

Anne V. Goodchild

Civil and Environmental Engineering
The University of Washington
121E More Hall, Box 352700
Seattle, WA 98195-2700
Phone: (206) 543-3747
Fax: (206) 543-1543
email: annegood@u.washington.edu

Appointment The University of Washington
Assistant Professor, Civil and Environmental Engineering, Dec 2005 – present
Associate Director Freight Operations Research Program, Transportation
Northwest, March 2006 – present
Director, Goods Movement Collaborative, Dec. 2005 - present

Professional PricewaterhouseCoopers, London UK and Menlo Park, CA
Experience Management Consultant, June 1996 to May 2001

Education The University of California at Berkeley
Ph.D. Civil and Environmental Engineering: Transportation, 2005
M.S. Civil and Environmental Engineering: Transportation, 2002

The University of California at Davis
B.S. Mathematics (High Honors), Minor in Geology, 1995

Peer Reviewed 1) Andreoli, Goodchild, and Vitasek (submitted) “The Rise of Mega DCs: A permanent or ephemeral feature on the logistics landscape?”

2) Piterra, Goodchild (submitted) “Interpreting Resiliency: An Examination of Enterprise Use of Transportation Resiliency Strategies within the Supply Chain”

3) O’Donnell, Goodchild, Cooper and Ozawa (submitted) ‘Life Cycle Assessment of American Wheat: Regional Variation in Supply Chain Greenhouse Gas Emissions and Relative Transportation Contribution’

4) Fujisawa, Goodchild, Jessup (submitted) ‘Improved Freight Modeling of Containerized Cargo Shipments between Ocean Port, Handling Facility, and Final Market for Regional Policy and Planning’

5) Goodchild, Albrecht, Leung (submitted) ‘An investigation of Commercial Vehicle Crossing Times at the Pacific Highway Port-of-Entry’

6) Albrecht, Goodchild, Leung (submitted) ‘Cross border delay and transportation patterns and freight commodity profile at the Western Cascade Gateway and trade corridor’

7) Gupta, G., Goodchild, A. and M. Hansen (submitted) “A Charter Air Service to Minimize the Total Cost of Travel”

Anne V. Goodchild

8) Goodchild, Albrecht, Lam, and Faust. (2008) "A Container Terminal at the Port of Prince Rupert: considerations from a transportation perspective" *Canadian Political Science Review* 2(4)

9) Ta, Goodchild, Pitera (2009) 'Structuring a Definition of Resilience for the Freight Transportation System', *Transportation Research Record: Journal of the Transportation Research Board*

10) Goodchild, A.V. and Mohan, K. (2008) "The Clean Trucks Program: Evaluation of a Policy to Influence Marine Terminal Operations", *Journal of Maritime Economics and Logistics*, (10), pp. 393-408.

11) Goodchild, Globerman, Albrecht (2008) Service Time Variability at the Blaine, Washington International Border Crossing and the Impact on Regional Supply Chains. *Transportation Research Record: Journal of the Transportation Research Board*, No. 2066, pp. 71-78.

12) Goodchild, A.V., C.F. Daganzo (2007). Crane Double Cycling in Container Ports: Planning Methods and Evaluation. *Transportation Research Part B*, (41) p. 875-891

13) Goodchild, A.V., C.F. Daganzo (2006). Double-Cycling Strategies for Container Ships and Their Effect on Ship Loading and Unloading Operations. *Transportation Science*, 40(4)

Book Chapters Goodchild, A.V. (2008). Crane Double Cycling in Container Ports. In P. Iannou (Ed.) Intelligent Freight Transportation. Taylor and Francis

Chatwin, R., Bonduelle, Y., Goodchild, A., Harmon, F., & J. Mazzucco (1999). Real Options Valuation for E-Business: A Case Study. In L. Trigeorgis (Ed.) Real options and business strategy: Applications to decision making. Risk Books.

Teaching CEE 100: Civil Engineering for the 21st Century (University of Washington) Designed, implemented, and instructed new course designed for freshmen interested in Civil Engineering, but not yet Civil Engineering majors.

