate Academic Director, Masters of Infrastructure Planning and Management

Director of Infrastructure Systems Research, Center for Information Assurance and Cybersecurity

2004 - 2005 Research Associate

Institute of Urban and Regional Development

University of California at Berkeley

PROFESSIONAL EXPERIENCE

1990 - 2000 Senior Planner and Scientist

Bechtel Corporation, San Francisco, California

Representative Projects:

KNEXUS: Network of research institutions for economic development issues in emerging markets.

Consorcio Brasiliana: US\$15 million, 5 year infrastructure plan for the nation of Brazil.

Taiwan High Speed Rail: Manager on Bechtel's bid to develop 345-km high speed rail from Taipei to Kaohsiung.

Hanoi New City, Vietnam: Master Plan for a new city, north of Hanoi, on 4,000 hectares.

Portland Light Rail Extension, Oregon: Five light rail stations, an airport terminus, and 300 acres of airport-oriented development.

Nevada Test Site: Public-private partnerships for the operation of the site. Conducted strategic and scenario plans.

Port of Gdansk, Poland: Partnership to privatize and develop deep water grain and container port.

Sepetiba Port & Industrial Zone, Brazil: Strategic assessment for port, rail, road, and industrial development in the South Atlantic.

Puerto Panama: Bid to privatize Panama's ports and railroads.

Democratic Republic of Congo: Strategic development plan for the nation.

Reviewed: "Building with Bechtel." Economist 345, no. 8043 (November 15, 1997): 70. MasterFILE Premier, EBSCOhost (accessed April 5, 2010).

Kowloon Canton Railway Corporation, Western Corridor Railway: New heavy rail between the Hong Kong metro area, port and new towns, and the inner provinces of China.

Entertainment Technologies: Bechtel initiative to survey the entertainment industry for technologies of use in Bechtel projects, services, and partnerships.

Johor New Township, Malaysia: Strategy for the Renong Group and ProLink of Malaysia to develop a 10,000 hectare new town.

Daxie Island Superport, People's Republic of China: Bechtel and China International Trust and Investment Corporation joint venture for a deep-water port on a 31 sq. km. island, China.

Strategic Opportunity Development Initiative: Bechtel initiative to identify infrastructure megaproject opportunities worldwide.

Levi Strauss Project, Kentucky: A 50-acre distribution warehouse; Section 404 and 401 permits for Clean Water Act, and erosion control and revegetation specifications.

PGT Pipeline Expansion Project, Western U.S.: A 42-inch natural gas line from Idaho to California; construction inspection, training, management of environmental mitigation, site restoration for endangered species.

U.S. Environmental Protection Agency, Southwest Region: A five year service contract to redraw Preliminary Assessment and Site Inspection for CERCLA and Superfund.

U.S. Coast Guard, Puerto Rico: A 30-acre housing site; educational measures and procedures for protecting the endangered species during construction.

Persian Gulf: Development and application of rapid environmental damage assessment of the invasion of Kuwait by Iraq.

Magnetic Levitation Train, California-Nevada: Permitting and community relations on planned route from Los Angeles to Las Vegas.

Shell Oil Refinery, Martinez California: Water quality analysis.

New World Mining Project, Montana: A 3,340-acre gold and copper mine bordered by National Forest and Park land; impact assessment and mitigation measures for vegetation, wildlife, aquatic resources, and endangered species.

PUBLICATIONS

Books

- **Whittington, Jan** and Adrienne Greve. *Climate-Informed Capital Investment Planning*. Washington, DC: The World Bank. 248 pages. (in review)
- Dowall, David and **Jan Whittington**. *Making Room for the Future: Rebuilding California's Infrastructure*. San Francisco: Public Policy Institute of California, 2003. Print. ISBN: 1-58213-045-0. 223 pages. http://www.ppic.org/main/publication.asp?i=399
 - **Reviewed**: "The real trouble." *Economist* 360, no. 8232 (July 28, 2001): 31. *MasterFILE Premier*, EBSCOhost (accessed April 5, 2010).
- Neuman, Michael and **Jan Whittington**. *Building California's Future: Current Conditions in Infrastructure Planning, Budgeting and Financing*. San Francisco: Public Policy Institute of California, 2000. ISBN: 1-58213-024-8. Print. 107 pages. http://www.ppic.org/main/publication.asp?i=98

Edited Volumes

Sterrett, Jill, Dennis Ryan, Connie Ozawa, Ethan Seltzer, and **Jan Whittington**, editors. *Planning the Pacific Northwest*. Chicago, IL: APA Planners Press, 2015. Print. ISBN: 978-1-61190-128-3. 370 pages.

Book Chapters

- Whittington, Jan. "Planning Today: Green to the Extreme." *Planning the Pacific Northwest*. Ed. Sterrett, Jill, et al. Chicago, IL: APA Planners Press, 2015. Pages 111-113. Print.
- Hill, Michele, and Kristen Gelino, Lydia Fulton, Stefanie Young, **Jan Whittington**. "Solar in the Rainy City." *Planning the Pacific Northwest*. Ed. Sterrett, Jill, et al. Chicago, IL: APA Planners Press, 2015. Pages 313-319. Print.
- Whittington, Jan and Stefanie Young. "Lights on or off? Hydropower in a Changing Climate." *Planning the Pacific Northwest.* Ed. Sterrett, Jill, et al. Chicago, IL: APA Planners Press, 2015. Pages 249-257. Print.
- Vitro, Kristen and **Jan Whittington**. "The Cloud beneath the Clouds", *Planning the Pacific Northwest*. Ed. Sterrett, Jill, et al. Chicago, IL: APA Planners Press, 2015. Pages 175-177. Print.
- Ozawa, Connie, and Dennis Ryan, Ethan Seltzer, Jill Sterrett, and **Jan Whittington**. "Conclusion: Planning in the Pacific Northwest." *Planning the Pacific Northwest*. Ed. Sterrett, Jill, et al. Chicago, IL: APA Planners Press, 2015. Pages 328-335. Print.
- Arnaudo, Daniel, Philip Wood, Aaron Alva, and **Jan Whittington**. "The economic and political implications of authoritarian control of the Internet" *Critical Infrastructure Protection VII: United Nations, International Federation for Information Processing (IFIP) AICT 417*. Ed. Butts, Jonathan and Sujeet Shenoi. Heidelberg, Germany: Springer, 2013. pages 3-20. Print.

Refereed and Law Review Articles

- Jesse Woo, Jan Whittington, and Ronald Arkin. "Urban robots: Achieving autonomy in design and regulation of robots and cities" *Connecticut Law Review*, Volume 52 (in press) (author's copy, March 21, 2018) https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3145460
- **Whittington, Jan.** "Capital Planning for High-Impact Earthquakes: Invest to Withstand the Test of Time" *Washington Journal of Environmental Law and Policy*, Vol. 7, Issue 2 (July 2017), pp. 444-454.

- *HeinOnline*, http://digital.law.washington.edu/dspace-law/bitstream/handle/1773.1/1713/7WJELP444.pdf?sequence=1&isAllowed=y
- Whittington, Jan. "Remembering the Public in the Race to become Smart Cities." *UMKC Law Review*, Vol. 85, Issue 4 (Summer 2017), pp. 925-930. *HeinOnline*, http://www.heinonline.org.offcampus.lib.washington.edu/HOL/Page?handle=hein.journals/umkc85&size=2&collection=journals&id=959
- Whittington, Jan, and Ryan Calo, Mike Simon, Jesse Woo, Meg Young, Peter Schmeideskamp. "Push, Pull, and Spill: a Transdisciplinary Case Study in Municipal Open Government." *Berkeley Technology Law Journal*, vol. 30, no. 2, 2015, pp. 1899-1966. *HeinOnline*, http://heinonline.org.offcampus.lib.washington.edu/HOL/Page?handle=hein.journals/berktech30&div=49&start_page=1899&collection=journals&set_as_cursor=2&men_tab=srchresults
- Theodore, Brian, and **Jan Whittington**, Cara Towle, David Tauben, Barbara Endicott-Popovsky, Alex Cahana, Ardith Doorenbos. "Transaction Cost Analysis of In-Clinic versus Telehealth Consultations for Chronic Pain: Preliminary evidence for Rapid and Affordable access to Interdisciplinary Collaborative Consultation." *Pain Medicine*, vol. 16, 2015, pp. 1045-1056. *Wiley Online Library*, http://onlinelibrary.wiley.com/doi/10.1111/pme.12688/epdf
- Whittington, Jan and Catherine Lynch. 2015. "Climate-informed decisions: the capital investment plan as a mechanism for lowering carbon emissions" *Policy Research Working Paper Series*; no. WPS 7381. Washington, D.C.: World Bank Group. 34 pp. http://documents.worldbank.org/curated/en/2015/07/24840744/climate-informed-decisions-capital-investment-plan-mechanism-lowering-carbon-emissions
- Hoofnagle, Chris Jay and **Jan Whittington**. "Free: Accounting for the Costs of the Internet's Most Popular Price." *UCLA Law Review*, vol. 61, no. 3, 2013-2014, pp. 606-670. *HeinOnline*, http://heinonline.org.offcampus.lib.washington.edu/HOL/Page?handle=hein.journals/uclalr61&div=15&start_page=606&collection=journals&set_as_cursor=0&men_tab=srchresults

