Preface Special Issue on Latin-American Transport Research

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Latin America is a living laboratory for transportation innovation. Innovative solutions, such as the pioneering implementations of Bus Rapid Transit systems in Curitiba (Brazil) and Bogotá (Colombia), are examples of the work done in Latin America. A growing community of practitioners and researchers in transportation is creating research centers of excellence of international stature. An important component of this process is the Pan-American Conference on Traffic and Transportation Engineering (PANAM), which, for three decades, has been the gathering place for academics from Latin-America, Europe, United States, and Canada interested in the exchange of ideas with Latin-American professionals.

This Special Issue includes a sample of the work conducted by Latin American transportation researchers, in several cases in collaborations with scholars coming from other countries. Due to the breadth of the topics discussed, the Editors decided to organize the papers according to the level of aggregation of the analysis, starting the volume with papers dealing with the individual's behavior and ending with those that focus on behavior of the entire markets.

In bringing these papers to the attention of NETS readers, the Editors hope to raise the level of awareness about the research done throughout Latin-America and Spain, and foster collaboration among researchers from all over the world.

The Special Issue is comprised of eight works. In the first paper, entitled “On the Treatment of Repeated Observations in Panel Data: Efficiency of Mixed Logit Parameter Estimates,” María F. Yáñez, Elisabetta Cherchi, Benjamin G. Heydecker

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and Juan de Dios Ortúzar analyze the use of panel data to estimate travel demand models. The paper defines the optimal length of panel surveys; discusses the issue of how to model panel data in the presence of repeated observations; and studies whether, and to what extent, this affects the efficiency of the estimated parameters, and their capability to replicate the observed situation.

The second paper, “Econometric Effects of Utility Order-Preserving Transformations in Discrete Choice Models”, by Francisco Amador and Elisabetta Cherchi, analyzes, in the random utility modeling context, changes in choice probabilities by increasing linear transformation of the systematic utility in both cases: under the deterministic perspective of a single individual choosing several times and under the perspective of random parameters.

Louis de Grange, Angel Ibeas and Felipe Gonzalez in their work “A Hierarchical Gravity Model with Spatial Correlation: Mathematical Formulation and Parameter Estimation,” present an innovative hierarchical trip distribution gravity model that can accommodate various spatial correlation structures, which is solved using an equivalent optimization problem, with parameters estimated using a sequential maximum likelihood procedure.

The fourth paper, written by Ricardo A. Gatica and Pablo A. Miranda, develops a network based model for routing and scheduling of a heterogeneous tramp fleet. The objective of the problem is to serve a known set of single trip cargo contracts, observing time window constraints at both origin and destination of cargoes, while minimizing total operating cost. The paper’s title is “A Time Based Discretization Approach for Ship Routing and Scheduling with Variable Speed”.

“New Models for Commercial Territory Design”, the paper by María Angélica Salazar-Aguilar, Roger Z. Ríos-Mercado and Mauricio Cabrera-Ríos proposes a series of novel formulations for a commercial territory design problem motivated by a real-world case, which consists on determining a partition of a set of units located in a territory that meets multiple criteria such as compactness, connectivity, and balance in terms of customers and product demand.

In the sixth paper, Jose Holguín-Veras, Ning Xu, Gerard de Jong, and Hedi Maurer ascertain the modality of interaction between shippers and carriers that is expected to arise in competitive markets. Three different interaction modalities (i.e., independent, sequential, and two-way) are tested in an experimental economic setting. The paper is entitled “An Experimental Economics Investigation of Shipper-carrier Interactions on the Choice of Mode and Shipment Size in Freight Transport.”

In the paper entitled “Lumpy Investment in Regulated Natural Gas Pipelines: An Application of the Theory of the Second Best” Dr. Dagobert L. Brito and Dr. Juan Rosellón develop a formulation to time the investment of lumpy infrastructure. Their formulation enable them to bypass the use of other more complex approaches, e.g., dynamic programming.

The last paper “Maritime Networks, Services Structure and Maritime Trade” by Laura Márquez-Ramos, Inmaculada Martínez-Zarzoso, Eva Pérez-García and Gordon Wilmsmeier, focuses on the effect of maritime networks, services structure and port infrastructure variables on maritime freight rates. It analyzes the relationship between freight rates and trade by applying a gravity model for sectoral imports. The study help explains the variability of freight rates and quantifies the impact of freight rates on maritime trade.