

Felix Caicedo

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Speaker Qualifications

Felix Caicedo was born in Colombia. He currently lives and works in Chile as Professor of Transport and Director of Research at the School of Transport Engineering of Pontificia Universidad Católica de Valparaíso. He lived in Spain and won the Abertis Prize. Dr. Caicedo is a young researcher, author of three scientific articles, one book and several conference papers. He currently is the coordinator of an IT project developed for the Chilean Ministry of Public Works.

Publications (5 years):

- Caicedo, F. 2010. Real-time parking information management to reduce search time, vehicle displacement and emissions. Transportation Research Part D: Transport and Environment article in press. 15 (4), 228-234 (in press)
- Caicedo, F. 2009. The use of space availability information in "PARC" systems to reduce search times in parking facilities. Transportation Research Part C: Emerging Technologies. Volume 17, Issue 1, February 2009, Pages 56-68
- Caicedo, F.; Robusté, F.; Lopez-Pita, A. 2006 Parking Management and Modeling of Car Park Patron Behavior in Underground Facilities. Transportation Research Record No. 1956, 60-67. Transportation Research Board of the National Academies, Washington DC. ISSN 0361-1891
- Caicedo, F. 2005. Gestión de aparcamientos subterráneos (Underground Parking Management). Edicions UPC. Barcelona, España. Ed.1. ISBN: 84-8301-808-X
- Caicedo, F y C. Blázquez. 2008. Data integration and analysis for implementing intelligent parking systems. Proceedings of Applications of Advanced Technologies in Transportation (AATT-08), Athens, Greece.
- Fuentes, M., C. Heim y F. Caicedo. 2008. Bike&ride system in Valparaíso: Trips made from outside cities to the faculty of engineering and the most convenient bicycle parking devices. Transportation Research Board 87th Annual Meeting Proceedings.

Benefits of Real Time Parking Information Management

Time spent searching for a free parking space is related to the distance covered by the vehicle and in turn to the amount of gas and particle emissions produced by the vehicle.

This presentation explores a demand assignment algorithm with time and consistency restrictions in IT applications. The objective is to analyse real parking availability information and evaluate different possibilities of alterations, until a data set is found that minimizes a multi-objective function in which the total distance covered in reaching a parking space, the total time spent searching, and finally the total walking distance between the parking space and the destination, are all considered. In order to prepare real-time parking information of availability calculations must be carried out under time restrictions. The results from a theoretical exercise using real data indicate that displacements can be reduced and translated into lower emissions of toxic greenhouse gases.