Awarded: Privacy Papers for Policy Makers, 2014. One of six papers selected by the Advisory Board of the Future Privacy Forum with an aim toward showcasing articles that should inform conversations about privacy among policymakers in Congress, as well as at the Federal Trade Commission and in other government agencies. http://www.futureofprivacy.org/2015/02/19/what-privacy-papers-should-policymakers-be-reading/

Cited in: European Data Protection Supervisor, European Union. Preliminary Opinion of the European Data Protection Supervisor: Privacy and Competitiveness in the Age of Big Data: The Interplay between Data Protection, Competition Law and Consumer Protection in the Digital Economy, Brussels, Belgium: Author, March 2014. pp. 27, 32 and 36.

https://secure.edps.europa.eu/EDPSWEB/webdav/site/mySite/shared/Documents/Consultation/Opinions/2014/14-03-26_competitition_law_big_data_EN.pdf

Reviewed: Paul Ohm. "Free for the Taking (or Why Libertarians are Wrong about Markets for Privacy)" *JOTWELL: Cyberlaw*, May 26, 2014. http://cyber.jotwell.com/free-for-the-taking-or-why-libertarians-are-wrong-about-markets-for-privacy/

- Armbruster, Ginger and **Jan Whittington**, Barbara Endicott-Popovsky. "Strategic Communications Planning for a CISO: Strength in Weak Ties." *The Colloquium for Information Systems Security Education Journal*, ed. 2, vol. 1, 2014. pp. 134-139. Print. http://cisse.info/news/264-edition-2-issue-1-proceeding-of-the-18th-colloquium-for-information-system-security-education
- Miller, Jeremiah, and Sam Chung, Teresa Escrig, Yan Bai, Barbara Endicott-Popovsky, **Jan Whittington**. "Accuracy, Security, and Architecture Impacts and Challenges of Mobile and Web Technologies: Geolocation Field Data Collection in Washington State Water Resources." *International Journal of Computer Applications*, vol. 92, no. 13, 2014, pp. 35-42. *IJCA Online*, http://www.ijcaonline.org/archives/volume92/number13/16071-5267

- Whittington, Jan and Stefanie Young. "Resilience through Transaction Cost Economic Evaluation: Recognizing the Cost-Effectiveness of Sustainable Development." Surveys and Perspectives Integrating Environment and Society (S.A.P.I.EN.S), vol. 6, no. 1, 2013. OpenEdition: Ressources électroniques et communication scientifique, http://sapiens.revues.org/1639
- Armbruster, Ginger and Barbara Endicott-Popovsky, **Jan Whittington**. "Threats to Municipal Information Systems posed by Aging Infrastructure." *International Journal of Critical Infrastructure Protection*, vol. 6, no. 3-4, 2013, pp. 123-131. *ScienceDirect*, http://dx.doi.org/10.1016/j.ijcip.2013.08.001
- Whittington, Jan and Chris Jay Hoofnagle. "Unpacking Privacy's Price." North Carolina Law Review, vol. 90, no. 5, 2011-2012, pp. 1327-1370. HeinOnline, http://heinonline.org.offcampus.lib.washington.edu/HOL/Page?handle=hein.journals/nclr90&div=41&start_page=1327&collection=journals&set_as_cursor=1&men_tab=srchresults
- Whittington, Jan. "When to Partner for Public Infrastructure? Transaction Cost Evaluation of Design-Build Delivery." *Journal of the American Planning Association*, vol. 78, no. 3, 2012, pp. 269-285. *Taylor & Francis Online*, http://dx.doi.org/10.1080/01944363.2012.715510
- Armbruster, Ginger and Barbara Endicott-Popovsky, **Jan Whittington**. "Are We Prepared for the Economic Risk resulting from Telecom Hotel Disruptions?" *International Journal of Critical Infrastructure Protection*, 5(2) 2012: 55-65. *ScienceDirect*, http://dx.doi.org/10.1016/j.ijcip.2012.05.003
- Whittington, Jan. "'The Making of California's Energy Crisis" *Berkeley Planning Journal*, vol. 16, no. 1, 2002, pp. 44-75. *eScholarship University of California*, http://escholarship.org/uc/item/6j74c3sd?query=whittington
- Whittington, Jan. "Cities and Complexity." Review of *Cities and Complexity*, by Karen Christensen. *Berkeley Planning Journal*, vol. 14, no. 1, 2000, pp. 124-125. *eScholarship University of California*, http://escholarship.org/uc/item/7kt951mv?query=whittington
- Whittington, Jan and William Tietje. "Saving Native Oaks calls for Planning" *California Agriculture*, vol. 46, no. 2, Mar/Apr 1992, pp. 20-23. *University of California, Agriculture and Natural Resources*, http://calag.ucanr.edu/Archive/?article=ca.v046n02p20

Refereed Conference Proceedings

- Meg Young, Luke Rodriguez, Emily Keller, Feiyang Sun, Boyang Sa, **Jan Whittington**, Bill Howe. "Beyond open vs. closed: Balancing individual privacy and public accountability in data sharing" *Proceedings of the Conference on Fairness, Accountability, and Transparency (FAT* '19)*, 2019, Atlanta, GA: Association for Computing Machinery (ACM), pp. 191-200, url: http://doi.acm.org/10.1145/3287560.3287577
- Meg Young, Luke Rodriguez, Emily Keller, Feiyang Sun, Boyang Sa, **Jan Whittington**, Bill Howe. "Beyond Open vs. Closed: Balancing Individual Privacy and Public Accountability in Data Sharing" 2019 Conference on Fairness, Accountability, and Transparency (ACM FAT*), Atlanta, Georgia, January 29-31, 2019. (Paper Accepted for Presentation) Paper site: https://fat2019.hotcrp.com/paper/96?cap=096afkIku LPoa8
- Jesse Woo, **Jan Whittington**, and Ronald Arkin. "Urban Robotics: Achieving Autonomy in Design and Regulation of Robots and Cities" *Northeast Privacy Scholars Workshop*, New York Law School and Fordham University School of Law, New York, New York, November 9, 2018. (Paper Presentation)
- Jesse Woo, **Jan Whittington**, and Ronald Arkin. "Urban Robotics: Achieving Autonomy in Design and Regulation of Robots and Cities" *We Robot 2018*, Stanford University, Stanford, California, April 13-14, 2018. (Paper Presentation) Paper site: https://conferences.law.stanford.edu/werobot/wp-content/uploads/sites/47/2018/02/We-Robot-2018-Final.pdf

- Reis, Lee and **Jan Whittington**, Karen Trapenberg Frick. "Cost Escalations in Megaproject Contracts: A Case Study of The Bay Bridge East Span Self-Anchored Suspension Superstructure" *Annual Transportation Research Board Conference Compendium*, January 4, 2016. (Paper Presentation)
- Armbruster, Ginger and **Jan Whittington**, Barbara Endicott-Popovsky. "Strategic Planning for a CISO: Strength in Weak Ties" *The Colloquium for Information Systems Security Education (CISSE)*, San Diego, California, June 16, 2014. (Paper Presentation)
- Whittington, Jan and Brian Theodore, Cara Towle, David Tauben, Barbara Endicott-Popovsky, and Ardith Doorenbos "Transaction Cost and Cyber-risk Analysis: Telehealth and Care in Clinic for Chronic Pain." University of Washington, School of Medicine, Department of Anesthesiology and Pain Medicine, 6th Annual Academic Evening. University of Washington Club. April 30, 2013. (Poster Presentation)
- Whittington, Jan. "Making Room for the Future: Rebuilding California's Infrastructure" In, *Physical Infrastructure: Crosscutting Issues Planning Conference Report*. Washington, DC: U.S. General Accounting Office, October 2001: 26-36. *U.S. Government Accountability Office*, http://www.gao.gov/new.items/d02139.pdf (Paper Presentation)

