



Séminaire du CIRRELT Seminar

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## DISCRETE CHOICE EXPERIMENTS FOR THE ESTIMATION OF TRANSIT CROWDING MULTIPLIERS

**Abstract:** In public transportation, crowding refers to the subjective perception of the physical phenomenon represented by a high density of passengers in vehicles and at stations, stops and accessways. In-vehicle crowding is, after price/fare and travel time, one of the most important variables explaining mode choice. Transit becomes less attractive under high crowding levels due to associated feelings of physical discomfort, psychological burden, and perceived risk and insecurity. Using engineering measures of crowding in the form of objective passenger density, econometric choice models of travelers' decision-making are used to derive estimates of crowding multipliers, which represent the effect of passenger density on travel time perceptions. From a data perspective, stated preference surveys are usually used to collect information about in-vehicle crowding preferences. In this talk, the use of discrete choice experiments with visual representations of crowding for the estimation of crowding multipliers will be reviewed. Two case studies for two different subway systems will be presented, with data collected in Santiago (Chile) and New York City. In the case of Santiago, subway occupancy levels were shown with three alternative, equivalent forms of representation (text, 2D diagram, and actual picture); however, no relevant influences of the different forms of representation on crowding perception were found. Preliminary results for New York City provide higher multipliers than those reported internationally.

**Note:** Ricardo A. Daziano received a Ph.D. in economics from Laval University in 2010. He joined the CEE faculty in January 2011 adding a new dimension to the area of sustainable systems engineering in both teaching and research. His research focuses on engineering decision making, specifically on theoretical and applied econometrics of consumer behavior and discrete choice models applied to technological innovation in transportation and energy. His specific empirical research interests include the analysis of air travel demand, the study of pro-environmental preferences toward low-emission vehicles, modeling the adoption of sustainable travel behavior, estimating willingness-to-pay for renewable energy, and forecasting consumers' response to environmentally-friendly energy sources.

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LUNDI / MONDAY

2 octobre 2017 /  
October 2nd, 2017  
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Salle / Room 5441  
Pavillon André-Aisenstadt  
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