

# **Dr. Kari Edison Watkins, PhD, PE**

Assistant Professor  
Civil and Environmental Engineering  
Georgia Institute of Technology

## **I. EARNED DEGREES**

**Doctor of Philosophy in Civil Engineering**, University of Washington, June 2011  
Dissertation Topic: “Using Technology to Revolutionize Public Transportation”.

**Master of Science in Civil Engineering**, University of Connecticut, June 2003  
Thesis Topic: “A Comparison of Bus Rapid Transit and Light Rail Transit in Ten North American Cities”.

**Bachelor of Civil Engineering**, Georgia Institute of Technology, Dec 1997  
Graduated with highest honors, Cooperative Student at Georgia Department of Transportation

## **II. EMPLOYMENT**

**8/2011-present:** Georgia Institute of Technology, Atlanta, GA  
Assistant Professor: Civil & Environmental Engineering

**9/2007-6/2011:** University of Washington, Seattle, WA  
PhD Student and Research Assistant: Civil & Environmental Engineering

**8/1998-9/2007** Wilbur Smith Associates, Seattle, Washington and New Haven, Connecticut  
Senior Transportation Engineer

**1/1998 – 8/1998** URS Greiner, Rocky Hill, CT  
Transportation Engineer

**1/1994 – 12/1997** Georgia Department of Transportation, Atlanta, GA  
Transportation Co-op

## **III. TEACHING**

### **A. INDIVIDUAL STUDENT GUIDANCE**

#### **Ph.D. Student Guidance**

##### **[1] Tom Wall**

Dissertation Topic: Infrastructure Investment and Climate Change Adaptation  
Fall 2008 – Fall 2013 (began co-advising in 2012)  
Scholarships: Airport Cooperative Research Program (\$10,000), others under different advisors  
Employment: Argonne National Laboratory  
(co-advised with Professor Adjo Amekudzi)

##### **[2] Candace Brakewood**

Dissertation Topic: Quantifying the Impact of Real-time Vehicle Location Information on Transit Ridership  
Fall 2012 – Summer 2014 (Transfer from MIT)  
Scholarships: 2012, 2013 ARCS Fellowship (\$7500 each), 2013 Eisenhower Fellowship (\$30,000), CEE Fellowship (\$5000 / yr)  
Employment: Assistant Professor, City University of New York

**In Progress**

**[3] Aditi Misra** [*Passed Proposal Defense*]

Dissertation Topic: Cyclist Route Choice Modeling

Fall 2012 – Present

Expected Graduation: 2015

Scholarships: Foley Scholar Finalist, AirSage Travel Scholarship (\$500)

**[4] Simon Berrebi** [*Passed Qualifying Exam*]

Dissertation Topic: Cut-point algorithm to mitigate bus bunching

MS: Fall 2012 – Spring 2014; PhD: Summer 2014 - Present

Expected Graduation: 2016

Scholarships: AirSage Travel Scholarship (\$500), Awesome Foundation (\$1000), ITS Georgia Wayne Shackelford Scholarship (\$2000)

**[5] Ruben Hovanesian**

Fall 2014 - Present

**Thesis-based M.S. Student Guidance**

**Graduated**

**[1] Maria Roell** (Dual Degree Transportation Engineering / City Planning Program)

Thesis Topic: The use of public participation in the design of effective internet-based advanced traveler information systems

Fall 2010 – Fall 2012 (began co-advising in 2012)

Employment: Atlanta Regional Commission

(co-advised with Professor Randy Guensler)

**[2] Joel Anders** (Dual Degree Transportation Engineering / City Planning Program)

Thesis Topic: Future paths for regional fare collection in Atlanta: a case study analysis of the planning and implementation of next generation fare collection systems for regional transit in North America

Fall 2010 – Fall 2012 (began co-advising in 2012)

Employment: Parsons Brinckerhoff, Atlanta, GA

(co-advised with Professor Michael Meyer)

**[3] Melody Butler**

Thesis Topic: An assessment tool for the appropriateness of activity-based travel demand models

Fall 2011 – Fall 2012 (began co-advising in 2012)

Employment: Vanasse Hangen Brustlin, Orlando, FL

(co-advised with Professor Michael Meyer)

**[4] Margaret Carragher** (Dual Degree Transportation Engineering / City Planning Program)

Thesis Topic: Innovations in multi-modal, schematic transit mapping: an exploratory survey

Fall 2011 – Spring 2013

Employment: Metro Planning and Engineering, Atlanta, GA

Scholarships: 2012 Eisenhower Fellowship (\$5000), GDOT Transportation Scholarship (\$700), Outside the Box Competition, 2<sup>nd</sup> Place (shared \$5,000 with 4 students)

**[5] Aaron Gooze** (Dual Degree Transportation Engineering / City Planning Program)

Thesis Topic: Real-time transit information accuracy: impacts and proposed solutions

Fall 2011 – Spring 2013

Employment: Fehr & Peers, Seattle, WA

Scholarships: 2012 Eisenhower Fellowship (\$5000), Outside the Box Competition, 2<sup>nd</sup> Place (shared \$5,000 with 4 students)

**[6] Alex Poznanski**

Thesis Topic: Analyzing demographic and geographic characteristics of “Cycle Atlanta” smartphone application users