Research Reports and Advisories

- Whittington, Jan and Giovanni Migliaccio, Adrienne Greve. Cities of Uganda: Climate-Smart Capital Investment Planning. Washington, D.C.: The World Bank. (in progress)
- Whittington, Jan and Giovanni Migliaccio, Adrienne Greve. *Kampala, Uganda: Climate-Smart Capital Investment Planning*. Washington, D.C.: The World Bank. (in progress)
- Jan Whittington and Karen Trapenberg Frick. *Identifying and Analyzing the Relative Advantages and Disadvantages of Public-Private Partnerships and Traditional Delivery for Roadway Projects*. Seattle, Washington: The Pacific Northwest Transportation Consortium (Pactrans), University of Washington. (in progress)
- Stefanie Young, Hyun Woo Lee, and **Jan Whittington**. *CEM Solar Micro-Grid Project: A Feasibility Study*. The Port of Seattle (in progress)
- Meg Young, Ginger Armbruster, and **Jan Whittington**. *Seattle's Data Privacy Program*. Seattle, Washington: The Urban Infrastructure Lab, University of Washington. 2018.
- Karen Trapenberg Frick and **Jan Whittington**. *Identifying and analyzing the relative advantages and disadvantages of public-private partnerships and traditional delivery for transport projects*. Berkeley, California: University of California Transportation Center. 2017. 77 pages.
- **Whittington, Jan** and Adrienne Greve. *Tanzanian Municipalities: Climate-Smart Capital Investment Planning*. Washington, D.C.: The World Bank. 2016. 68 pages.
- Trapenberg Frick, Karen and Elizabeth Deakin, **Jan Whittington**, Mark Garrett, Karl Anderson and Eleanor Leshner. *Final Report: Assessment to Improve Border Coordination in California at the U.S. and Mexico Border*. Sacramento, CA: California Department of Transportation. 2017. 78 pages.
- Whittington, Jan and Elizabeth Deakin. *Project Identification and Delivery: Options Fit for California Border Coordination Strategies*. Sacramento, CA: California Department of Transportation. 2017. 70 pages.
- Deakin, Elizabeth and Karen Trapenberg Frick, **Jan Whittington**, Mark Garrett, Karl Anderson and Eleanor Leshner. *Assessing Organizational Strategies to Improve Border Coordination in California at the U.S. and Mexico Border*. Sacramento, CA: California Department of Transportation. 2017. 62 pages.
- Whittington, Jan and Giovanni Migliaccio, Adrienne Greve. *Kampala, Uganda: Climate-Smart Capital Investment Planning (Mid-Term Report)*. Washington, D.C.: The World Bank. 2016. 70 pages.

- **Whittington, Jan**. *Mission Report: Tanzanian Municipalities: Climate-Smart Capital Investment Planning (Mid-Term Report)*. Washington, D.C.: The World Bank. 2015. 46 pages.
- Whittington, Jan and David E. Dowall. "Transaction-cost economic analysis of institutional change toward design-build contracts for public transportation" *Paper WP.2006.09*, *IURD Working Paper Series*.
 Berkeley, CA: Institute of Urban and Regional Development, University of California, Berkeley, 2006. 48 pages.
 - *Cited in:* Crane, Randall and Rachel Weber (eds). *The Oxford Handbook of Urban Planning* New York, NY: Oxford University Press, 2012. pp 70 and 72.
- Whittington, Jan and Patrick Green. Strengths, Weaknesses, Opportunities, and Challenges: Scan of the Environment for Professional and Technical Employees Local 17. Seattle, Washington. February 8, 2013. 39 pages.
- Whittington, Jan and Janette Kaiser. Memorandum to Jeff Doyle, Director, Transportation Innovative Partnerships, Washington Department of Transportation, "An Introduction to Alliance Contracts for the Expert Review Panel on the Alaskan Way Viaduct." October 23, 2006. 5 pages.
- **Whittington, Jan**. Memorandum to Secretary Sunny Wright McPeak, Business, Transportation and Housing Agency, State of California, "Design-Build for Transportation." July 5, 2005. 10 pages.
- Dowall, David and **Jan Whittington**. Memorandum to California Department of Finance, "Capital Outlay Planning in the Transportation Sector." August, 2000. 12 pages.
- Dowall, David and **Jan Whittington**, Memorandum to California Department of Finance, "Capital Outlay in K-12 and Higher Education." August, 2000. 14 pages.

Legislation

Kaiser, Janette and **Jan Whittington**. *Creating an Alternative Contracting Method of Construction for Transportation Projects*. Bill Number Z-0131 (2nd draft). State of Washington (2007). 5 pages.

Training Materials

- Whittington, Jan. *Climate-Smart Capital Investment Planning*. Washington, DC: The World Bank. 103 pages. (Document with Excel Workbook) (first used April, 2014, at the World Bank's "City Creditworthiness Academy" in Seoul, Korea; Used in subsequent academies for the World Bank and C40 Network with 250+ municipalities)
- Whittington, Jan (2016). "Climate-Smart Capital Investment Planning: A Guide to the Excel Model" Municipal Finance and Creditworthiness Academy, Washington, DC, December 6, 2016, Washington, D.C.: The World Bank.

Also see: The World Bank, "Asian Cities: Climate Focus Needed in Capital Investment Planning" Feature Story, *The World Bank* (Home Page), May 15, 2014. http://www.worldbank.org/en/news/feature/2014/05/15/asian-cities-climate-focus-needed-capital-investment-planning

Trade Publications

- Vitro, Kristen and **Jan Whittington**. "The Cloud beneath the Clouds." *Planning*, vol. 81, no. 1, January 2015, pp. 35.
- Whittington, Jan and Peter Hurley, and Jill Sterrett. "New Certification for Sustainable Transportation Projects and Plans" *The Washington Planner: A Publication of the Washington Chapter of the American Planning Association*, May 11, 2011, pp. 4.

EXTERNAL FUNDED RESEARCH

Pending PI / Co-PI

- Climate Smart Capital Investment Planning, Technical Assistance for Indonesia, The World Bank Group. TBD (PI). 2019-2020.
- Climate Smart Capital Investment Planning, Technical Assistance for Malaysia, United Nations Industrial Development Organization. TBD (PI). 2019-2020.
- Collaborative Research: Beyond Open vs. Closed: A Trusted Repository of Semi-Synthetic Datasets for Responsible Data Science Research, National Science Foundation 19-512, CNS Computing Res Infrastructure, CCRI: Medium, \$54,871 (co-PI) \$1.5M total (with PI Bill Howe UW I-School, co-PI Dan Suciu UW CSE, co-PI NYU Julia Stoyanovich, co-PI UCSC Lise Getoor). 2019-2022. (in review)

Awarded PI / Co-PI

- Climate Smart Capital Investment Planning, Technical Assistance for Cities of Turkey, The World Bank Group. \$42,000 (PI). **2019-2020**.
- *Urban Planner Technical Advisor, Municipal Finance Training, Malaysia,* United Nations Industrial Development Organization, Cyberjaya, Malaysia, March 27-29, 2019. \$8,000 (PI). **2019**.
- Fundamentals and Innovations in City Financing Training Program, The World Bank Group, Global Programs (Social, Urban, Rural and Resilience Global Practice, GSURR), World Bank Headquarters, Washington, D.C., March 22, 2019. \$1,200 (PI). **2019**.
- Subnational Finance and Creditworthiness Academy: Strengthening Financial Management of Kenyan Counties, The World Bank Group, Global Programs (Social, Urban, Rural and Resilience Global Practice, GSURR), Nairobi, Kenya, January 28-31, 2019. \$4,200 (PI). **2019**.
- UW Solar Life Sciences Building Rooftop Array. The UW Urban Infrastructure Lab (PI). \$300,000. 2018-2019.
- *UW Transportation Electrification and Solar Study.* UW Transportation Services. \$53,259 (PI) (with Prof. Lee co-PI). **2018-2019.**
- Climate Smart Capital Investment Planning, Technical Assistance for Cities of Ethiopia, The World Bank Group, Global Practice (Urban), Disaster Risk Management Team, and Africa Region. \$30,000 (PI). **2018-2019**.
- Investment Planning and Project Identification Workshop, Durban, South Africa, City Resilience Program, The World Bank Group, Durban, South Africa, November 26-30, 2018. \$3000 (PI). **2018**.
- Transportation Data Collaborative, Corporate Affiliate Program, \$167,000 (PI) (with Mark Hallenbeck and Bill Howe, co-PIs). **2018**.
- Climate Smart Capital Investment Planning, Municipal Finance and Creditworthiness Academy, Indonesia, The World Bank Group, Global Programs (Social, Urban, Rural and Resilience Global Practice, GSURR). \$6,000 (PI). 2018.
- Creating the Transportation Data Collaborative, Microsoft Corporation. \$140,000 UW Urban Infrastructure Lab (PI). **2017-2018**.
- Climate Smart Capital Investment Planning, Technical Assistance for Cities of Uganda, The World Bank Group, Global Programs (Social, Urban, Rural and Resilience Global Practice, GSURR). \$28,600 (PI). 2017-2018.

