

Developing a simulation Model for Urban Transport

A case study of Karachi, Pakistan

by

Muhammad Ijaz ANWAR
PhD Student(TER)
Université Lumière Lyon 2

Supervised by

Professor Charles RAUX
Université Lumière Lyon 2

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Plan of Study

- ▶ Background
- ▶ Literature Review
- ▶ Objective of the Study
- ▶ The Model & Methodology
- ▶ Data
- ▶ Work in Progress

Background



Background(continued)



Background Traffic Situation

1987

Population	7.4 Million
Total Number of trips	10.52 Million
<i>Share of Public Transport</i>	51%

2005

Population	12.09 Million
Total Number of trips	24.22 Million
<i>Share of Public Transport</i>	60%

Source: Karachi Mass Transit Study (1990) & Persons Trip Study (2005)

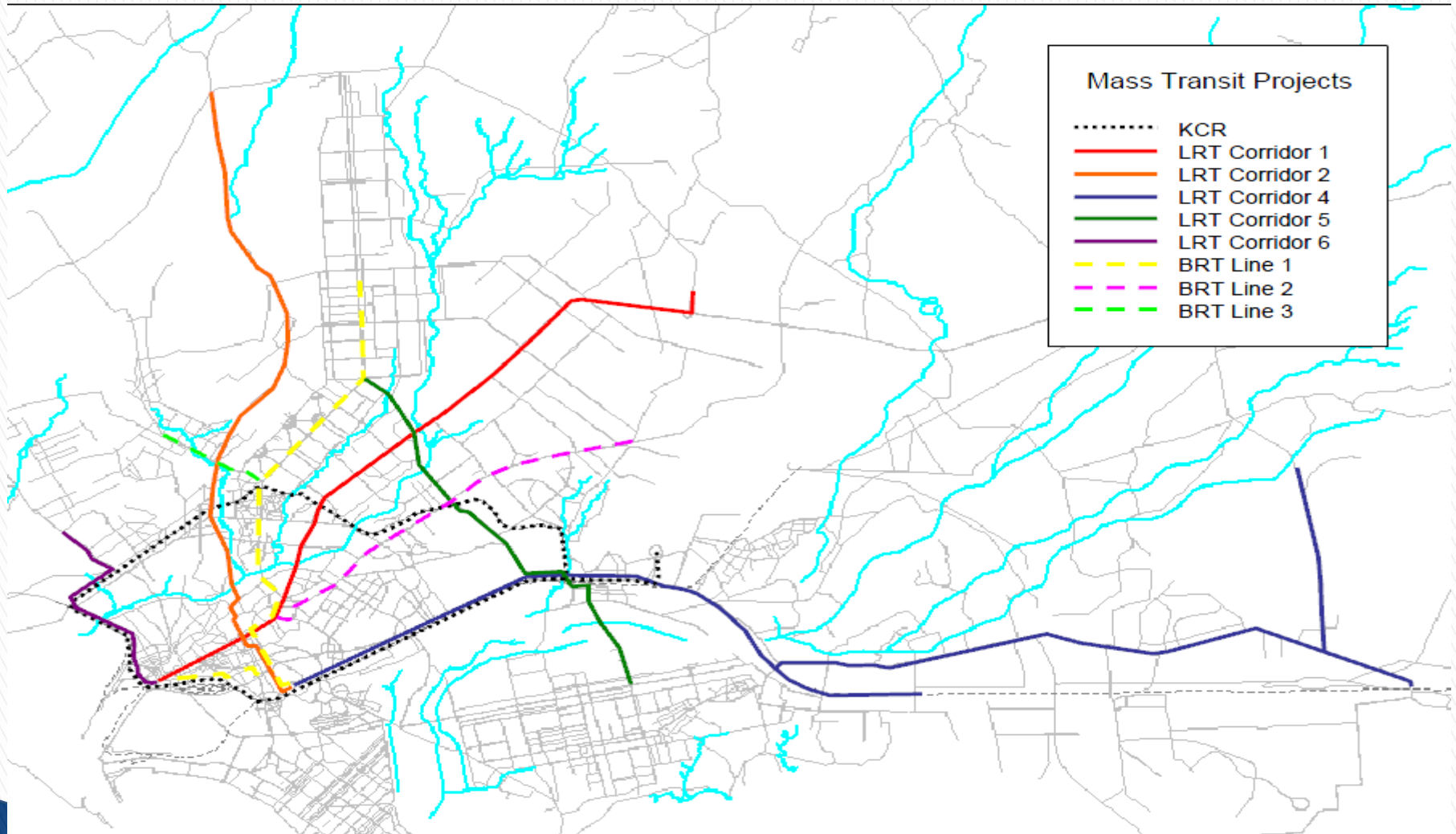
Literature Review

- ▶ Ahmad(1995) ,the study analyses demand for different travel modes in Karachi using Maximum Likelihood Multinomial Logit technique and concludes that socio-economic factors along with transport related variables are significant.
- ▶ Memon et al(2004) used Multinomial Logit Model to calibrate utility functions for alternativ modes to estimate the modal share of proposed magnetic train and concludes that Public Transport will be 79% and new mode will form 40% in Public Transport.