CEE 320: Transportation Engineering (University of Washington) Instructor for undergraduate course in transportation engineering. Created and delivered lectures, design and grade assignments and examinations.

CEE 500: Transportation/Construction Seminar (U. of Washington) Instructor for graduate seminar in transportation and construction. Expose students to transportation and construction research topics, guide students in developing their own research ideas.

CEE 587: Transportation Logistics (University of Washington) Instructor for graduate course in transportation logistics.

Anne V. Goodchild

Created and delivered lectures, design and grade assignments and examinations.

CEE 599F: Transportation Policy (University of Washington)
Developed and taught a course on Transportation Policy at the graduate level. The course engages the students in a dialogue regarding current and future policy issues, and provides background on past policy and policy issues.

CEE 258: Logistics Systems Analysis (University of California, Berkeley)
Co-instructor for graduate course in logistics systems analysis. Created and delivered lectures, design and grade assignments and examinations.

CEE 150: Transportation Systems Engineering (Univ.of California, Berkeley)
Teaching Assistant for undergraduate transportation engineering course. Responsible for laboratory section of course with 60 students. Supervise lab work, graded reports, and assisted students.

| | |
|----------------------------|---|
| Honors and Awards | College-Industry Council on MH Education Outstanding Material Handling and Logistics paper, 2nd prize, 2008 INFORMS Transportation Science and Logistics Dissertation Prize Honorable Mention, 2006 AAUW Selected Professions Dissertation Fellowship, 2005 University of California Transportation Center Dissertation Fellowship, 2005 Dwight David Eisenhower Transportation Fellowship, 2003 Eno Transportation Foundation Fellow, 2003 PRISMS Presentation Competition Finalist 2003 University of California Graduate Opportunities Fellowship. 2001-2005 University of Virginia President's Fellowship, 1995 Women in Computing: Grace Hopper Celebration Conference Award, 1997 Elected to Pi Mu Epsilon, the National Honorary Mathematical Society, 1995 University of California, Davis Dean's List, 1991-1995 University of California Education Abroad, St. Andrews, Scotland, 1993-1994 Edward Frank Kraft scholarship prize for academic excellence, 1991 |
| Conference Poster Sessions | Albrecht, Goodchild, Leung (2009, January), <i>Cross-Border Delay and Transportation Patterns and Freight Commodity Profile at Western Cascade Gateway and Trade Corridor</i> , presented at the 88 th Annual Meeting of the Transportation Research Board, Washington DC Goodchild, Albrecht, Leung (2009, January), <i>Investigation of Commercial Vehicle Crossing Times at Pacific Highway Port of Entry</i> , presented at the 88 th Annual Meeting of the Transportation Research Board, Washington DC Ta, Goodchild, and Pitera (2009, January), <i>Structuring a Definition of Resilience for the Freight Transportation System</i> , presented at the 88 th Annual Meeting of the Transportation Research Board, Washington DC Ta, Goodchild, and Pitera (2008, October), <i>Structuring a Definition of Resilience for Freight Transportation Systems</i> , presented at Plan It for the |

Anne V. Goodchild

Planet, Stewardship for the 21st Century, hosted by the American Planning Association Washington Chapter and Idaho Chapter

Leung, Goodchild, and Albrecht (2008, September), *An Investigation of Commercial Vehicle Crossing Times at the Pacific Highway Port-of-Entry*, presented at the North American Freight Flows Conference hosted by the Transportation Research Board, Irvine, CA

Gould, Neimeier, and Goodchild (2008, March). *A Cart Before the Horse: Disaggregate Locomotive Emissions Models and Data Constraints*. Poster presented at the Transportation Research Board Conference “Data for Goods Movement Impacts on Air Quality”, Irvine, CA

Noronha, Goodchild (2008, March). *Tracking Drayage Trucks and Modeling Freight Trips in the Los Angeles Basin*. Poster presented at the Transportation Research Board Conference “Data for Goods Movement Impacts on Air Quality”, Irvine CA

Fujisawa, K., Goodchild, A., and Jessup, E. (2007, October). *Improved Freight Modeling of Containerized Cargo Shipments between Ocean Port, Handling Facility, and Final Market for Regional Policy and Planning*. Poster presented at the Transportation Research Board Conference “Research Issues in Freight”, Washington D.C.