- Establishing Trust in a Transportation Data Collaborative: Policies and Participation, Microsoft Corporation. \$50,000 UW Urban Infrastructure Lab (PI). **2016-2017**.
- Municipal Finance and Creditworthiness Academy, Washington, DC, The World Bank Group, City Creditworthiness Initiative, the Rockefeller Foundation, and the Global Platform for Sustainable Cities. \$2,905 (PI). **2016**.
- Climate Smart Capital Investment Planning, The World Bank Group, City Creditworthiness Initiative. \$8,134 (PI). 2016.
- UW-Solar and Port of Seattle, Port of Seattle. \$50,000 UW Urban Infrastructure Lab (PI). 2016-2017.
- *UW Solar Arrays*, 2015-2016, Washington State Department of Commerce. \$225,000 UW Urban Infrastructure Lab (PI). **2016-2017**.
- UW Campus Solar R&D Testbed, Seattle City Light. \$225,000 UW Urban Infrastructure Lab (PI). 2016-2017.
- Climate Smart Capital Investment Planning, Municipal Finance Academies (Turkey, India, Ethiopia) The World Bank Group, City Creditworthiness Initiative. \$8,134 (PI). **2016**.
- Climate Smart Capital Investment Planning Technical Assistance: Kampala, Uganda, The World Bank Group, Global Programs (Social, Urban, Rural and Resilience Global Practice, GSURR). \$20,335 (PI). 2015-2016
- Climate Smart Capital Investment Planning Technical Assistance: Tanzania, The World Bank Group, City Creditworthiness Initiative, \$50,940 (PI). 2015-2016.
- Enabling Domestic Financing for Climate Smart Infrastructure in C40 Cities, C40 Cities Network. \$6,792 (PI). **2015**.
- The Collaborative Resilience Institute (CORE-I), US Department of Homeland Security, Science & Technology Directorate, DHS S&T Critical Infrastructure Resilience Center of Excellence Center Lead, 2014/2015. \$16,419,582 UW Urban Infrastructure Lab (PI) National Center of Excellence for UW in partnership with Pacific Northwest National Labs, WSU, CWU, Pierce College, TAMU, Jacksonville State University, Mississippi State University, University of Hawaii, University of Alaska. 2015-2020. (short-listed; funded in part)
 - DHS granted awards to three of our sub-budget proposals (UW Hazard Mitigation Lab, the UW Climate Impacts Group, and Pacific Northwest National Labs): total value \$2,000,000.
- Municipal Open Data, University of California, Berkeley Center for Law and Technology. \$50,000 UW Tech Policy Lab (PI) Ryan Calo (co-PI). **2014-2015**.
- Municipal Open Data, City of Seattle. \$25,000 UW Tech Policy Lab (PI) Ryan Calo (co-PI). 2014-2015.
- Climate Informed Capital Investment Planning Methodology and Guidebook, The World Bank, Sustainable Development Network, Resilient Cities Program. \$28,300 (PI), \$8,490 (Amendment) **2014-2015**.
- Cost Evaluation: Comparing the Tappan Zee, Gerald Desmond and San Francisco-Oakland Bay Bridges, Arup North America, Ltd. \$4,000 (PI, UW Contract), \$20,000 (Total, UW and UC Berkeley in separate contracts). 2014-2016.
- Climate Smart Capital Investment Planning Course Materials and Methodology, The World Bank, Sustainable Development Network, Low-Carbon Livable Cities Initiative. \$29,998 (PI). 2013-2014.
- Solar Electric Generation System on Mercer A, Bonneville Environmental Foundation, Solar4Schools Program. **2013**. \$35,000 (PI). **2013-2014**.

- Consultation and Review of Legislation, Professional and Technical Employees, Local 17. \$3,000 (PI). 2012-2013
- A Proposal to Investigate how People and Organizations in the Health Care and Public Health Sector Put Valuable Health Care Information at Risk, National Science Foundation (Supplemental to Scholarship for Service), Funded by the Department of Homeland Security. \$93,000 (Co-PI, AwardNumber=1158950). Barbara Endicott-Popovsky (PI, Information School). 2011-2012.
- Protection of Tribal-Sensitive Resources during Construction of Transportation Improvements, TransNow: Transportation Northwest. \$250,000 (Co-PI) Giovanni Migliaccio (PI), Department of Construction Management. **2010**. (funding cut; award not dispersed)

Investigator / Key Personnel

The Leona M. and Harry B. Helmsley Charitable Trust Vertically Integrated Projects \$268,187 (Total) \$5,000 (Sub-budget), 2015-2017 Brian Fabien (PI), UW Electrical Engineering

US Department of Energy and Washington State Department of Commerce, Clean Energy Fund, 2015

Transactive Campus Energy Systems: A Regional Renewables Integration Resource and R&D Testbed
\$9,000,000 (UW, WSU, and PNNL, Total), \$2,615,000 (UW Total), \$209,814 (Co-I, Subbudget), 20152017

Miguel Ortega-Vazquez (PI) and Daniel Kirschen, UW Electrical Engineering

California Department of Transportation, 2015

California Integrated Border Approach Strategy, "CA-IBAS" Phase 2 \$335,000 (Total) \$32,760 (PI, UW Subcontract), **2015-2017** with Karen Trapenberg Frick (PI), UC Berkeley (under separate contract)

National Science Foundation, Federal Cyber Service, Scholarship for Service, 2012 *University of Washington Scholarship for Service Program (Supplemental)*\$1,050,691 (Total) (NSF AwardNumber=1129269); **2012-2015**Barbara Endicott-Popovsky (PI), Information School

City of Seattle, Legislative Department, 2012

Seattle Department of Transportation Efficiencies Review Support \$75,000 (Total) (A78577), **2012-2013** Mark Hallenbeck (PI), Washington State Transportation Center; Ed McCormack, Civil and Environmental Engineering

Social Sciences and Humanities Research Council of Canada, 2012

Trust and Digital Records in an Increasingly Networked Society (UW unfunded) \$335,000 (Total); **2012-2016**Luciana Duranti (PI), University of British Columbia

National Institute of Nursing Research/National Institutes of Health, 2011

Palliative care symptom management in rural communities \$2,723,977 (Total) (NIH Award Number=R01 NR012450). **2011-2016** Ardith Doorenbos, School of Nursing (PI).

National Science Foundation, Division of Social and Economic Sciences, 2006

Creating a multi-factor performance assessment model to test governance performance in multi-scalar large institutional networks

\$10,694 (UW subcontract) \$125,000 (www.nsf.gov, AwardNumber=0623135), **2006** Michael Neuman Texas A&M (PI)

Public Policy Institute of California, San Francisco, 2001

Making Room for the Future: Rebuilding California's Infrastructure

\$151,000 (subcontract) **2001-2002**

David Dowall, University of California, Berkeley (PI)

Public Policy Institute of California, San Francisco, 1999

Building California's Future: Current Conditions in Infrastructure Planning, Budgeting and Financing

\$27,000 (subcontract) 1999-2000

Michael Neuman (PI)

INTERNAL FUNDED RESEARCH

University of Washington Transportation Services, 2018-2019

UW Transportation Electrification and Solar Study

\$53,259 (PI, UW Contract) 2018-2019

Hyun Woo Lee, Construction Management (co-PI), Sofia Dermisi, Real Estate (co-PI).

Pactrans, Small Projects, 2013

Identifying and Analyzing the Relative Advantages and Disadvantages of Public-Private Partnerships and Traditional Delivery for Roadway Projects

\$25,000 (PI, UW Contract) 2013-2014

Robert Cervero, UC Berkeley (Subcontract PI), Karen Trapenberg Frick, UC Berkeley (Project Manager); Justin Marlowe, Evans School (co-PI); Abdel Aziz, Construction Management (co-PI); Giovanni Migliaccio (co-PI), Construction Management.

University of California Transportation Center, 2004-2005

Transaction-cost economic analysis of institutional change toward design-build contracts for public transportation

\$75,000, (www.uctc.net/grants/grantsyr17.shtml) **2004-2005**

David Dowall (PI), University of California, Berkeley

INFRASTRUCTURE PROJECTS

University of Washington Transportation Data Collaborative (TDC)

The TDC is a collaboration between the College of Built Environments (Prof. Jan Whittington), the College of Engineering (Mark Hallenbeck, Washington State Transportation Center, TRAC), and the I-School (Prof. Bill Howe). The TDC is a research initiative to innovate methods for mitigating bias and privacy threats in location data. The main administrative instruments are the Corporate Affiliate Program (PI, Whittington), with its setting and terms enabling the sharing of data and research on the responsible use of data, and a recharge center (housed at TRAC), enabling cost recovery from other sponsored research and ancillary contracts for research and services from outside firms and public agencies. **2017-present**.

URL: https://www.uwtdc.org/

Funding: (as noted above in section II F External Funded Research)

+ Microsoft, \$190,000 (PI), 2016-2017.

Documentation:

- + Cross-College MOU and Executive Summary
- + TDC Corporate Affiliate Agreement (CAA)
- + TDC CAA Bylaws
- + TDC Data Sharing and Use Agreements

UW Transportation Electrification and Solar Study R&D Testbed

The UW Infrastructure Lab is designing an evidence-based strategy for the electrification of transportation on campus, in the campus-owned fleet and for people working on or visiting the campus, including tie-ins between solar and vehicle electrification. Products include a decision-support model, 2-3 site-specific feasibility studies, and 3-5 designs for pilot programs. **2018-present**.

Funding: (as noted above in section II F External Funded Research)

+ UW Transportation Services, \$53,259 (PI), 2018.

