ABSTRACT: The origins of the field of urban travel forecasting in the United States may be traced to the 1950s, when the first urban transportation plans were prepared in Detroit, Michigan, and Chicago, Illinois. Methods for forecasting urban travel soon developed quickly, in conjunction with the availability of the first mainframe computers for civilian use. By 1962, travel forecasts were required for all large metropolitan areas in the United States. These methods were then exported to Britain, Europe and beyond, where their development continued. Basic and applied research in support of these activities was initiated by universities, public agencies and consultants. Now, nearly 60 years later, urban travel forecasting is a well-developed field of academic study and research within the disciplines of civil engineering, economics, geography, operations research, regional science and urban planning.

In 2003, Professor Huw Williams and I began to write a history of this field, examining the subject from three distinct perspectives: theory and practice; network analysis and discrete choice analysis; and the United States and the United Kingdom. In this seminar, I shall provide an overview of our principal findings and insights. I shall also seek to trace the history of the main developments by innovators and the context of their achievements, especially with respect to computers and software. Finally, I shall attempt to draw some conclusions about what has not yet been achieved, and to identify opportunities for future research and practice.

BIO: Dr. David Boyce, P.E., is Adjunct Professor of Civil and Environmental Engineering at Northwestern University, and Professor Emeritus of Transportation and Regional Science at the University of Illinois at Chicago. During 40 years of academic research and teaching, Professor Boyce has addressed important methodological issues related to metropolitan transportation and land use planning. He has devoted his efforts to the formulation and solution of urban travel and location forecasting models as constrained optimization problems and related constructs, which synthesize elements of network analysis and modeling, discrete choice theory and entropy-based methods.

David Boyce served as a faculty member at the University of Pennsylvania (1966-77), the University of Illinois at Urbana-Champaign (1977-88), and the University of Illinois at Chicago (1988-2003). He received his B.S. in civil engineering from Northwestern University in 1961, and his Ph.D. in regional science from the University of Pennsylvania in 1965. He also received his M.C.P. from Penn.

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