L. Dong, A.V. Goodchild, and H. Ding (2007, January). *Trolley Routing and Scheduling Strategy for a Low-Viaduct Rail Transportation System with Double-Wide Yard Crane*. Poster presented at the Transportation Research Board Annual Conference, Washington D.C.

Goodchild, A.V. and C.F. Daganzo (2004, January). *Reducing Ship Turn-Around Time Using Double Cycling*. Poster presented at the Transportation Research Board Annual Conference, Washington D.C.

Presentations Goodchild (2009, January) “Looking Forward: Next Steps for Improving Goods Movement Data” presented at the presented at the 88th Annual Meeting of the Transportation Research Board, Washington DC

Goodchild (2009, January) “FAST Program and Its Impact on Cross-Border Trade in Cascade Gateway Trade Corridor” presented at the presented at the 88th Annual Meeting of the Transportation Research Board, Washington DC

Goodchild (2008, November) “Truck Arrival Sequencing and the Impact on Re-handling work at Marine Terminals” invited presentation at the UC Berkeley Institute for Transportation Studies Seminar, Berkeley CA

Gupta and Goodchild (2008, October) “Charter Air Service for Conference Travel” presented at the INFORMS Annual Meeting, Washington DC.

Anne V. Goodchild

Zhao and Goodchild (2008, October) "Container pickup sequence and the impact on re-handles at marine terminals" presented at the INFORMS Annual Meeting, Washington DC.

Andreoli and Goodchild (2008, October) "On the Rise of Mega DCs: Recent Trends and Implications for the Future" presented at the INFORMS Annual Meeting, Washington DC.

Goodchild, Albrecht, Leung (2008, September) "Freight Commodity Profile and Transportation Patterns in the Cascade Gateway and Trade Corridor", presented at the North American Freight Flows Conference, Irvine, CA

Pitera and Goodchild (2008, September) "Use of resiliency strategies within the supply chain and consequences for the freight transportation system" presented at the International Trade and Freight Transportation Conference, Ayia Napa, Cyprus

Goodchild (2008, May) "Cascadia Border Operations, Issues, and Consequences for the Agrifood Market" invited talk at the 2008 NAAMIC Conference, Austin, Texas

Albrecht and Goodchild (2008, May) "Service Times at Vehicle Processing Facilities" presented at the 2008 Pacific Northwest Regional Economic Conference, Tacoma WA

Goodchild (2008, April) "The New Model for Port Development and Consequences for Regional Trade" invited talk for the Canada America Society of Seattle, WA

Canada America Society Goodchild (2008, April) "Northwest border operations: delay and the impact on supply chains" invited talk at the 2008 Trans Border Working Group Meeting, Coeur D'Alene Idaho

Andreoli and Goodchild (2008, April) "Structural and Geographic Shifts in the U.S. Warehousing Industry: *Natura non facit saltum*" presented at the 2008 Annual Meeting of the Association of American Geographers, Boston MA

O'Donnell, and Goodchild (2008, March) "Life Cycle Assessment of American Wheat Considering Mode Choice and Backhaul", presented at the 49th Annual Transportation Research Forum, Forth Worth, TX

Goodchild, A.V. (2008, February) "Rainstorm and Flood Damage in Northwest British Columbia and the Port of Prince Rupert", invited talk at the Pacific Northwest Canadian Studies Consortium Annual Meeting, Vancouver, B.C.