Student involvement:

UW-Solar, a University-wide registered student organization

UW Life Sciences Building Building-Integrated Photovoltaics (BIPV)

The UW Infrastructure Lab has teamed with the architects, Perkins + Will, of the new Life Sciences building, to develop rooftop solar and solar shading fins on the south-facing exterior. BIPV increases energy self-sufficiency and resiliency by producing nearly 5,000 kWh per year. Initial estimates for rooftop PV range from approximately 80,000 to 110,000 kWhrs of clean energy output per year. In total, we estimate that adding BIPV and rooftop PV will generate approximately 110,000 kWh per year. The presence of vertical fins also control heat gain to the building, decreasing energy consumption associated with internal environmental controls. Vertical fin installation was completed in the Summer of 2018, and rooftop solar is in design. **2017-present**.

In the news: https://green.uw.edu/blog/2018-03/solar-powered-innovation-life-sciences-building

Funding: (as noted above in section II F External Funded Research)

- + UW Campus Sustainability Fund, \$150,000, 2018.
- + Anonymous Donor, \$100,000, 2018.
- + UW Campus Sustainability Fund, \$50,000 (Proposed)
- + UW Administration, College of Arts and Sciences (Building Owner), \$300,000, 2017.

Student involvement:

UW-Solar, a University-wide registered student organization

Port of Seattle, Marine Terminal Solar Investments

The UW Infrastructure Lab is conducting a feasibility study for a 3-4MW array on a capped landfill, to replace diesel fuel with electric power to Post-Panamax container vessels, facilities, and equipment on a marine terminal, and working with the Port to prioritize additional future solar investments. **2016-2017**.

Funding: (as noted above in section II F External Funded Research)

+ Port of Seattle, \$50,000 (PI), 2016.

Student involvement:

UW-Solar, a University-wide registered student organization

UW Campus Solar R&D Testbed

The UW Infrastructure Lab is developing 105KWs of solar arrays on Elm, Lander, and Maple Residential Halls for use as testbeds for energy and industrial control system research, total estimated cost \$565,000. **2015-2017**.

Funding: (as noted above in section II F External Funded Research)

- + Washington State Department of Commerce, \$225,000 (PI), 2016.
- + Seattle City Light, \$225,000 (PI), 2016.

+ US Department of Energy and Washington State Department of Commerce, Clean Energy Fund, 2015, *Transactive Campus Energy Systems: A Regional Renewables Integration Resource and R&D Testbed*, \$209,814 (Co-I, Subbudget), 2015.

Student involvement:

UW-Solar, a University-wide registered student organization

Mercer A Solar Array

The UW Infrastructure Lab developed a 34KW solar array on the Mercer A Apartment building for energy and industrial control system research, total estimated cost \$174,500. **2013-2014**.

Funding: (as noted above in section II F External Funded Research)

- + University of Washington, Housing and Food Services, \$50,000 (PI) 2013
- + Bonneville Environmental Foundation (As noted above), \$35,000 (PI) 2013
- University of Washington, Campus Sustainability Fund \$84,500; June 2013, 1 year (Design-Build Project)
 \$5,000; January 2013, 4 months (Feasibility Study)

Student involvement:

UW-Solar, a University-wide registered student organization

Also see: Office of the President, University of Washington "Thank you for making the UW a leader in sustainability" May 29, 2014. http://www.washington.edu/president/2014/05/29/thank-you-for-making-the-uw-a-leader-in-sustainability/

Husky Sustainable Storms (Design-Build Infrastructure Project)

The UW Infrastructure Lab designed a bioretention facility for installation at the West Campus entryway, total estimated cost \$98,220. **2011-2013**.

Funding:

- + University of Washington, Campus Sustainability Fund, \$5,000; 2013
- + University of Washington, Campus Sustainability Fund, \$84,000; 2012
- + University of Washington, Campus Sustainability Fund, \$9,220; 2011

Student involvement:

Multi-disciplinary team of students from the departments of urban design and planning, public administration, civil & environmental engineering and landscape architecture

INVITED PRESENTATIONS

International

- Whittington, Jan. "Smart city technology: Addressing the need for efficiency and privacy" The World Bank Group, Smart Cities KSB. The World Bank, Washington, D.C. (Date TBD).
- Whittington, Jan. *Municipal Finance Training, Malaysia*, United Nations Industrial Development Organization, Cyberjaya, Malaysia, March 27-29, **2019**.

Two presentations:

- "Climate-Smart Capital Investment Planning"
- "Financing Instruments: Public-Private Partnerships"
- Whittington, Jan. "City budgeting and capital investment planning" The World Bank Group, TTL Training: Fundamentals and Innovations in City Financing. The World Bank, Washington, D.C. March 18-22, 2019.

Whittington, Jan. "City budgeting and capital investment planning" The World Bank Group, Subnational Finance and Creditworthiness Academy: Strengthening Financial Management of Kenyan Counties. The World Bank, Nairobi, Kenya. January 28-31, 2019.

Three presentations:

- "From Development Planning to Climate-Smart Capital Investment Plan"
- "How to Prepare a Climate-Smart Capital Investment Plan and Capital Budget"
- "PPPs with Local Governments"
- Whittington, Jan. "Keynote Address" The World Bank Group, City Resilience Program, Investment Planning and Project Identification Workshop, Durban, South Africa, Durban, South Africa, November 26-30, 2018.
- Whittington, Jan and Karen Trapenberg Frick. "An Examination of Contract Models for Public Contracting in Washington and Oregon State: A Transaction Cost Approach" 7th Conference of the International PPP Scholars Network, University of Toronto, Canada. September 20, 2018.
- Whittington, Jan. The World Bank Group and The Rockefeller Foundation present: Municipal Finance and Creditworthiness Academy. Jakarta, Indonesia. July 23-26, 2018.

Two presentations:

- "From Development Planning to Climate-Smart Capital Investment Plan"
- "How to Prepare a Climate-Smart Capital Investment Plan and Capital Budget"
- Whittington, Jan. "City Budgeting and Capital Investment Planning." TTL Training: Fundamentals and Innovations in City Financing. The World Bank Group, Governance and Global Social, Urban, Rural, and Resilience Unit Forum. The World Bank, Washington, D.C. May 7-11, 2018.

From the World Bank internal announcement:

"This training is jointly organized by the Global Solutions Group for City Management, Governance, and Finance (SURR Global Practice) and the Governance Global Practice. It comprises an intensive 5-day learning program designed to expose World Bank staff to a solid technical grounding and innovative operational practices across the spectrum of major city financing issues."

- Whittington, Jan. Google Fellow. "Policymaker Roundtable" Privacy Law Salon, Miami, Florida, February 4-6, 2018.
- Whittington, Jan. Google Fellow. "Policymaker Roundtable" Privacy Law Salon, Washington, D.C., September 14-15, 2017.
- Whittington, Jan. "Smart city technology: Addressing the need for efficiency and privacy." The World Bank Group, Smart Cities KSB. The World Bank, Washington, D.C. March 23, 2017.
- Whittington, Jan. Panelist. "The Role of Non-Profits." The World Bank Group, Smart Cities KSB. The World Bank, Washington, D.C. December 12, 2016.
- Whittington, Jan. "Climate-Smart Capital Investment Planning." The World Bank Group Annual Meeting, Global Social, Urban, Rural, and Resilience Unit Forum. The World Bank, Washington, D.C. December 9, 2016.
- Whittington, Jan and Adrienne Greve. The World Bank Group, The Rockefeller Foundation, and the Global Platform for Sustainable Cities, present: Municipal Finance and Creditworthiness Academy. Washington, D.C. December 5-8, 2016.

Three presentations:

- "Preparing Plans for Development, Resilience, and Capital Investment" (with Adrienne Greve)
- "Selecting Cost-Effective, Low Carbon, Resilient Capital Projects" (with Adrienne Greve)
- "Synchronizing 1) City Development Planning; 2) Capital Improvement Planning; and 3) Capital Expenditure Budgeting"

- Whittington, Jan. Panelist, "Smart Privacy for SmartCities: Helping Local Government Use Data Responsibly" Panel hosted by the Future of Privacy Forum, Privacy Security Risk 2016, International Association of Privacy Professionals (IAPP) Privacy Committee and Cloud Security Alliance (CSA) Congress. San Jose, California. September 16, 2016.
- Whittington, Jan and Adrienne Greve. "Climate-Smart Capital Investment Planning." Planning Department, Município de Curitiba, Brazil. July 11-12, **2016**.
- Whittington, Jan. The World Bank in partnership with the Public-Private Infrastructure Advisory Facility (PPIAF), The Rockefeller Foundation, and the Korea Green Growth Partnership, present: City Creditworthiness Academy. Addis Ababa, Ethiopia. May 15-20, 2016.

