

John L. Bowman, Ph. D.

Transportation Systems and Decisions Sciences
Bowman Research and Consulting
February, 2010

28 Beals Street
Brookline, MA 02446, USA

617-232-8189
John_L_Bowman@alum.mit.edu

Dr. John L. Bowman is an expert in disaggregate travel demand modeling. He is best known for his development and ongoing improvement of the activity schedule approach for the forecasting of regional passenger travel demand, and for enabling planning agencies to develop knowledge, skills, models and software needed to implement and use these models. He developed the approach and demonstrated its value by developing a working prototype for Boston, while earning his Masters and Ph.D. degrees at MIT (1995 and 1998) under the guidance of Professor Moshe Ben-Akiva. In 1996, while still a student, he designed an enhanced version of the model system for Portland Oregon, which he helped implement as the first working model system of its type used for forecasting by a metropolitan area.

Since 1998 Dr. Bowman has operated an independent consultancy specializing in the development and implementation of practical activity-based travel forecasting model systems for metropolitan regions. In that capacity he has been involved in the design and implementation of several activity-based model systems, including models for Columbus, Ohio (2001-2003), Atlanta, Georgia (2002-2006), Sacramento, California (2005-2006), Denver, Colorado (2006-2008) and Seattle, Washington (2008-present). He has also conducted model development planning studies for Tampa, Florida (2008) and Los Angeles, California (2008). Two highlights stand out from these efforts. First, Dr. Bowman designed and implemented the flexible validatable population synthesizer being used by Atlanta and other regions. Second, and most notably, in less than 18 months Dr. Bowman, with colleague Mark Bradley, successfully completed the design, development, programming and implementation of the Sacramento demand model system, and guided its integration with the Sacramento supply models as a forecasting system that fully equilibrates demand and supply.

Dr. Bowman has developed numerous market demand simulators for major European firms based on stated choice data, for which he does experimental design, survey design, model estimation, programming, calibration and validation. He has developed a network assignment model in EMME2 for Mexico City, estimated two airport access mode choice models (Portland and Sacramento), estimated models with combined RP and SP data, and estimated uncertainty and bias of model-based forecasts for a major transportation infrastructure investment project in Asia.

In addition to his research and consulting, Dr. Bowman teaches occasionally at MIT and contributes to the field through publications, presentations, as a reviewer for several journals, and as a member of technical committees for the Transportation Research Board and the European Transport Conference.