Goodchild, A.V. and S. Albrecht (2008, January) "Service Time Variability at the Blaine, Washington International Border Crossing and the Impact on Regional Supply Chains", presented at the Transportation Research Board

Anne V. Goodchild

Annual Meeting, Washington DC

Albrecht, S. and Goodchild, A.V. (2008, January) "Service Time Variability at the Blaine, Washington International Border Crossing and the Impact on Regional Supply Chains", presented at the Border Regions in Transition Conference, Bellingham, WA and Victoria, BC

Goodchild, A.V. (2007, December), "Estimating the Impact of the Clean Trucks Program on Terminal Operations", presented at the National Urban Freight Conference, Long Beach, CA

Goodchild, A.V. (2007, November), "Managing the Transportation System: the Clean Trucks Program as an Example of Complexity", invited talk at the UW Urban Design and Planning Seminar, Seattle, WA

Fujisawa, K. and Goodchild, A.V. (2007, November) "Modeling Containerized Cargo Shipments Between Ocean Port and Handling Facilities" presented at the INFORMS annual meeting, Seattle, WA

Mohan, K, and Goodchild, A.V. (2007, November) "Trolley Assignment Model for a Container Terminal with a Low Viaduct Rail System" presented at the INFORMS annual meeting, Seattle, WA

Goodchild, A.V. (2007, October) "Marine Terminal Operations and the Clean Trucks Program" presented at the UW Industrial Engineering Seminar, Seattle WA

Goodchild, A.V., (2007, September) "A Container Terminal at the Port of Prince Rupert: considerations from a transportation perspective" presented at the Steelhead Symposium, Prince Rupert, British Columbia

Goodchild, A.V., S. Albrecht (2007, June) "Service time variability at vehicle authentication/authorization facilities and the impact on supply chains" presented at the World Conference on Transportation Research, Berkeley CA

Goodchild, A.V. (2006, November), "Understanding the Impact of Variability in Border Crossing Times on Regional Supply Chains", presented at the Canadian/American Border Trade Alliance meeting, Bellingham WA

Goodchild, A.V. (2006, November), "Developing US Port Productivity", presented at the INFORMS annual conference, Pittsburgh, PA

Goodchild, A.V. (2006, November), "Developing US Port Productivity", invited talk at the Center for Transportation Studies, Portland State University, Portland, Oregon

Goodchild, A.V. (2006, October), "Port Productivity", invited talk at BERGER/ABAM Construction Waterfront Meeting, Federal Way, WA

Anne V. Goodchild

Goodchild, A.V. (2006, February), "Crane Double Cycling in Container Ports: Planning Methods and Evaluation", presented at the National Urban Freight Conference, Long Beach, CA

Goodchild, A.V. (2006, January), "Port Planning for Double Cycling Crane Operations", presented at the Transportation Research Board Annual Meeting, Washington D.C..

Goodchild, A.V. (2005, December), "Crane Double Cycling in Container Ports: Algorithms, Evaluation, and Planning", Presentation at the University of California at Berkeley Transportation Seminar Series

Goodchild, A.V. and G. Gupta (2005, November), "The Feasibility of a Private Airline for a College Sports League", Presentation at the INFORMS annual meeting, San Francisco, CA

Goodchild, A.V. (2005, November), "An Operating Strategy to Improve Port Efficiency", Presentation at the INFORMS annual meeting, San Francisco, CA

Goodchild, A.V. (2005, November), "Operations Improvements to Port Productivity: The Challenge of Many Players", Invited talk at the METRANS Seminar Series

Goodchild, A.V. (2005, April), "An Operating Strategy to Improve Port Efficiency". Invited talk at the Institute of Transportation Studies, University of California at Davis. Davis, CA.

Goodchild, A.V. (2005, March), "*An Operating Strategy to Improve Port Efficiency*". Invited talk, Engineering Systems Division, the Massachusetts Institute of Technology. Cambridge, MA.

Goodchild, A.V. (2005, March). "*An Operating Strategy to Improve Port Efficiency*". Invited talk, Department of Civil and Environmental Engineering at the University of Washington, Seattle, WA.

