Modeling Urban Commercial Vehicle Movements Using Tour-based Microsimulation

A seminar by

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Abstract
A system for modelling commercial movements has been developed for Calgary in Canada, implemented as part of the transportation system modelling used by the City of Calgary in policy analysis. This effort included an extensive set of surveys collecting information on the roughly 37,000 tours and 185,000 trips (within these tours) made in the Calgary Region, with its population of just over 1 million, by commercial vehicles on a typical weekday in 2001. The resulting system of models includes an agent-based microsimulation framework, using a tour-based approach, based on what has been learned from the data. It accounts for truck routes, responds to truck restrictions and related policy and provides insight into various aspects of commercial vehicle movements. All types of commercial vehicles are represented, including light vehicles, heavier single unit and multi-unit configurations. All sectors of the economy are incorporated into the representation, including retail, industrial, service and wholesaling. This modelling system has been integrated with an aggregate equilibrium model of household-related travel covering the Calgary Region, with the microsimulation processes being done in external Java applications.

Speaker Biography
Dr JD (‘Doug’) Hunt is a Professor of Transportation Engineering and Planning in the Department of Civil Engineering at the University of Calgary in Canada. He is also a Professor in the Institute for Advanced Policy Research at the University of Calgary. He has been at the University of Calgary since 1991. Before that, Doug was a professor at the University of Alberta in Edmonton and he has also worked in industry in Canada, the United States and the United Kingdom. Doug has a BSc from the University of Alberta and a PhD from Cambridge University. At the University of Calgary, Doug teaches courses in transportation and statistical analysis. His research interests concern the human element in transportation and spatial economic systems – focusing particularly on the mathematical modelling and computer-based simulation of these systems. A major thrust of his work is the practical application of advanced modelling techniques. Doug enjoys an international reputation, having helped develop the MEPLAN modelling system and worked on transport and/or transport and land use models of London and South-East England, Naples, Barcelona, Madrid, Dublin, San Diego, San Francisco, Phoenix, Ohio, Sweden, Alsace, Central Chile, Edmonton and Calgary – and Oregon – to name just some. And he also spent 4 years as the special advisor to British Rail concerning the Channel Tunnel Rail Link patronage forecasting.