Fall 2011 – Spring 2013

Employment: Georgia Regional Transportation Authority

**[7] Christopher Silveira** (Dual Degree Transportation Engineering / City Planning Program)

Thesis Topic: User information and the bus stop: designs and applications in the United States and Canada

Fall 2010 – Spring 2013

Employment: Metropolitan Atlanta Rapid Transit Authority

**[8] Landon Reed** (Dual Degree Transportation Engineering / City Planning Program)

Thesis Topic: Real-time transit passenger information: A case study in standards development

Fall 2011 – Fall 2013

Employment: Atlanta Regional Commission

Scholarships: 2013 Mundy Fund (\$1500), Outside the Box Competition, 2<sup>nd</sup> Place (shared \$5,000 with 4 students)

**[9] James Wong** (Dual Degree Transportation Engineering / City Planning Program)

Thesis Topic: Evaluating the opportunities for transit performance measurement using Google Transit data

Fall 2011 – Fall 2013

Employment: New York City Economic Development Corporation

Scholarships: 2012 Eisenhower Fellowship (\$5000), 2013 Mundy Fund (\$1500), Outside the Box Competition, 2<sup>nd</sup> Place (shared \$5,000 with 4 students)

**[10] Sarah Windmiller**

Thesis Topic: Alternatives to Smartphone Applications for Real-Time Information and Technology Usage Among Transit Riders

Fall 2012 – Fall 2013

Employment: Cambridge Systematics, Atlanta, GA

Scholarships: 2013 American Public Transport Foundation Parsons Brinckerhoff-Jim Lammie (\$4,000)

**[12] Ryan Sager** (Dual Degree Transportation Engineering / City Planning Program)

Thesis Topic: Use of Web-Based Rider Feedback to Improve Public Transit Services

Fall 2012 – Spring 2014

Employment: Kittelson & Associates, Sacramento, CA

**[13] Bing Zhang**

Thesis Topic: Development of a Social Weights Matrix to Consider Friendship Influences on Air Travel

Fall 2013 – Summer 2014

Employment: Kittelson & Associates, Atlanta, GA

**[14] Jonathon DiGioia**

Thesis Topic: Safety Impacts of Bicycle Infrastructure: A Critical Review

Fall 2013 – Summer 2014

Employment: URS Corporation, Atlanta, GA

**In Progress**

**[15] Carly Queen** (Dual Degree Transportation Engineering / City Planning Program)

Thesis Topic: Public Transportation Mode Planning Decision Tool

Fall 2013 - Present

Scholarships: 2014 Eisenhower Fellowship (\$30,000)

**B.S. Student Guidance**

**[1] Amanda Wall**

Research Topic: Transit mapping to serve area attractions

Scholarships / Awards: 2012 PURA (\$1000), Amanda continued to win multiple scholarships advised by Adjo Amekudzi in her MS program and I continued to serve as a mentor to her.

**[2] Vernon Gentry**

Research Topic: The use of public participation in the design of effective internet-based advanced traveler information systems

Scholarships / Awards: Summer 2013 SURE, Best Undergraduate Poster Award at 2013 AGMUS Research Symposium

**[3] Vinh Pham-Gia**

Research Topic: OneBusAway

Scholarships / Awards: Summer 2013 Ecole de Ponts Paris Exchange

**[4] Rohit Ammanamanchi**

Research Topic: Cycle Atlanta

Scholarships / Awards: 2013, 2014 PURA (\$1000 each)

**B. OTHER TEACHING ACTIVITIES**

***Teaching Evaluations***

| Semester      | Course     |             |        |                                       | Size | Effectiveness Score | % Course taught |
|---------------|------------|-------------|--------|---------------------------------------|------|---------------------|-----------------|
| Undergraduate |            |             |        |                                       |      |                     |                 |
| Fall 2011     | CEE        | 4090        | A      | Senior Capstone                       | ~ 40 | Not added to CIOS   | 30%             |
| Spring 2012   | CEE        | 4090        | A / IP | Senior Capstone                       | 99   | 4.74                | 30%             |
| Fall 2012     | CEE        | 4090        | A      | Senior Capstone                       | 67   | 4.71                | 70%             |
| Spring 2013   | CEE        | 4090        | A / IP | Senior Capstone                       | 88   | 4.58                | 30%             |
| Fall 2013     | CEE        | 4090        | A      | Senior Capstone                       | 48   | 4.73                | 70%             |
| Fall 2013     | CEE        | 4610        | A      | Multimodal Transportation             | 33   | 4.57                | 50%             |
| Spring 2014   | CEE        | 4090        | A      | Senior Capstone                       | 92   | 4.74                | 30%             |
| Fall 2014     | CEE        | 4090        |        | Senior Capstone                       | 54   | In progress         | 50%             |
| Fall 2014     | CEE        | 4610        | A      | Multimodal Transportation             | 49   | In progress         | 70%             |
| Graduate      |            |             |        |                                       |      |                     |                 |
| Fall 2011     | CEE        | 6602        | A      | Urban Transportation Planning         | ~ 40 | 4.33                | 30%             |
| Spring 2012   | CEE        | 8813        | O      | Intro to Travel Demand Forecasting    | 11   | 4.75                | 100%            |
| Spring 2013   | CEE        | 6642        | A      | Transit Planning & Operations         | 39   | 4.85                | 100%            |
| Fall 2013     | CEE / PubP | 8813 / 8803 | I / HK | Intelligent Transportation & Internet | 12   | 4.73                | 50%             |
| Spring 2014   | CEE        | 6642        | A      | Transit Planning & Operations         | 25   | 5.00                | 100%            |
| Fall 2014     | CEE        | 8813        | F      | Complete Streets                      | 9    | In progress         | 100%            |

