



## Dr. Luis Willumsen

### Chief Technical Principal - Multi-Modal Transport Planning & Modelling

#### Qualifications

PhD, Transport University of Leeds 1980  
MSc, Transport, Imperial College London 1972  
Ingeniero Civil, Industrias mención Mecánica,  
Pontificia Universidad Católica de Chile 1967

#### Experience:

Dr. Willumsen has over 35 years of experience as a consultant, transport planner and researcher with a distinguished academic career. He is an internationally recognised authority in Transport and Traffic Modelling. Based in Britain since 1975, he was a researcher and lecturer at Leeds University and then at University College London. Luis was a Director of Steer Davies Gleave having joined it full-time in 1989 with a special responsibility for technical development; he left that company to set up this consultancy in December 2009. He is co-author of “*Modelling Transport*”, a book published by Wiley and now in its fourth edition. He has written over 50 technical papers and book chapters.

His experience covers large transport modelling assignments, the direction of numerous traffic and revenue projection projects either for the private sector, financial institutions or government sponsors, different types of rapid transit services including the operational design of Transmilenio in Bogota; he has also experience in Congestion Charging and Area Traffic Control systems.

Luis has delivered projects in some 30 countries.

#### Employment Record

Director Independent Consultant London, United Kingdom December 2009 – Present

Visiting Professor Department of Civil, Environmental Engineering, University College London March 2010 – Present

Director Steer Davies Gleave Transport Consultancy. Luis was responsible for Technical and International Development September 1989 – November 2009

Lecturer University College London, Centre for Transport Studies January 1980 – September 1989

Lecturer University of Leeds, Institute for Transport Studies December 1974 – December 1979

Lecturer in Transport at Universidad Católica de Chile, Escuela de Ingeniería January 1970 – October 1974

#### Sample of Projects/Studies

**Dublin Transport Models:** Directed the original set of transport models developed for Dublin in the nineties and later on supported several enhancements to that model system. More recently,

he directed a comprehensive review of the existing transport model for Dublin and produced a set of recommendations for its improvement in order to tackle key policy and investment issues in the region. These recommendations were accepted and he then led the re-calibration of the AM peak and off-peak models in 2009.

**Abu Dhabi Master Plan:** Luis directed the development of a major multi-modal transport model for the Abu Dhabi Emirate and its use in developing a Masterplan to 2030. The model has a particular focus on mode and destination choice as the Emirate will experience significant growth in population and trips to 2030.

**Mass Transit for Makkah:** Luis directed the development of a major multi-modal transport model for the city of Makkah to support the design of a Mass Transit System to serve the normal demand and also the exceptional conditions during Hajj and Ramadan. Makkah is experiencing very significant growth in both population and religious visitors but has very little public transport provision. This requires a robust demand forecasting model able to treat future mode changes and the accommodation of very significant peaks, unique in the world.

**Other Mass Rapid Transit:** He has experience directing studies for Rail, Bus Rapid Transit and Metro schemes in both developed and emerging countries. He directed the BRT study designing the TransMilenio system in Bogota, the most successful project of this nature. He offers special skills in balancing the design and demand estimation requirements with local conditions, the role of incumbent operators and the political process leading to implementation. He has directed several studies dealing with rail airport access issues in the UK, France, Spain, Chile, India, and the Middle East. He has also directed major Rail Demand Studies in France, the UK, Portugal, Mexico and Chile.

**Intelligent Transport Systems:** As a researcher Luis contributed to computer-assisted techniques for the design of roundabouts, bus priority schemes and the application of video image processing to traffic data collection and incident detection. He was involved in the application of Artificial Intelligence techniques to transport and in a number of European Community advanced research projects. He has a sound understanding of Urban Traffic Control Schemes, including the adaptation of programs such as TRANSYT and SCOOT to local conditions.

**Modeling Advice to Transport for London:** Luis has been acting as a specialist advisor on modelling issues to Transport for London, peer reviewing Regional Models for London and now supporting the future development of the detailed ONE model.