Goodchild, A.V. and C.F. Daganzo (2004, May). *Improving Port Efficiency Using Double Cycling*. Presentation at the CORS/INFORMS Joint International Meeting, Banff, AB

Goodchild, A.V. and C.F. Daganzo (2003, March). *Reducing Ship Turn-Around Time Using Double Cycling*. Presentation at the Pacific Regional Intercollegiate Symposium for the Management Sciences, Berkeley, CA

Goodchild, A.V. and C.F. Daganzo (2003, February). *Reducing Ship Turn-Around Time Using Double Cycling*. Poster presented at the University of California Transportation Center Student Conference, Los Angeles, CA

Goodchild, A.V. and C.F. Daganzo (2002, November). *Reducing Ship Turn-Around Time Using Double Cycling*. Presentation at the INFORMS Annual

Anne V. Goodchild

Conference, San Jose, CA

Professional Activities

Webmaster, Secretary, Paper Review Chair and Member, Transportation Research Board Committee on Freight Transportation Planning and Logistics (AT015)

Member, Committee on Intermodal Freight (AT045), Transportation Research Board (2008-)

University of Washington Representative, Transportation Research Board Chair, Interdisciplinary Committee for the Global Trade, Transportation and Logistics Certificate Program

Member of the Department of Civil and Environmental Engineering Search Committee, Professor in Transportation, Winter 2009

Facilitator, Port of Seattle Clean Air Strategy Stakeholder meetings, 2008

Moderator, Seattle Cleaner Air Faster Freight Conference, September 17-18, 2008

Member, Department of Civil and Environmental Engineering Emeritus Space Committee, 2008

Member, Department of Civil and Environmental Engineering College of Environment Committee, 2008

Member, Committee on Intermodal Freight Terminal Design and Operations (AT050), Transportation Research Board (2007-2008)

Member, Organizing Committee, Transportation Research Board Conference on Freight Data and Air Quality (March, 2008)

Member of the Puget Sound Regional Council Freight Advisory Panel

Referee: European Journal of Operations Research, Transportation Research Board, Transportation Science, Transportation Research Part B, Transportation Research Part C, Transportation NorthWest, International Journal of Production Economics, Operations Research, ASCE Journal, World Conference on Transportation Research

Session Chair, INFORMS 2005, 2006, 2007 annual meetings. Cluster chair, 2007 annual meeting

Session Chair, World Conference on Transportation Research, June 2007

NSF Review Panelist, February 2006, December 2006 Civil and Mechanical Systems

Invited attendee of the Humanitarian Services Science and Engineering Workshop, University of Washington, October 2007

Invited participant of the Steelhead Symposium, Prince Rupert, September 13-15, 2007

Member of the Washington State Transportation Commission Washington State Rail Capacity and System Needs Study

Anne V. Goodchild

| | |
|---------------------------|--|
| | Member of the Search Committee, Assistant Research Professor in Transportation, Spring 2007 |
| | Editorial Board, Transportation Research Part A, Transportation Letters |
| Outreach Activities | Mentor, Center for Workforce Development Graduate Mentoring Program, University of Washington, 2007 |
| | Contributor, “Traveling Salesman Racetrack” and “Construction Sandbox” University of Washington Engineering Open House, April 2007 |
| | Contributor, “Lego Port Simulation and Global Trade” University of Washington Engineering Open House, April 2006 |
| | Panelist, “Engineering in a Real World: Making Life Better” 16 th Annual Women in Science and Engineering Conference, University of Washington, February 3, 2007 |
| | Holy Names Academy Career Day Engineering Panel, March 2006 |
| Consulting Activities | Locomotive Inventory for the California Air Resources Board, Contribute technical expertise on locomotive operations to improve the methodology for emissions inventories in California. (6/06-6/08) |
| | coPI, Technical Assistance to the South Coast Air Quality Management District. Provide Technical Expertise on Operational Activities Associated with Regional Goods Movement, Potential Mitigation Measures for Regional Goods Movement, and Policy Analyses (1/07-1/08) |
| | Southern California Association of Governments, Phase II, Port and Modal Elasticity Study. Contribute technical expertise on port operations in the Pacific Northwest. Assess the impact of container fees at West Coast Ports on the flow of containerized cargo nationwide (6/06-6/08) |
| | Invited contributor, North American Agrifood Market Integration Conference and Proceedings (05/08) |
| Funding (PI unless noted) | “Developing a Framework for Collecting and Sharing Data and Information”, Federal Highway Administration (11/08-02/09) \$16,062 |
| | “Evaluating Alternative Operation Strategies for Mitigating the Impact of Travel Time Variability”, Federal Highway Administration Strategic Highway Research Program (09/08 – 02/10) \$200,000 (<i>participating researcher</i>) |
| | “Changing Logistics Practices in the Pacific Northwest”, Transportation Northwest (07/08-07/08) \$40,000 |
| | Supporting Travel Grant from Canadian Studies \$1000 |
| | “Transportation Impacts of Structural and Geographic Shifts in the Pacific Northwest Warehousing Industry”, Transportation Northwest (07/08-07/09) \$6,000 |
| | “Requirements for Washington Statewide Freight Simulation Model” Transportation Northwest (07/08-07/09) \$29,448 |
| | Course Development Grant, University of Washington College of Engineering |

