

Amy M. Kim, Ph.D.

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Fields Transportation engineering and planning, traffic operations, transport economics, air transport, systems analysis, simulation, empirical analysis, civil engineering.

Education

Ph.D. Civil and Environmental Engineering University of California, Berkeley <i>Thesis: Collaborative Resource Allocation Strategies for Air Traffic Management</i> (advisor: Mark Hansen) Major: Transportation engineering, Minor: Econometrics, stochastic processes	May 2011
M.S. Civil and Environmental Engineering University of California, Berkeley <i>Thesis: Modelling of Freeway High Occupancy Vehicle Lanes</i> (advisors: Adolf May, Alexander Skabardonis)	Dec. 2002
B.A.Sc. Civil Engineering, First Class Honours, Deans Honour List University of Waterloo	June 2001
Junior year abroad, Faculty of Engineering University of Leeds	Sept. 1999 - Jan. 2000

Employment

May 2011- present

Post-Doctoral Researcher, *Institute of Transportation Studies*, UC Berkeley

- Manage and perform technical work for FAA and ACRP-sponsored projects.

2007- April 2011

Graduate Student Researcher, *National Center of Excellence for Aviation Operations Research*, UC Berkeley

- Assessed resource allocation strategies in air traffic management; performed capacity analysis and model validation for aviation facilities, probabilistic modeling and simulation, and econometric modeling and data analysis.

2006-2007

Graduate Student Researcher, *Partners for Advanced Transit and Highways*, UC Berkeley

- Evaluated existing highway weaving analysis and classification procedures.

2005-2006

Traffic Engineer, *Delcan Corporation*, Vancouver, Canada

- Developed design options for the Highway 1 corridor, interchanges, and adjacent road network, including tolling, managed lane, and ramp-metering strategies for the BC Ministry of Transportation using simulation tools; provided transportation analyses and design for the first at-grade light rail transit corridor in the Vancouver Lower Mainland; led operations and planning studies.

2002-2005

Associate Transportation Engineer/Planner, *Dowling Associates, Inc.*, Oakland, California

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- Performed traffic operations simulation studies; completed large-scale freeway operations studies; taught microsimulation training courses and seminars; worked with public sector agencies, ranging from local to state and federal, as well as consultants and private developers.

2001-2002

Graduate Student Researcher, *Institute of Transportation Studies*, UC Berkeley

- Development of macro and microscopic traffic simulation models for analysis of traffic operations on Interstate 680 highway corridor in the San Francisco Bay Area; assessment of lane management (HOV, toll) strategies and advanced ramp metering programs.

1998-2001

Undergraduate Research Assistant, *Department of Civil Engineering*, University of Waterloo

- Analysis of user survey data to monitor transit usage and travel modes; various projects involving flexible pavement, steel, and reinforced concrete research.

1997-2000

Co-operative Work Placements

- Transportation planning - *Urban Systems, Ltd. (2000)*, transportation engineering - *Giffels Associates, Ltd. (1999, 2000)*, municipal engineering - *Marshall Macklin Monaghan (1998)*, transportation planning - *Ministry of Transportation, Ontario (1998)*.
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Teaching

Fall 2009

Head Graduate Student Instructor, *CE93: Engineering Data Analysis*, UC Berkeley

- Led two-hour weekly discussion and lab for 30+ students, held office hours for 90 students, assisted in design of homework problems, labs, and exam questions. Average teaching score: 4.5/5.

Graduate Student Instructor, *CE262: Analysis of Transportation Data*, UC Berkeley

- Probability, statistics, and econometrics for graduate students. Assisted in design of homework and exam questions, held office hours and review sessions for 35+ students (teaching score not available from department).