***Courses Developed***

**[1] Introduction to Travel Demand Forecasting** (CEE 8813 – permanent course number to be sought) – taught Spring 2012, to be offered by another instructor Spring 2014

This course serves as an introduction to the process used to estimate the demand for transportation infrastructure. The goal is to give students general exposure to the steps involved in travel demand

modeling; the theory and practice behind calculations at each step; the estimation, calibration, and maintenance of travel demand models; shortcomings of traditional travel demand models and future directions of the industry; and the use of travel demand models in decision-making.

**[2] Transit Planning and Operations (CEE 6642)** – taught Spring 2013, Spring 2014

Through a STRIDE grant, a set of public transportation course modules were developed for both the Introduction to Transportation (an undergraduate senior course) and this stand-alone Transit Planning and Operations course (a specialized graduate course). The course aims to provide a solid understanding of public transportation systems and is designed to be easily applied by instructors with limited experience in the transit industry. The modules were developed and taught at Georgia Tech and Auburn through a process that included researching applicable literature, interviewing educators and practitioners, and mind mapping the core concepts needed for transportation practice. (Co-developed with Professor Jeff LaMondia)

**[3] Multimodal Transportation (CEE 4610)** - taught Fall 2013, Fall 2014

This course was redesigned to be the second major undergraduate transportation course, covering the necessity of multimodality in passenger and freight transportation. The course has not been taught for many years and was completely redone. Components developed by Dr. Watkins include complete streets design, pedestrian and bicycle planning and design, transit planning and operations, traffic calming and context sensitive solutions. (Co-developed and co-taught with Dr. Michael Rodgers)

**[4] Intelligent Transportation and the Internet (CEE 8813)** – taught Fall 2013

This course examines IT technology and policy in transportation, as the internet plays a greater role in transportation information and data. Topics include intelligent transportation systems, public-private partnerships, the evolving role of traffic management, vehicle-to-vehicle networks, and standards-setting. The course was developed as a component of a GDOT / NCTSPM project and will be modified to be taught as continuing education. (Co-developed with Professor Hans Klein)

#### IV. SCHOLARLY ACCOMPLISHMENTS

##### A. PUBLISHED BOOKS AND PARTS OF BOOKS

[1] Bregman, Susan and Kari Watkins *Best Practices for Transportation Agency Use of Social Media*. CRC Press, 2013.

##### B. REFEREED PUBLICATIONS (\* = student advised by Dr. Watkins)

###### Journals

[1] Watkins, Kari, Timothy Sorenson, and Norman Garrick. "Platform Layout for the New Britain – Hartford Busway." *Transportation Research Record # 1791*, Transportation Research Board, 2002.

[2] Ferris, Brian, Kari Watkins, and Alan Borning. "Location-Aware Tools for Improving Public Transit Usability." *IEEE Pervasive Computing*, Vol. 9, No. 1, pp. 13-19, Jan-Mar 2010.

[3] Schramm, LisaRene, Kari Watkins, and G. Scott Rutherford. "Amenities That Effect Variability of Travel Time on BRT Systems." *Transportation Research Record #2143*, pp. 77-84, 2010.

[4] Watkins, Kari, Brian Ferris, and G. Scott Rutherford. "Explore: An Attraction Search Tool for Transit Trip Planning." *Journal of Public Transportation*, Vol. 13, No. 4, pp. 111-128, 2010.

[5] Wu, Yao-Jan, Mark Hallenbeck, Yinhai Wang and Kari Watkins. "Evaluation of Arterial and Freeway Interaction for Determining the Feasibility of Traffic Diversion." *Journal of Transportation Engineering*, American Society of Civil Engineers, Vol. 137, No. 8, 2011.