Anne V. Goodchild

(09/07-06-08) \$25,000

“Building a Resilient Freight System”, WSDOT, (07/07-07/09) \$155,000

“Washington State Freight System Resiliency” Transportation Northwest, (07/07-07/08) \$72,000

“Puget Sound Warehousing and Distribution Research Project” Harry Bridges Center for Labor Studies, (07/07-07/08), \$10,000

“Commercial Remote Sensing and Spatial Information Technologies Applied to Freight Congestion Mitigation” USDOT (07/07-07/09) \$93,861

“Understanding Very Long Wait Times at the Border: Analysis and Solutions” Border Policy Research Institute Border Policy Research Institute, (07/07-07/08) \$56,539

“Evaluation of Port Trucking Policy”, Los Angeles Alliance for a New Economy, (4/07-12/07), \$39,417.

“Variability in Border Crossing Times and the Impact on Regional Supply Chains” Border Policy Research Institute (6/06-6/07), \$78,951.

“Improved Freight Modeling of Containerized Cargo Shipments between Ocean Port, Handling Facility, and Final Market for Regional Policy and Planning” Transportation Northwest (6/06-6/08), \$60,523

“Student Research Funds to identify data gaps for Improved Freight Modeling

“

WSDOT (6/06) \$8,707.13

“Student Research Funds to create database for Improved Freight Modeling” WSDOT, (awarded 12/06) \$5,224

“CEE 586 Planning Grant” Global Trade Transportation and Logistics, (06/07) \$5,000

Advance Transitional Support Program (06/06) \$10,867

| Student Course Ratings: | Fall 2008 | Spring 2008 | Spring 2008 | Winter 2008 | Spring 2007 | Spring 2007 | Spring 2006 | Spring 2006 |
|--|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | 320 | 320 | 599/498 | 100A | 599I | 498B | 599G | 498C |
| 1. The course as a whole was | 3.4/5.0 | 3.7/5.0 | 3.5/5.0 | 4.2/5.0 | 3.7/5.0 | 3.3/5.0 | 3.9/5.0 | 3.3/5.0 |
| 2. The course content was | 3.4/5.0 | 3.8/5.0 | 3.4/5.0 | 4.0/5.0 | 3.5/5.0 | 3.0/5.0 | 3.9/5.0 | 3.1/5.0 |
| 3. The instructor's contribution to the course was | 3.6/5.0 | 3.8/5.0 | 3.8/5.0 | 4.0/5.0 | 3.9/5.0 | 3.8/5.0 | 3.4/5.0 | 3.5/5.0 |
| 4. The instructor's effectiveness in teaching the subj. matter was | 3.3/5.0 | 3.5/5.0 | 3.8/5.0 | 4.1/5.0 | 3.7/5.0 | 3.5/5.0 | 3.9/5.0 | 3.5/5.0 |

Anne V. Goodchild

Masters Students Advised (committee chair, thesis)

Kathy Davis (2008)

Kelly Pitera (2008)

Chilan Ta

Li Leung

Erica Wygonik

MS Students Advised (not committee chair, thesis)

Brendan O'Donnell (2009)

Kenneth Perrine (2008)

PhD Students Advised (committee chair)

Wenjuan Zhao

Kelly Pitera

PhD Students (GSR)

Burcu Balcik (Industrial Engineering, Benita Beamon)

PhD Students Advised (committee member)

Mike Lowry (2008)

Derik Andreoli