Objective of the Study

- ▶ The objective of the study is to develop a strategic model to determine the need of public finance to execute various government plans to ameliorate public transport in Karachi.
- ▶ The simulation will be up to 2020.
- ▶ The Study intends to suggest the better option in line with socio-economic context of Karachi.

Various Proposals under Consideration



Data Collection

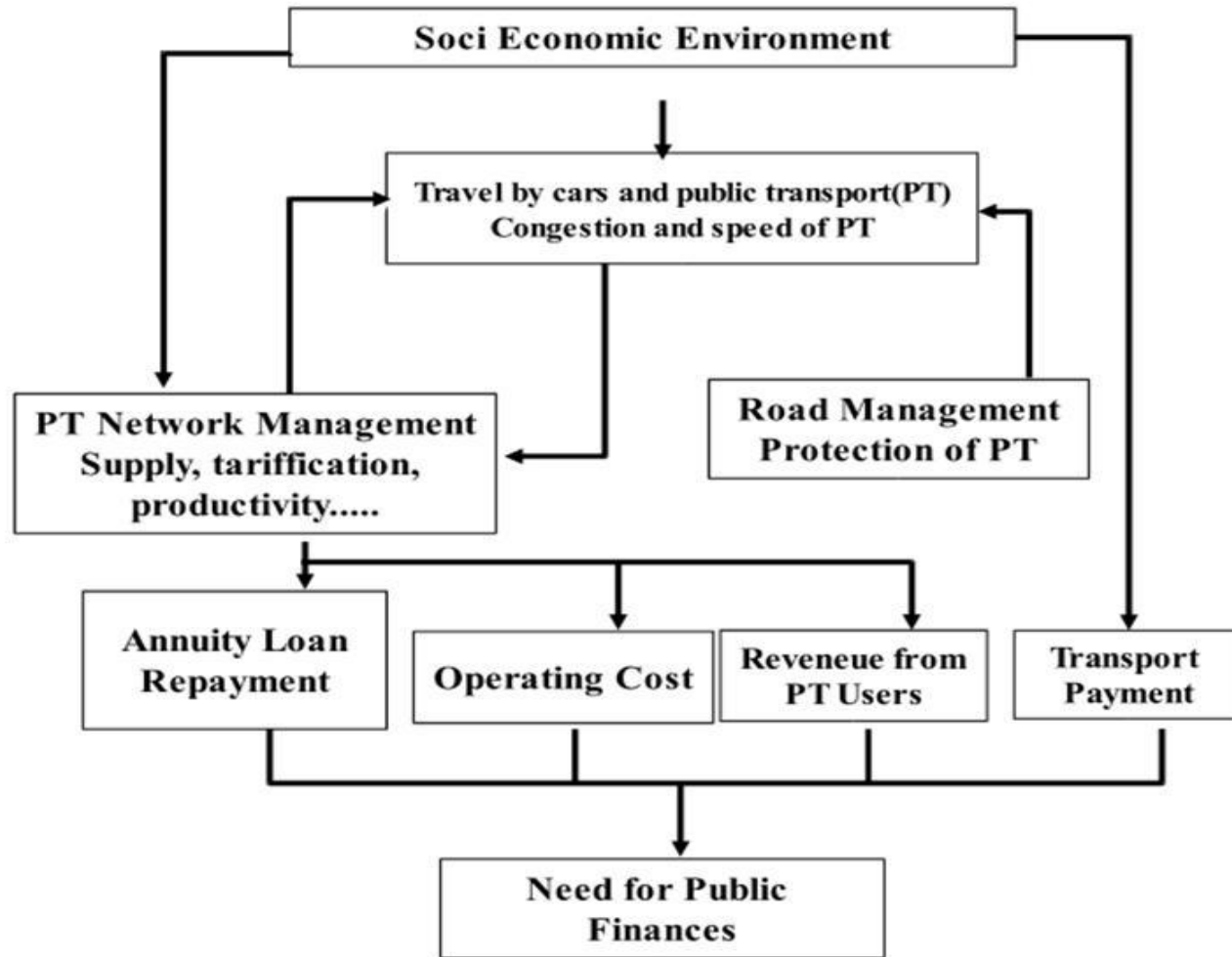
- ▶ The data related to population, income, motorization, trips and transport expenditures has been collected.

The Model & Methodology

- ▶ The study relies upon “QUINQUIN(Qualité Introduite / Quantité Insolvable)” model’ initially developed in 1983 in LET. Bonnafous (1985), Tabourin (1989) also used this model to simulate the financing of urban transport for Lyon while Bouf (1989) used the same for Paris. Raux et al(1992) used the model to simulate impacts of urban tool on functioning of Public transport.
- ▶ Bonnafous et al(1987) suggested further research for application of this model for developing countries after early work on Abidjan(Cotê d’ivoire)

The Model & Methodology

'QUINQUIN(Qulaité Introduite / Quantité Insolvable)



THANK YOU