- [6] Watkins, Kari, Brian Ferris, Alan Borning, G. Scott Rutherford and David Layton. "Where Is My Bus? Impact of mobile real-time information on the perceived and actual wait time of transit riders." *Transportation Research Part A*, Vol. 45, No. 8, pp.839-848, Oct 2011.
- [7] Watkins, Kari. "Book Review of Human transit: How clearer thinking about public transit can enrich our communities and our lives, by Jarrett Walker" *Journal of Transportation and Land Use*, Vol 5, No 3, 2012
- [8] Watkins, Kari, Alan Borning, G. Scott Rutherford, Brian Ferris and Brian Gill. "Attitudes of Bus Operators Towards Real-time Transit Information Tools." *Transportation*, Vol. 40, No. 5, 2013.
- [9] Gooze, Aaron\*, Kari Watkins and Alan Borning. "Benefits of Real-Time Transit Information and Impacts of Data Accuracy on Rider Experience", *Transportation Research Record* #2351, pp. 95-103, 2013.
- [10] Edwards, Derek\* and Kari Watkins, "Comparing Fixed-Route and Demand-Responsive Feeder Transit Systems in Real-World Settings", *Transportation Research Record* #2352, pp.128-135, 2013.
- [11] Watkins, Kari and Hendrik Wolff "Speeding Behavior and Gasoline Prices using Hourly Washington State Data", *Transportation Research Record* #2375, pp. 29-36, 2013.
- [12] Wall, Thomas\*, Gregory Macfarlane and Kari Watkins, "Exploring the use of egocentric online social network data to characterize individual air travel behavior", *Transportation Research Record* #2400, pp. 78-86, 2014.
- [13] Misra, Aditi\*, Aaron Gooze\*, Kari Watkins, Mariam Asad and Christopher Le Dantec. "Crowdsourcing and Its Application to Transportation Planning" *Transportation Research Record* #2414, pp. 1 – 8, 2014.
- [14] Windmiller, Sarah\*, Todd Hennessy and Kari Watkins, "Accessibility of Communication Technology and the Rider Experience: Case Study of St. Louis Metro" *Transportation Research Record* #2415, pp. 118-126, 2014.
- [15] Brakewood, Candace\*, Sean Barbeau and Kari Watkins, "An experiment validating the impacts of transit information on bus riders in Tampa, Florida", *Transportation Research Part A*, Vol. 69, pp. 409-422, 2014.
- [16] Berrebi, Simon\*, Kari Watkins, and Jorge Laval, "A Real-Time Bus Dispatching Policy to Minimize Headway Variance", in review *Transportation Research Part B*
- [17] Brakewood, Candace\*, and Kari Watkins, "A Method for Linking Transit Smart Card Data and Survey Responses to Evaluate Travel Behavior and its Application to a Before-After Analysis of Real-Time Information", in review *Transport Policy*.
- [18] Barbeau, Sean, Alan Borning and Kari Watkins, "OneBusAway Multi-region – Rapidly Expanding Mobile Transit Apps to New Cities" accepted for *Journal of Public Transportation*.
- [19] Brakewood, Candace\*, Gregory Macfarlane, and Kari Watkins, "The Impact of Real-time Information on Bus Ridership in New York City", submitted to *Transportation Research Part C*.

**Peer-Reviewed Conference Proceedings**

- [1] Watkins, Kari, "How the stigma of a Bus Rapid Transit system was overcome – The New Britain to Hartford Bus Rapid Transit Experience." *Proceedings of American Public Transportation Association (APTA) Rail Transit Conference*, 2002.

- [2] Watkins, Kari, Peter Plumeau, and Michael Munson. "A New Tool for Assessing Developments: The Land Use Transportation Index." *Proceedings of Transportation Research Board Annual Meeting*, 2003.
- [3] Watkins, Kari and Mark Hallenbeck, "Reliability Measures - Which Statistics Will Actually Help Manage Our Roadways?" *Proceedings of Transportation Research Forum 50<sup>th</sup> Annual Forum*, 2009.
- [4] Ferris, Brian, Kari Watkins, and Alan Borning. "OneBusAway: A Transit Traveller Information System." *Proceedings of International Conference on Mobile Computing, Applications and Services (MobiCase)*, 2009.
- [5] Ferris, Brian, Kari Watkins, and Alan Borning. "OneBusAway: Results from providing real-time arrival information for public transit." *Proceedings of Association for Computing Machinery Conference on Human Factors in Computing Systems (CHI) 2010 (Best paper nominee)*.
- [6] Watkins, Kari and Mark Hallenbeck. "Impact of Weather on Freeway Travel Times in the Rain City." *Proceedings of Transportation Research Board 2010 Annual Meeting*.
- [7] Watkins, Kari and Brian Ferris. "Explore: An Attraction Search Tool for Transit Trip Planning." *Proceedings of Transportation Research Board 2010 Annual Meeting*.
- [8] Ferris, Brian, Kari Watkins and Alan Borning. "OneBusAway: Behavioral and Satisfaction Changes Resulting from Providing Real-Time Arrival Information for Public Transit". *Proceedings of Transportation Research Board 2011 Annual Meeting*.
- [9] Watkins, Kari, Brian Ferris, Alan Borning, G. Scott Rutherford and David Layton. "Where Is My Bus? Impact of mobile real-time information on the perceived and actual wait time of transit riders." *Proceedings of Transportation Research Board 2012 Annual Meeting*.
- [10] Watkins, Kari, Brian Ferris, Mark Hallenbeck and Alan Borning. "Next Steps in Transit Rider Information: Development of a Webapp for Personalized Transit Service Alerts." *Proceedings of Transportation Research Board 2012 Annual Meeting*.
- [11] Watkins, Kari, Mark Wheldon and G. Scott Rutherford. "Measurement and evaluation of transit travel time reliability". *Proceedings of Conference on Advanced Systems for Public Transport*, Santiago, Chile, July 2012.
- [12] Wong, James\*, Landon Reed\*, Kari Watkins and Reagan Hammond. "Open Transit Data: State of the Practice and Experience from Participating Agencies in the United States", *Transportation Research Board 2013 Annual Meeting*.
- [13] Watkins, Kari, Brian Ferris, Yegor Malinovskiy and Alan Borning. "Beyond Context Sensitive Solutions: Using Value Sensitive Design to Identify Needed Transit Information Tools." *Proceedings of Third International Conference on Urban Public Transportation Systems*, Paris, Nov 2013
- [14] Weber, Johann, Aditi Misra\*, Alice Grossman, Giacomo Cernjul, Sean McTague, Kari Watkins and Randall Guensler, "Constructing Improved Bicycle Maps: User Preferences and Comparative Analysis" *Transportation Research Board 2014 Annual Meeting*.
- [15] Kressner, Josephine, Margaret Carragher\*, and Kari Watkins "A Household-Level Comparison of Targeted Marketing Data and Self-Reported Survey Data" *Transportation Research Board 2014 Annual Meeting*.
- [16] Watkins, Kari, Sarah Windmiller\*, and Katharine Hunter-Zaworski, "Bridging the Digital Divide: Ensuring Information Equity in Social Media" *Transportation Research Board 2014 Annual Meeting*.