Three presentations:

- "Preparing Plans for Development, Resilience, and Capital Investment"
- "Selecting Cost-Effective, Low Carbon, Resilient Capital Projects"
- "Synchronizing 1) City Development Planning; 2) Capital Improvement Planning; and 3) Capital Expenditure Budgeting"
- Whittington, Jan. The World Bank, in partnership with the Public-Private Infrastructure Advisory Facility (PPIAF) The Rockefeller Foundation, and the Korea Green Growth Partnership, present: India Municipal Finance and Creditworthiness Academy. New Delhi, India. May 9-11, 2016.

Three presentations:

- "Preparing Plans for Development, Resilience, and Capital Investment"
- "Selecting Cost-Effective, Low Carbon, Resilient Capital Projects"
- "Synchronizing 1) City Development Planning; 2) Capital Improvement Planning; and 3) Capital Expenditure Budgeting"
- Whittington, Jan. "Sneak-preview of first-ever model for climate-smart capital investment plans" The World Bank Group and Public-Private Infrastructure Advisory Facility (PPIAF), World Bank Headquarters, Washington, D.C. April 7, 2016.
- Whittington, Jan. The World Bank, in partnership with the Public-Private Infrastructure Advisory Facility (PPIAF), The Rockefeller Foundation, Korea Green Growth Partnership, and TBB Türkiye Bankalar Birliği, present: Turkey Municipal Finance and Creditworthiness Academy. Ankarra, Turkey. April 11-15, 2016.

Three presentations:

- "Preparing Plans for Development, Resilience, and Capital Investment"
- "Selecting Cost-Effective, Low Carbon, Resilient Capital Projects"
- "Synchronizing 1) City Development Planning; 2) Capital Improvement Planning; and 3) Capital Expenditure Budgeting"
- Whittington, Jan. C40 Cities Network, in partnership with The World Bank, the Public Private Infrastructure Advisory Facility (PPIAF), UN Habitat, MILE Municipal Institute of Learning, and Greater Amman Municipality, present: C40 Creditworthiness Academy: Enabling Domestic Financing for Climate-Smart Infrastructure in C40 Cities. Amman, Jordan. May 17-21, 2015.

Four presentations:

- "Preparing Capital Investment Plans" (with Chuck Billand)
- "Selecting Cost-Effective, Low Carbon, Resilient Capital Projects"
- "Introducing Resilience"
- "Making Climate-Smart Capital Investment Plans"
- Whittington, Jan. The World Bank, in partnership with Public-Private Infrastructure Advisory Facility (PPIAF), The Rockefeller Foundation, Korea Green Growth Partnership, UN Habitat, and the Center for Mediterranean Integration, present: Municipal Finance and Creditworthiness Academy:

Strengthening Financial Management of Local Governments in Jordan, West Bank, and Gaza. Amman, Jordan. May 24-28, **2015**.

Four presentations:

- "Preparing Plans for Development, Resilience, and Capital Investment"
- "Selecting Cost-Effective, Low Carbon, Resilient Capital Projects"
- "Making Climate-Smart Capital Investment Plans"
- Whittington, Jan. The World Bank in partnership with the International Finance Corporation (IFC), the Public-Private Infrastructure Advisory Facility (PPIAF), The Rockefeller Foundation, and the Korea Green Growth Partnership, present: District Creditworthiness Academy. Kigali, Rwanda. May 11-15, 2015.

Four presentations:

- "Population Growth, Development Planning and the Changing Responsibilities of Local Governments toward Climate Resilience"
- "Preparing Capital Investment Plans"
- "Selecting Cost-Effective, Low Carbon, Resilient Capital Projects"
- "Introducing Resilience"
- "Making Climate-Smart Capital Investment Plans"
- Whittington, Jan. The World Bank, in partnership with the Public-Private Infrastructure Advisory Facility (PPIAF) The Rockefeller Foundation, UN Habitat, and the Korea Green Growth Partnership, present: Municipal Finance Academy: Strengthening Financial Management of Tanzanian Local Governments. Entebbe, Uganda. May 4-8, 2015.

Four presentations:

- "Preparing Capital Investment Plans"
- "Selecting Cost-Effective, Low Carbon, Resilient Capital Projects"
- "Making Climate-Smart Capital Investment Plans"
- "Synchronizing 1) City Development Planning; 2) Capital Improvement Planning; and 3) Capital Expenditure Budgeting"
- Whittington, Jan. The World Bank, in partnership with Public-Private Infrastructure Advisory Facility (PPIAF), The Rockefeller Foundation, US AID, UN Habitat, Korea Green Growth Partnership, and FINDETER, present: Academia para la Capacidad Crediticia Municipal. Bogota, Colombia. February 9-13, 2015.

Four presentations:

- "Preparing Capital Investment Plans"
- "Selecting Cost-Effective, Low Carbon, Resilient Capital Projects"
- "Making Climate-Smart Capital Investment Plans"
- "Synchronizing 1) City Development Planning; 2) Capital Improvement Planning; and 3) Capital Expenditure Budgeting"
- Whittington, Jan. FINDETER on behalf of the World Bank. Bogota, Colombia. February 10, 2015.

Three presentations:

- "Preparing Capital Investment Plans"
- "Selecting Cost-Effective, Low Carbon, Resilient Capital Projects"
- "Making Climate-Smart Capital Investment Plans"
- Whittington, Jan. The World Bank, in partnership with the Public Private Infrastructure Advisory Facility (PPIAF), UN Habitat, the Korea Green Growth Partnership, and MILE Municipal Institute of Learning, present: Municipal Finance Academy: Strengthening Financial Management of Tanzanian Local Governments. Arusha, Tanzania. August 4-8, 2014.

Seven presentations:

- "Population Growth, Development Planning and the Changing Responsibilities of Local Governments toward Climate Resilience"
- "Infrastructure Finance from Land Value-Capture"
- "Introduction to the day: Capital Investment Planning"
- "Preparing Capital Investment Plans"
- "Selecting Cost-Effective, Low Carbon, Resilient Capital Projects"
- "Making Climate-Smart Capital Investment Plans"
- "Synchronizing 1) City Development Planning; 2) Capital Improvement Planning; and 3) Capital Expenditure Budgeting"
- Whittington, Jan. "Consumer welfare and consumer protection." The European Data Protection Supervisor, European Parliament: Privacy, Consumers, Competition and Big Data. Brussels, Belgium. June 2, 2014.
- Whittington, Jan. The World Bank Low Carbon Livable Cities Initiative, in partnership with the Public-Private Infrastructure Advisory Facility (PPIAF), The Korea Green Growth Partnership, and the KDI School of Public Policy and Management, present: City Creditworthiness Academy, hosted by the Korean Development Institute, KDI School of Public Policy and Management. Seoul, Korea, April 21-25, 2014.

Four presentations:

- "The Role of the CIP in Development Plans and Creditworthiness"
- "Making the CIP Process 'Climate-Smart"
- "From Plans to Climate-Smart Investments"
- "Overview of Assessment Section Three" (co-presented with David Painter)
- Whittington, Jan. "eID and Authentication Policy in the United States: NSTIC and Cybersecurity." Republic of Indonesia, 2nd International Cyberlaw Seminar 2014, Trusted Digital Identity and Authentication Policy for E-Public Services and Global Commerce. Bali, Indonesia, March 18, 2014.
- Whittington, Jan. "Climate-Smart Capital Investment Planning." World Bank Seminar: Low Carbon Livable Cities Initiative. World Bank Headquarters, Washington, D.C., January 9, 2014.
- Whittington, Jan. "Climate-Smart Capital Investment Plans." World Bank Seminar: Low Carbon Livable Cities Initiative. World Bank Headquarters, Washington, D.C., December 17, 2013.
- Arnaudo, Daniel and **Jan Whittington.** "The Economic Implications of Authoritarian Control of the Internet." United Nations, Seventh Annual International Federation for Information Processing (IFIP) Working Group 11.10 International Conference on Critical Infrastructure Protection, Session 5: Security and Privacy in Critical Infrastructure Systems. George Washington University, Washington, D.C., March 19, **2013**.
- Whittington, Jan and Ginger Armbruster. "The Cyber Threats Posed by Aging Infrastructure."
 United Nations, Seventh Annual International Federation for Information Processing (IFIP) Working
 Group 11.10 International Conference on Critical Infrastructure Protection, Session 1: Themes and
 Issues. George Washington University, Washington, D.C. March 18, 2013.
- Armbruster, Ginger, and **Jan Whittington**, Barbara Endicott-Popovsky. "Understanding the Risk to the Internet Infrastructure." United Nations, Sixth Annual International Federation for Information Processing (IFIP) Working Group 11.10 International Conference on Critical Infrastructure Protection, Session 1: Infrastructure Security. National Defense University, Washington, D.C. March 19, **2012**.

Domestic

Jan Whittington, "The Biggest Elephant in the Room – Solving the Data Sharing Problem" Mobility on Demand Alliance, Intelligent Transportation Society of America, Washington, D.C., June 3, 2019.