2008-2011

Volunteer Tutor, *Refugee Transitions*

- Assist high-school students in all subjects, including math, English, and history.
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Awards & Honors

Dwight D. Eisenhower Transportation Fellowship (multi-year, 62K USD)	2007-2009
Dwight D. Eisenhower Transportation Fellowship (one-year, 8.5K USD)	2006-2007
University of California Transportation Center Tuition Grant	2006-2007
UC Berkeley CEE Department Grant	2001-2002
Natural Science and Engineering Research Council Post Graduate Scholarship (<i>declined</i>)	2001
Ontario Graduate Scholarship (<i>declined</i>)	2001

Publications

Refereed

Amy M. Kim, Ph.D.

Amy Kim and Mark Hansen, *A Framework for Assessment of Collaborative En Route Resource Allocation*. Submitted to Transportation Research Part C: Emerging Technologies, Nov. 2010.

Amy Kim and Mark Hansen. *Validation of Runway Capacity Models*. Transportation Research Record, Vol. 2177, pp. 69-77, 2010.

Research Papers

Alexander Skabardonis and Amy Kim. *Weaving Analysis, Evaluation, and Refinement*. California PATH Research Report UCB-ITS-PRR-2010-19, April 2010.

<http://www.path.berkeley.edu/PATH/Publications/PDF/PRR/2010/PRR-2010-19.pdf>

Yonnel Gardes, Amy Kim and Adolf D. May. *Bay Area Simulation and Ramp Metering Study –Year 2 Report*. California PATH Research Report UCB-ITS-PRR-2003-9, March 2003.

<http://www.path.berkeley.edu/PATH/Publications/PDF/PRR/2003/PRR-2003-09.pdf>

Select Conference Papers, Presentations and Posters

Amy Kim and Mark Hansen. *Collaborative Rerouting in the Airspace Flow Program: A Framework for User-cost Based Performance Assessment*. Conference Proceedings. Presentation at the 4th International Conference on Research in Air Transportation, June 2010, Budapest, Hungary.

Amy Kim and Mark Hansen. *Comparison of Strategies for Collaborative Rerouting in the Airspace Flow Program*. Presentation at INFORMS Annual Meeting, October 2009, San Diego, CA.

Amy Kim and Mark Hansen. *Validation of Runway Capacity Models*. Conference Proceedings. Presentation at ATM 2009, July 2009, Napa, CA.

Amy Kim and Mark Hansen. *Deconstructing Delay: Demand and Capacity at the New York Airports*. Conference Proceedings. Presentation and publication at the 3rd International Conference on Research in Air Transportation, June 2008, Fairfax, VA.

Amy Kim and Alexander Skabardonis. *Freeway Weaving Analysis*. Poster at 13th University of California Transportation Center Student Conference, April 2007, Los Angeles, CA.

Amy Kim, Mark Baker and Lawrence Rillet. *Performance Measure Definition Using Microsimulation Based Techniques*. Conference Proceedings. Presentation and publication at Canadian ITE 2006 Conference, May 2006, Banff, AB.

Amy Kim, Yonnel Gardes and Adolf D. May. *Application of the Paramics Model in High Occupancy Vehicle Lane Operations*. Conference Proceedings. Presentation and publication at the 9th ITS World Congress, October 2002, Chicago, IL.

In Preparation

Amy Kim and Mark Hansen. *Implications of Competitive Airline Behavior in Collaborative Air Traffic Flow Management*. In preparation.

Amy Kim and Mark Hansen. *Deconstructing Delay: Empirical, Non-Parametric Runway Capacity and Demand Analysis*. In preparation.

Professional Activities

Member, Institute of Transportation Engineers (ITE), Institute for Operations Research and Management Science (INFORMS).

Peer reviewer and friend, TRB Airfield and Airspace Capacity and Delay (AV060), Aviation Systems Planning (AV020), and Aviation Economics and Forecasting (AV040).

State of California, Engineer-in-Training #118362.

Can immediately continue process to obtain P.Eng./P.E. licenses in all provinces/states.

Technical Skills

Matlab, SAS, R, AMPL, LaTeX, Paramics, VISSIM, Traffix, Synchro, HCS, basic EMME/2, various airport runway capacity software