- [17] Watkins, Kari and Susan Bregman, “Best Practices for Transportation Agency Use of Social Media” *Transportation Research Board 2014 Annual Meeting*.
- [18] Anders, Joel\*, Candace Brakewood\*, and Kari Watkins, “A Case Study Analysis of New Fare Payment systems in Public Transit” *Transportation Research Board 2014 Annual Meeting*.
- [19] Brakewood, Candace\*, Francisca Rojas, Joshua Robin, P. Christopher Zegras, Kari Watkins, Jake Sion, and Samuel Jordan, “An Analysis of Real-time Commuter Rail Information in Boston” *Transportation Research Board 2014 Annual Meeting*.
- [20] Watkins, Kari, Ryan Sager\*, Yanzhi Xu, Susan Bregman, and Kathryn Coffel, “Current and Future Use of Web-based Feedback Tools among Transit Agencies”, *Transportation Research Board 2015 Annual Meeting*
- [21] Misra, Aditi\*, Kari Watkins, and Christopher LeDantec, “Socio-demographic Influence on Cyclists’ Self Classification by Rider Type”, *Transportation Research Board 2015 Annual Meeting*
- [22] Bregman, Susan, Kari Watkins, Yanzi Xu, and Kathryn Coffel, “Who’s Online...and Who Isn’t? Equity Considerations for Web-Based Feedback and Transit”, *Transportation Research Board 2015 Annual Meeting*

### C. OTHER PUBLICATIONS

- [1] Wilbur Smith Associates. *I-84 West of Waterbury Needs and Deficiencies Study*. Connecticut Department of Transportation, 2001.
- [2] Wilbur Smith Associates. *I-84 West Side Access Study*. Connecticut Department of Transportation, 2001.
- [3] Wilbur Smith Associates. *Final Environmental Impact Statement and Section 4(f) Evaluation, New Britain-Hartford Busway*. Federal Transit Administration, 2001.
- [4] Wilbur Smith Associates. *Congestion Mitigation Systems Plan Vision 2020*. South Western Regional Planning Agency, 2003.
- [5] Wilbur Smith Associates. *Griffin Busway Feasibility Study: Final Report*. Capitol Region Council of Governments, 2004.
- [6] Wilbur Smith Associates. *Hartford East Bus Rapid Transit Feasibility Study: Final Report*. Connecticut Department of Transportation, 2004.
- [7] Wilbur Smith Associates. *Strategies Evaluation Report: Regional Transit Development Strategies Study: Final Report*. South Central Regional Council of Governments, 2005.
- [8] Wilbur Smith Associates. *New Haven-Hartford-Springfield Commuter Rail Implementation Study: Final Report*. Connecticut Department of Transportation, 2005, <http://ct.gov/dot/cwp/view.asp?a=3535&q=425110>.
- [9] Schimek, Paul, Kari Watkins, David Chase, Karl Smith, Stephen Gazillo and Bethany Whitaker. *Las Vegas Metropolitan Area Express (MAX) Bus Rapid Transit Project 2006 Evaluation*. Federal Transit Administration, 2006.
- [10] Schimek, Paul, Kari Watkins, David Chase, Karl Smith and Stephen Gazillo. *Silver Line Waterfront Bus Rapid Transit Project 2007 Evaluation*. Federal Transit Administration, 2007.



- [11] Muench, S.T., Anderson, J.L., Hatfield, J.P., Koester, J.R., & Söderlund, M. et al. *Greenroads Rating System v1.0*. (J.L. Anderson and S.T. Muench, Eds.). Seattle, WA: University of Washington. 2010. Author of the Transit Access Credit
- [12] Hallenbeck, Mark, Chong Pham and Kari Watkins. *Incident Response Evaluation Phase 3*. Washington State Transportation Center (TRAC). 2011.