- Jan Whittington, Greg Rodriguez, and John Kennedy. "Preemption, Privacy, and People: Laying the Legal and Policy Foundations to Support Long-Term Success of Transportation Technologies", Urbanism Next, Portland, Oregon, May 9, 2019.
- Jan Whittington, and Greg Rodriguez. "Big Data, Big Questions: Mobility, Data, and Cities" NACTO (National Association of City Transportation Officials) (members-only, online), February 28, 2019.
- Jan Whittington, Greg Rodriguez, and John Kennedy. "Data Sharing Opportunities and Managing Data Risks" Transportation Research Board, Washington, D.C., January 15, 2019.
- Jan Whittington and Mark Hallenbeck. "Mitigating transportation technology risks: Privacy, data and cybersecurity" BB&K Webinar (online), November 8, 2018.
- Jan Whittington and Jesse Woo. "Robots and Smart Cities" Future of Privacy Forum, Smart Cities Working Group, Washington, D.C. (online), October 31, 2018.
- Whittington, Jan. Panelist. "Future of Privacy Forum Discussion: Privacy and Open Data" Metrolab Annual Summit, Georgia Tech, Atlanta, Georgia, December 13-14, 2017.
- Whittington, Jan. "City Open Data: Projects and Policies" Privacy Localism: A New Research Agenda, New York University, New York, New York, November 3, 2017.
- Whittington, Jan. "Trusted Data Governance Issues" Workshop on Data Sciences Smart Mobility/Transportation, Northwest Institute for Advanced Computing, Pacific Northwest National Laboratory, Seattle, Washington, May3-4, 2017.
- Whittington, Jan. Panelist. "Smart Cities, Smart Region: New Models for Civic Engagement and Governance in the Digital Age" Joint Venture Silicon Valley, San Jose McEnery Convention Center, San Jose, California, February 17, 2017.
- Whittington, Jan. Panelist. "Sensitive Data Privacy and Ethics: Education and Best Practices for City/University Collaboration" Metrolab Workshop on Big Data and Human Services, Seattle City Hall, January 18, 2017.
- Whittington, Jan. "Privacy in the Smart City" Future of Privacy Forum, Special Working Group on Smart Cities, [online] Hosted from Washington, D.C., October, 24, 2016.
- Whittington, Jan and Ryan Calo. "The Implications of Open Data." NYU, in partnership with Berkeley Center for Law and Technology, Symposium, Responsible Use of Open Data in Government and in the Private Sector. NYU, New York, NY. November 19-20, 2015.
- Whittington, Jan and Ryan Calo. "Understanding the Implications of Open Data." University of California, Berkeley Center for Law and Technology, Symposium, Open Data: Addressing Privacy, Security & Civil Rights Challenges. UC Berkeley, Berkeley, CA. April 17, 2015.
- Hoofnagle, Chris Jay and **Jan Whittington**. "The Price of 'Free'." Privacy Law Scholar's Conference. George Washington University, Washington, DC. June 7, **2012**.
- Armbruster, Ginger, and Barbara Endicott-Popovsky, **Jan Whittington**. "The Seattle Westin meet-me room: Unacceptable risk to our Internet structure." National Defense University, Fort McNair, Washington D.C. March 19-21, **2012**.
- Whittington, Jan and Chris Jay Hoofnagle. "Unpacking Privacy's Price." University of North Carolina Law Review Symposium, Social Networks and the Law. University of North Carolina, Chapel Hill, NC. November 18, 2011.

- Whittington, Jan. "Drafting the MSLIN Model, and Institutional Economics and Infrastructure." Creating a Multi-Factor Performance Assessment Model for Multi-scalar Large Institutional Networks. Texas A&M University, College Station, TX. May 5, 2007.
- Whittington, Jan. "Making Room for the Future: Rebuilding California's Infrastructure" United States General Accounting Office, Washington, DC, June 14, 2001.

Regional

- Whittington, Jan. "Infrastructure, global challenges, and market forces in a digital era: research and action through collaboration and community engagement" Department of City and Regional Planning, University of California, Berkeley, March 13, 2017.
- Greve, Adrienne and **Jan Whittington**. "Energy and Sustainability Capital Project Criteria in a Carbon Constrained California." The California State University Facilities Management Conference, Building a Sustainable Future. Indian Wells, California. October 17, **2016**.
- Whittington, Jan. "The Economics of Security in Mobile Computing." Seattle Technical Forum, Mobile Computing Revealed. Bellevue City Hall, Washington, March 14, 2012.
- Whittington, Jan. "Evaluating the Economic and Environmental Sustainability of Large-Scale Infrastructure Systems." University of California, Los Angeles, Lake Arrowhead Symposium, Infrastructure Investment for Sustainable Growth. UCLA Lake Arrowhead Resort, CA. October 17, 2010.
- Whittington, Jan. "Choice of Contract in Project Delivery." University of California Transportation Centers, First Annual PATH Conference, Berkeley, California, October 29, 2007.
- Whittington, Jan. "Transportation Management, and Making Room for the Future: Rebuilding California's Infrastructure." California Foundation for the Environment and Economy. Napa Valley, California. May 18, 2001.
- Whittington, Jan. "Rebuilding California's Infrastructure." Public Policy Institute of California, Annual Forum. Sacramento, California. February 7, 2001.
- Whittington, Jan. "Planning and Budgeting." State of California, Working Group, Infrastructure Planning Act. Sacramento, California. February 15, 2000.
- Whittington, Jan. "Local Government Planning for Oaks." City of Atascadero, Festival of the Oaks Symposium. Atascadero, California. May 2, 1992.

PRESENTATIONS

International

- Jesse Woo, Daniel Friedman, Tucker Cahill Chambers, Federico Rossi, Saptarshi Bandyopadhyay, Feiyang Sun, Boyang Sa, **Jan Whittington**. "Legal Implications of Emergent Behavior in Complex Robotic Systems and Swarms: Beyond the Trolley Car Problem", Privacy Law Scholar's Conference, UC Berkeley, Berkeley, California, May 30-31, **2019**.
- Woo, Jesse, **Jan Whittington** and Ronald Arkin. "Urban robotics: Achieving autonomy in design and regulation of robots and cities" We Robot 2018, Stanford Law School, Menlo Park, California, April 12, **2018**.
- Whittington, Jan and Adrienne Greve. "Climate-Smart Capital Investment Planning." World Planning Schools Congress. Rio de Janeiro, Brazil. July 5, 2016.

- Young, Stefanie and **Jan Whittington**. "Resiliency and Transaction Cost Economics." Association of European Schools of Planning and American Collegiate Schools of Planning and Joint Congress 2013. University College Dublin, Ireland. July 15-16, **2013**.
- Green, Patrick and **Jan Whittington**. "Planning for Ecosystems: Integrating Inter-generational Equity into Floodplain Planning through Cost-Benefit Analysis." Association of European Schools of Planning and American Collegiate Schools of Planning and Joint Congress 2013. University College Dublin, Ireland. July 15-16, **2013**.
- Whittington, Jan and Karen Trapenberg Frick. "Transaction Cost Evaluation of Public-Private Partnerships." Association of European Schools of Planning and American Collegiate Schools of Planning and Joint Congress 2013. University College Dublin, Ireland. July 15-16, 2013.
- Whittington, Jan. Panelist. "Massive Open Online Courses: The Future of Planning Education?" organized by Jennifer Evans-Cowley, Track 8: Gender, Diversity and Justice, Panel 8-3, Association of European Schools of Planning / American Collegiate Schools of Planning and Joint Congress 2013. University College Dublin, Ireland. July 18, 2013.
- Whittington, Jan. Moderator. "Transport, Equity, Value." Track 5: Gender, Diversity and Justice, Session 5-11, Association of European Schools of Planning / American Collegiate Schools of Planning and Joint Congress 2013. University College Dublin, Ireland. July 18, 2013.
- Whittington, Jan. "Testing Transaction-Cost Theory on Public Goods." American Collegiate Schools of Planning and Association of European Schools of Planning, Chicago, Illinois. July 8, 2008.
- Whittington, Jan. Discussant. "Public-Private Partnerships, Contracting, and Concessions." Strategic Planning, Section G1-1, and "Policy Reforms." Section G1-2, Section G1-3, World Conference on Transportation Research. Berkeley, California. June 26, 2007.
- Whittington, Jan. "New Institutional Economics & Infrastructure Costs," World Planning Schools Congress. Mexico City. July 14, 2006.

