



civil engineering seminar series

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Seminaris d'Investigació CENIT RDi

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Introducing metrobus: Design and operation of efficient bus networks in Barcelona

Summary: The seminar will present some research that is being implemented in Barcelona dealing with Bus Rapid Transit services that operate as a network. After a brief introduction to urban transportation microeconomics and bus operations, the bus network design problem is presented and solved with a mixed network that has feeder services and a grid. Efficient operation relies on several key issues such as bus lanes (fixed and with intermittent priority), traffic signal priority, tandem stops, etc. The guidelines obtained from the models are implemented in the real city with some heuristics. The conceptual framework is finally linked to the one developed by Ildefons Cerdà, the designer of the broadening of Barcelona in 1859 that invented the City Planning as a social science.

Bio: Francesc Robusté is Professor of Transportation and Director of CENIT, the Center for Innovation in Transport of the Technical University of Catalonia at Barcelona. President of the Spanish Transportation Engineering Society and director of the **abertis** endowed chair. Author of 250 publications and advisor of 13 PhD theses and 70 MSc theses (has been awarded several prizes for research papers and theses direction). He is a civil engineer and a graduate of UC Berkeley (*Ph.D.* in Engineering 1988, *Master of Science* in Operations Research 1987, and *Master of Engineering* in Transportation 1986).