#### **D. PRESENTATIONS AND POSTERS**

##### **Invited Talks / Seminars / Panels**

- [1] Moderator, *ITS Moving People*, ITS Connecticut 8th annual meeting, September 19, 2005.
- [2] *New Haven, Hartford, Springfield Commuter Rail – Operations Simulation*. American Public Transportation Association (APTA) Rail Transit Conference, 2006.
- [3] *What's New in Bus Rapid Transit?* Guest speaker, University of Connecticut, February 6, 2007.
- [4] *Presentation Skills Training*. Wilbur Smith Associates, monthly from Oct 2006 – Aug 2007
- [5] Transportation Panelist, *World Usability Day 2008*, Usability Professional Association of Puget Sound, November 13, 2008.
- [6] Panelist, *University of Washington Women in Science and Engineering 2009 Conference*, February 2009.
- [7] *New Methods in Transportation Planning*. University of Washington, December 2, 2009
- [8] *Using Technology to Revolutionize Public Transportation*. Georgia Institute of Technology, March 1, 2010.
- [9] *Using Technology to Revolutionize Public Transportation*. University of British Columbia, March 11, 2010.
- [10] *Discrete Choice Modelling*. University of British Columbia, March 10, 2010
- [11] *OneBusAway: Using Technology to Revolutionize Public Transportation*. ARCS Foundation, April 12, 2010.
- [12] *Presentation Skills 101*. University of Washington, January 2010 and January 2011
- [13] *Using Technology to Revolutionize Public Transportation*. Western Michigan University, February 21, 2011.
- [14] *Using Technology to Revolutionize Public Transportation*. University of Virginia, March 14, 2011.
- [15] Panelist, *From Here to There Community Forum*, Seattle City Council, March 29, 2011
- [16] *OneBusAway*. USDOT University Research Technology Transfer Day, Washington, DC, April 2011.
- [17] Panelist, *Social Media in Transportation*, Georgia Tech Women's Transportation Seminar, August 2011
- [18] *Using Technology to Revolutionize Public Transportation*. Eidgenössische Technische Hochschule (ETH), Zurich, Switzerland, December 2011.

- [19] *So, You Want to be a Transportation Engineer*, ASCE, Georgia Tech, February 2012.
- [20] *Human Systems Interaction: Transit Rider Information, Blended Research @ the Library*, Georgia Tech, March 2012.
- [21] *Enabling Transit Solutions – A Case for Open Data*, World Bank, Washington DC, May 2012
- [22] *Enabling Transit Solutions through Traveler Information*, ITS Georgia, Atlanta, Aug 2012
- [23] *Enabling Transit Solutions through Traveler Information*, GVU Center, Atlanta, Sept 2012
- [24] *Real-time Transit Information*, Guest Lecture, CNAM, Paris, Nov 2012
- [25] *Enabling Transit Solutions through Traveler Information*, Ecole des Ponts ParisTech, Paris, Nov 2012
- [26] *Understanding the Impacts of Transit Real-time Passenger Information: Research and Perspectives*, ITS PTSS Committee, Washington DC, Jan 2013
- [27] *Cycle Atlanta: Increasing Public Participation in Cycling Infrastructure Decisions*, Programs for Promoting Cycling, Alabama Transportation Conference, Feb 2013
- [28] *The Power of Information to Create a More Livable Transportation System*, Centers for Disease Control, May 2013
- [29] *Taming the Complexity of Transportation*, First-year Book Launch, Aug 2013
- [30] *Urban Transportation Information*, Leadership Atlanta's (co)lab Summit, Sept 2013
- [31] *Inside the Black Box*, WREK Radio, Oct 2013
- [32] Moderator, *The Internet Paradigm and ITS*, ITS World Congress, Tokyo, Japan, Oct 2013
- [33] *Open Transit Data: State of the Practice*, ITS World Congress, Tokyo, Japan, Oct 2013
- [34] *OneBusAway*, GVU Advisory Board Meeting, Oct 2013
- [35] *Urban Transportation Information*, CEE Advisory Board Meeting, Nov 2013
- [36] Moderator, *Case Studies of Best Practices and Success Stories IV: Rail & Non-Motorized Transportation*, ASCE Green Streets, Austin, TX, Nov 2013
- [37] *The Future of Transportation Euro-American Frontiers of Engineering* by the National Academy of Engineers, Nov 2013
- [38] *The Rider Experience – Meeting Rider Demand*, Innovation in Mobility Public Policy Summit, June 2014
- [39] *OneBusAway*, ITS Georgia, June 2014
- [40] *Open Transit Data: Evolution and Best Practices*, USDOT Learn from the Experts: Talking Technology and Transportation (T3) Webinar, August 2014
- [41] *The Impacts of Real-time Information on Transit User Perceptions*, t-HUB Workshop: Equity and Transit System Performance Measurement, Sept 2014

[42] *Environmental Sustainability through Bicycle and Pedestrian Research*, USDOT University Transportation Center Workshop on Pedestrian and Bicycle Research, Sept 2014

**Conference presentations (Abstract Based)**

[1] *Reliability Measures - Which Statistics Will Actually Help Manage Our Roadways?* TransNOW Student Conference (won 2<sup>nd</sup> prize for best presentation), November 7, 2008.

[2] *One Bus Away: An Open-source Transit Traveler Information System*. American Public Transportation Association (APTA) Bus & Paratransit Conference, May 6, 2009.

[3] Moderator, *BRT, Land Use and Ridership*, American Public Transportation Association Bus & Paratransit Conference, May 6, 2009.

[4] *Transit Travel Information*. ITE Washington Section Annual Meeting, June 8, 2009.

[5] *A Real-world Process for Transportation Senior Design*. Transportation Education Conference, June 22, 2009.

[6] *OneBusAway: A Suite of Transit Traveler Information Tools*. ITS World Congress, Busan, Korea, October 2010.

[7] *Location-Based Services for Public Transport*. ITS World Congress, Orlando, Florida, October 2011.