Domestic

- Woo, Jesse, **Jan Whittington**, and Ronald Arkin. "Urban Robotics: Achieving Autonomy in Design and Regulation of Robots and Cities" *Northeast Privacy Scholars Workshop*, New York Law School and Fordham University School of Law, New York, New York, November 9, **2018**.
- Sa, Boyang, Feiyang Sun, and **Jan Whittington.** "Do autonomous vehicles solve road congestion?" Association of Collegiate Schools of Planning, Buffalo, New York, October 23, **2018**.
- Sun, Feiyang, Qing Shen, **Jan Whittington**. Association of Collegiate Schools of Planning, "What makes mixed-use development economically desirable: An empirical study with Costar Group real estate database", American Collegiate Schools of Planning, Buffalo, New York, October 23, **2018**.
- Sun, Feiyang, and **Jan Whittington**. "Planning in a Brave New World: Data and New Mobilities" American Collegiate Schools of Planning, Denver, Colorado, October 12-15, **2017**.
- 2017 Sun, Feiyang, Qing Shen, **Jan Whittington**. Association of Collegiate Schools of Planning, "What makes mixed-use development economically desirable", American Collegiate Schools of Planning, Denver, Colorado. Oct 10 –15, **2017**.
- Whittington, Jan and Adrienne Greve, Stefanie Young, Giovanni Migliaccio, Feiyang Sun. "Climate-Smart Capital Investment Planning for Resilient Municipalities." American Collegiate Schools of Planning, Portland, Oregon. November 5, 2016.

- Whittington, Jan. Panelist, "Philanthropy for Active Civic Engagement (PACE) Meeting" hosted by Microsoft. Seattle, Washington. August 22, 2016.
- Whittington, Jan. Panelist. "Planning the Pacific Northwest." American Planning Association's National Planning Conference, Sustainable Seattle. Seattle, WA. April 19, **2015**.
- Whittington, Jan. "Privacy in the Smart City." American Collegiate Schools of Planning 2014. Philadelphia, Pennsylvania. October 30-31, 2014.
- Whittington, Jan. Discussant. "Structuring Competition in Privacy by Randy Picker." George Washington University and University California, Berkeley, Privacy Law Scholars Conference 2013. Claremont Hotel, Berkeley, California. June 6, 2013.
- Hoofnagle, Chris Jay and **Jan Whittington**. "The Price of 'Free'." Western Economic Association International (WEAI)'s 87th Annual Conference, Law and Economics Session II. San Francisco, California. June 30, **2012**.
- Whittington, Jan. Discussant, "Law and Economics I." Western Economic Association International. San Francisco, California. June 30, 2012.
- Whittington, Jan. "Justifications for Planning in the Transportation Market," American Collegiate Schools of Planning. Minneapolis, Minnesota. October 7, 2010.
- Whittington, Jan. Discussant/Moderator. "Whose, Whats, and Whys of Active Transportation." American Collegiate Schools of Planning. Minneapolis, Minnesota. October 7, 2010.
- Whittington, Jan. "How Would You Like Your Economic Stimulus Delivered?" American Collegiate Schools of Planning. Crystal City, Virginia. October 1, **2009**.
- Whittington, Jan. Discussant/Moderator. "Planning for Green Infrastructure from Vehicle Choice to Planning and Funding Regional Systems." Section 14.5, American Collegiate Schools of Planning. Crystal City, Virginia. October 2, 2009.
- Whittington, Jan. Discussant/Moderator. "Public Private Partnerships: The Public and Private Roles in Financing Infrastructure." American Collegiate Schools of Planning and Association of European Schools of Planning. Chicago, Illinois. July 10, 2008.
- Whittington, Jan. "Infrastructure Privatization and Climate Change." American Collegiate Schools of Planning. Minneapolis, Minnesota. October 20, **2007**.
- Whittington, Jan. "New Institutional Economics and the Environment," American Collegiate Schools of Planning. Fort Worth, Texas. November 9, **2006**.
- Whittington, Jan. "New Institutional Economics & Planning: Looking at Infrastructure." American Collegiate Schools of Planning, Kansas City. October 29, 2005.
- Neuman, Michael and **Jan Whittington.** "Institutional Design As/Is Planning: The Shape of Things to Come?" American Collegiate Schools of Planning. Atlanta, Georgia. November, **2000**.

Regional

- Jan Whittington. Panelist. "Artificial Intelligence, Institution, and Social Justice", Urban Design and Planning Annual Symposium, University of Washington, Seattle, WA. May 5, 2018.
- Whittington, Jan. "Long-term Capital Planning for High Impact Events: The Investment Complement to Law" 2nd Annual Environmental Law Symposium, School of Law, William H. Gates Hall, University of Washington, Seattle, Washington, January 20, **2017**.

- Whittington, Jan. Panelist. "The Future City: Emergence of a New Science." 2016 Annual Symposium of the Interdisciplinary PhD Program in Urban Design and Planning, University of Washington. Seattle, Washington. May 5, 2016.
- Whittington, Jan. Discussant, "The 8th Annual Privacy Lecture: Alessandro Aquisiti, Is Personal Information a Public Good?" University of California, Berkeley Center for Law and Technology. Berkeley, CA. November 12, 2015.
- Whittington, Jan. "Privacy in the Smart City." Professional's Council of the Masters in Urban Planning, New Directions Event, University of Washington. Seattle, Washington. April 2, 2015.
- Governor Jay Inslee, and Denis Hayes, Teos Bisbee, **Jan Whittington**. "UW-Solar: A Team of Green Energy Heroes: Installation Celebration." University of Washington, Mercer A Courtyard, Seattle, Washington. April 4, **2014**.
- Whittington, Jan. Panelist. "Building a Cybersecurity Workforce." South Sound Technology Conference, University of Washington. Tacoma, WA. March 8, 2013.
- Whittington, Jan. "Two Transactions: Cost and Risk." University of Washington, Center for Information Assurance and Cybersecurity, Grand Rounds. William H. Gates Hall, University of Washington, Seattle, Washington. February 15, 2013.
- Whittington, Jan. "Transaction Cost Economics." US Department of Homeland Security, National Science Foundation, Scholarship for Service Program, Site Visit. The Information School, University of Washington, Seattle, Washington. May 10, 2012.
- Whittington, Jan. "Infrastructure, Professional's Council of the Masters in Urban Planning." Symposium on Research and Practice, University of Washington. Seattle, Washington. April 5, 2012.
- Whittington, Jan. Moderator. "The Agile City: Building Resilience in Cascadia, Island Press." The Built Environment at Town Hall. Seattle, Washington. November 3, 2011.
- Whittington, Jan. Presenter "Moving Forward: Game Changing Initiatives." American Planning Association Symposium. Portland, Oregon. October 19, 2011.
- Whittington, Jan. "Economics of Personal Information." US Attorney's Office, Western District of Washington and University of Washington School of Law, 2011 Cybercrime Conference. Seattle, Washington. October 7, 2011.
- Whittington, Jan. "Public-Private Partnerships." University of Washington, Real Estate Club and Evan's School of Public Affairs Student Interest Group. Seattle, Washington. May 6, 2011.
- Whittington, Jan. "Planning and Financing our Aging Infrastructure." Professional's Council of the Masters in Urban Planning, Symposium on Research and Practice, University of Washington. Seattle, Washington. May 4, 2011.
- Whittington, Jan and Stephanie Young. "Markets are Messy: Teaching the Economics of Water."
 University of Washington, Symposium on Teaching and Learning. Seattle, Washington. April 19,
 2011
- Whittington, Jan. "Retooling for a Green Future." University of Washington, Professional and Continuing Education, Open House and Panel. Seattle, Washington. April 7, 2011.
- Whittington, Jan. "The Choice of Contract in Highway Project Delivery." University of Washington Department of Economics, Natural Resources/Public Finance/Industrial Organization Brownbag. Seattle, Washington. April 28, 2010.

- Whittington, Jan. "Chronic Disease and Planning." Next City/Next 50, Department of Urban Design and Planning, College of Built Environments, University of Washington, Seattle, Washington, January 30, 2010.
- Whittington, Jan. "Case Study Research." American Collegiate Schools of Planning, PhD Workshop, University of Washington, Seattle, Washington. August 7, 2009.
- Whittington, Jan. Discussant. "2009 PhD Workshop." American Collegiate Schools of Planning. Seattle, Washington. August 6-8, 2009.

Referee for Journals, Publishers, and Granting Organizations

Journal of Transport Geography

Pacific Northwest Transportation Consortium (PacTrans)

International Journal of Critical Infrastructure Protection

First Monday

Journal of the American Planning Association

Journal of Urban Planning and Development

Journal of Economic Policy Reform

Routledge

International Federation for Information Processing (IFIP),

Working Group 11.10 International Conference on Critical Infrastructure Protection

Journal of Planning Education and Research

Journal of Construction, Engineering and Management

Governance

Transportation Research Board

Transport Policy

University of California Transportation Center

Professional Affiliations

Future of Privacy Forum, Smart Cities Working Group, 2017-

Society for Institutional & Organizational Economics (formerly ISNIE), 2015-

InfraGard, US Federal Bureau of Investigation (FBI), 2011-2015

International Federation for Information Processing (IFIP), 11.10 Critical Infrastructure Protection, 2011-

International Society for New Institutional Economics (ISNIE), 2008-2016

Transportation Research Board of the National Academies (TRB), 2008-

Association of Collegiate Schools of Planning (ACSP), 2005-

American Institute of Certified Planners (AICP), 1993-2010