

## **John L. Bowman, Ph. D.**

Transportation Systems and Decisions Sciences  
Bowman Research and Consulting  
March, 2015

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 (AB) travel forecasting model systems for metropolitan regions. In that capacity he has been involved in the design and implementation of several AB model systems, including models for Columbus, Ohio (2001-2003), Atlanta, Georgia (2002-2006), Sacramento, California (2005-2006), Denver, Colorado (2006-2008), Seattle, Washington (2008-2014), Copenhagen, Denmark (2011-present), Philadelphia, Pennsylvania (2012-present), and Nashville, Tennessee (2013-2014). 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, 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. Second, along with Bradley and, more recently, RSG, Inc., he has developed and continues to enhance the richly featured flexible and adaptable AB model software platform called DaySim. DaySim supports both the development and application of AB models and is the platform used by most of the above mentioned model systems as well as a few others.

In the early years of his consultancy, Dr. Bowman developed numerous market demand simulators for major European firms based on stated choice data, for which he did experimental design, survey design, model estimation, programming, calibration and validation. He 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.

Most recently, Dr. Bowman's attention has returned to non-motorized transportation, the interest that first led him into the field of transportation planning and modeling. During two five month residencies in Copenhagen, Denmark, he observed first-hand how the Danes successfully incorporate non-motorized modes, especially bicycling, into their transport system. While there he designed and began to incorporate into their new DaySim-based AB model system the features needed for effectively modeling bicycling and bicycle access to transit. In the United States, Bowman has assisted in research and development projects for including bicycle demand and route choice models in AB model systems. In his local community of Brookline, Massachusetts, Bowman offers his expertise as a volunteer with bicycle, school and Complete Streets committees, encouraging the implementation of improved infrastructure and policies for walking, bicycling and enhancing community places.

In addition to his research, consulting and local volunteer work, Dr. Bowman contributes to the field through publications, presentations, and as a reviewer for several journals.