[8] Carragher, Margaret and Kari Watkins, "Innovations in Multi-Modal Schematic Transit Mapping: Survey Methods", Georgia Planning Association, Sept 2012

[9] *Enabling Transit Solutions through Traveler Information*, INFORMS, Phoenix, Oct 2012

[10] *The United States: A Potential Market for French Rail Operators*, Panelist, CNAM, Nov 2012

[11] Carragher, Margaret and Kari Watkins, "Innovations in Multi-Modal Schematic Transit Mapping: The Best Map for Atlanta", American Planning Association, April 2013

[12] Misra, Aditi and Kari Watkins, "Cycle Atlanta: Mapping the Ride to a Better Atlanta" Georgia transportation Institute poster session, Sept 2013

[13] Reed, Landon, Kari Watkins, and Hans Klein, "Real-time Transit Passenger Information – A Case Study in Standards Development" Georgia Transportation Institute poster session, Sept 2013

[14] Wong, James, Kari Watkins, and Hans Klein, "Outsourcing Traffic Data: Are TMC's ready?" Georgia Transportation Institute poster session, Sept 2013

[15] Barbeau, Sean, Candace Brakewood, Kari Watkins, and Shannon Haney, "OneBusAway – Sharing real-time transit information via open-source software", *Research that Matters*, University of South Florida, Oct 2013

[16] Carragher, Margaret and Kari Watkins, "Innovations in Multi-Modal Mapping", GIS in Transit Conference, Oct 2013

[17] Carragher, Margaret, Wenwen Zhang and Kari Watkins, "Spider Maps: Summary of Best Practices and Guide to Design", GIS in Transit Conference, Oct 2013

[18] Misra, Aditi, Kari Watkins and Chris LeDantec, "Cycle Atlanta – Facilitating GPS Based Data Collection for Bicyclists in Atlanta" *North American Travel Monitoring Exposition and Conference*, 2014

[19] Transportation Technologies for Regional Systems, *American Planning Association National Conference*, 2014

[20] Atlanta's Innovative Planning Technology (mobile workshop), *American Planning Association National Conference*, 2014

[21] Cycle Atlanta: Creating a Cycling City, *American Planning Association National Conference*, 2014

## V. SERVICE

### A. PROFESSIONAL CONTRIBUTIONS

[1] Member, Bus Transit Committee, Transportation Research Board, 2008 – present.

[2] Chair, Research Subcommittee of Bus Transit Committee, Transportation Research Board, 2009-2013.

[3] Member, Transit Capacity and Quality of Service, Transportation Research Board, 2010 - present.

[4] Transit Cooperative Research Program advisory panel, Synthesis SA-32, System Specific Spare Bus Ratios, 2012

[5] NSF Graduate Research Fellowship Panel, 2013

[6] Co-organizer, Transportation Camp South, Feb 2013

[7] Transit Cooperative Research Program advisory panel, Synthesis SA-35, Better On Street Bus Stops, 2013

[8] Program Committee, ASCE Green Streets Conference 2012-2013

[9] Handlebar Committee, City of Atlanta Bicycle Projects, 2012-2013

[10] Co-organizer, Transportation Camp South, April 2014

[11] Technical Advisory Committee, Atlanta Beltline, 2014-

Paper Reviewer: Transportation Research Part A, Part C, Part D, Part F, Environment and Planning A, Research in Transportation Business and Management, Journal of Transportation and Land Use, Transportation Research Board, Chi, Journal of Urban Planning and Development, Journal of Intelligent Transportation Systems

Proposal Reviewer: National Center for Sustainable Transportation, National Institute for Transportation & Communities, University of Vermont Transportation Research Center, Upper Great Plains Transportation Institute, Mid-Atlantic Transportation Sustainability Center

### B. CAMPUS CONTRIBUTIONS

[1] Speaker Chair, Region 10 UTC Student Conference, 2008.

[2] Student Representative, University of Washington Department of Civil and Environmental Engineering, Transportation Faculty Hiring Committee, 2009.

[3] ADVANCE College of Engineering Finance Committee, 2011 – 2012.

[4] Organizer of the Georgia Tech University Transportation Center Speaker Series, 2011 – 2015.

[5] Faculty Hiring Committee, Department of Civil and Environmental Engineering, 2011 - 2013.

[6] Dickerson Chair Hiring Committee, Department of Civil and Environmental Engineering, 2012-2014.

[7] Olmstead Chair Hiring Committee, Department of Civil and Environmental Engineering, 2013-2105.

[8] Bike Master Plan, provided bike trip graphics to consulting team, 2014.

## PhD Dissertation Committees

| <b>Student</b>             | <b>Years Served</b> | <b>Advisor (Department if not CEE)</b>                        |
|----------------------------|---------------------|---|
| John Patrick O'Har         | 2011 – 2013         | Dr. Adjo Amekudzi   |
| Mary Katherine Watson      | 2011 – 2013         | Dr. Michael Rodgers   |
| Greg MacFarlane            | 2011 – 2013         | Dr. Laurie Garrow   |
| Derek Edwards              | 2011 – 2014         | Dr. George Vachtsevanos (Electrical and Computer Engineering) |
| Josie Kressner             | 2011 – 2014         | Dr. Laurie Garrow   |
| Victor Wanningen           | 2011 - 2014         | Dr. Hans Klein (Public Policy)                                |
| Jamie Fisher               | 2013 - 2014         | Dr. Adjo Amekudzi   |
| Aaron Greenwood            | 2012 – 2015         | Dr. Michael Hunter  |
| Margaret-Avis Akofio-Sowah | 2013 – 2015         | Dr. Adjo Amekudzi   |
| Felipe Castrillon          | 2013 - 2015         | Dr. Jorge Laval   |

