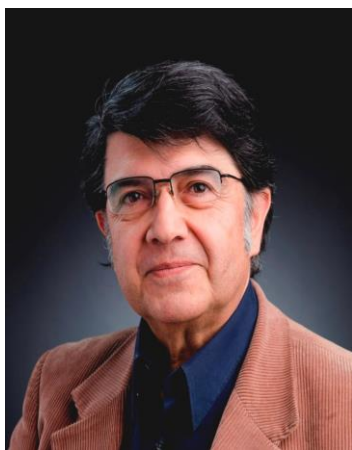


Parametric description of cities and the strategic design of transit systems

In his research, Prof. Sergio Jara-Diaz proposes a parametric description of cities for the normative analysis of transit systems with an emphasis on the role of centers and subcenters and the associated road network. This is achieved after a synthesis of different ways to describe a city's urban form that can be found in the literature, assessed with the help of topological indicators and synthetic information regarding real cities. The parameters characterize the underlying network, the zones involved and the spatial pattern of transport demand, such that the design of public transport systems can be studied normatively for different city shapes.

Using this parametric description an optimal spatial arrangement of transit lines is found out of four basic strategic competing options: direct, exclusive, hub-and-spoke and feeder-trunk. The relation between the characteristics of both the urban setting (mostly monocentric, polycentric or dispersed) and the users (perceived transfer penalty, patronage) with the line structure that shows the best response is identified.

Finally, transit lines structures obtained with selected heuristics are compared against optimal strategic designs. It is shown that the ample space where direct-type lines dominate admit improvements with the help of some heuristics.



Prof. Sergio Jara-Diaz

Sergio Jara-Diaz is Professor of Transport Economics at Universidad de Chile. Ph.D. and M.Sc. from MIT; M.Sc. in Urban Planning from U. Catolica de Chile and Civil Engineer from U. de Chile. He is the founding member of the Transport Division at U. de Chile and author of Transport Economic Theory (Elsevier, 2007) and more than 100 articles on users' behavior, value and use of time, industry structure on transport networks, public

transport, optimal pricing and transport project appraisal. He runs a weekly radio show since 1991 and resides in Santiago, Chile, with his only wife with whom he shares two sons and four grandchildren..

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CTR Seminar Series

EVENT INFO

Tuesday

11.22.16

3:30 PM – 4:30 PM
FREE FOOD & DRINKS!

SPEAKER

Dr. Sergio Jara-Diaz
Ph.D

Professor, Transport
Economics, Universidad
de Chile

LOCATION

CTR Conference Room
4.518

[RSVP](#)

utexasite@gmail.com