**VI. GRANTS AND CONTRACTS****A. AS PRINCIPAL AND CO-PRINCIPAL INVESTIGATOR**

[1] Technology Scan of Future Traveler Information Systems and Applications to Georgia  
Georgia DOT / GTI

Amount: \$150,000 (Funded 10/2011, 12 months)

Principal Investigator

[2] A new look at rapid transit maps: integrating frequent bus service into schematic rail mapping  
GTI

Amount: \$40,000 (Funded 10/2011, 8 months)

Principal Investigator

[3] OneBusAway Programming Services  
University of Washington (as subcontractor to Sound Transit)

Amount: Total \$150,000 originally to University of Washington with \$16,200 to Georgia Tech as a subcontract (Funded 9/2012, 3 months)

Principal Investigator

[4] Information Services in Social Networked Transportation  
Georgia DOT / NCTSPM

Amount: Total \$250,000 (Funded 6/2012, 18 months) of which \$140,000 Watkins

Co-Principal Investigator (with Dr. Hans Klein in GT Public Policy)

[5] Developing a New Course for Public Transportation Education  
Southeastern Transportation Research, Innovation, Development and Education Center

Amount: Total \$70,000 (Funded 6/2012, 15 months) of which \$35,000 Watkins

Co-Principal Investigator (with Dr. Jeffrey LaMondia at Auburn)

[6] Mobile Technology Usage amongst the Transit Riding Populace  
GTI / Woodruff Foundation

Amount: \$50,000 (Funded 8/2012, 15 months)

Principal Investigator

[7] Moving America on Transit: An Evaluation of Real-time Transit Information  
GTI / Woodruff Foundation  
Amount: \$50,000 (Funded 8/2012, 15 months)  
Principal Investigator

[8] Crowd-sourced Bike Route Desirability (Cycle Atlanta)  
GVU Center / IPAT / City of Atlanta  
Amount: Total \$33,816 (Funded 8/2012, 9 months)  
Co-Principal Investigator (with Dr. Chris LeDantec in GT Digital Media)

[9] Use of Web-based Customer Feedback to Improve Public Transit Service  
Transit Cooperative Research Program  
Amount: Total \$250,000 (Funded 2/2013, 24 months) of which \$150,000 Watkins  
Principal Investigator

[10] Using Crowdsourcing to Prioritize Bicycle Route Network Improvements  
Southeastern Transportation Research, Innovation, Development and Education Center / Georgia DOT  
Amount: Total \$150,000 (Funded 8/2013, 18 months) of which \$100,000 Watkins  
Co-Principal Investigator (with Dr. Jeff LaMondia at Auburn)

[11] Bicycle and Pedestrian Safety in the Highway Safety Manual  
Georgia DOT  
Amount: Total \$190,000 (Funded 8/2013, 24 months) of which \$90,000 Watkins  
Co-Principal Investigator (with Dr. Randy Guensler and Dr. Michael Rodgers)

[12] Implementation and Assessment of OneBusAway in Atlanta  
GVU Center / IPAT  
Amount: Total \$25,000 (Funded 8/2013, 9 months)  
Co-Principal Investigator (with Dr. Russ Clark in RNOC)

[13] Evaluating the Impact of Real-time Transit Passenger Information on Ridership and Mode Share  
National Center for Transportation Systems Productivity and Management (NCTSPM)  
Amount: Total \$100,000 (Funded 11/2013, 18 months)  
Principal Investigator

**Total funding to date: \$1.5 million of which \$980,000 Watkins research group**

## **VII. HONORS AND AWARDS**

- [1] Congress-Bundestag Scholarship – Exchange Student – 1990
- [2] Gamma Beta Phi & Chi Epsilon Honor Societies
- [3] Georgia Tech Society of Women Engineers Scholarship - 1995
- [4] Georgia Tech H & H Smitha Scholarship – 1996 & 1997
- [5] Georgia Tech Goodloe Yancy Scholarship - 1996 & 1997
- [6] WSA Outstanding Contribution Award – 2000 & 2002
- [7] Women’s Transportation Seminar Puget Sound Chapter Helene Overly Scholarship - 2008
- [8] ENO Foundation Leadership Conference – 2008

- [9] UTC Student of the Year for TransNOW – 2009
- [10] University of Washington ARCS Fellowship – 2007-2010
- [11] USDOT Eisenhower Fellowship – 2007-2010
- [12] Women’s Transportation Seminar Puget Sound Chapter Helene Overly Scholarship - 2011
- [13] University of Washington Valle Fellowship – 2010-2011
- [14] CUTC Wootan Award for Best Dissertation in Transportation Policy and Planning – 2012
- [15] Invited to attend the Indo-American Frontiers of Engineering by the National Academy of Engineers - 2012
- [16] Top 40 under 40, Mass Transit Magazine – 2013
- [17] Invited to present at the Euro-American Frontiers of Engineering by the National Academy of Engineers – 2013
- [18] Bill Schutz Junior Faculty Teaching Award, School of Civil & Environmental Engineering – 2013
- [19] CETL / BP Junior Faculty Teaching Award, Georgia Institute of Technology - 2014

**Professional Registrations:** Professional Engineer - Connecticut #23100. Georgia #036851