

## Transit Network Design Problem Issues and Challenges

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**Abstract :** Public Transit (P.T) is very important means to reduce traffic congestion, to improve urban environmental conditions and consequently affects people social lives. Planning, designing and management of P.T are the key issues for offering a competitive mode that can compete with the private transportation. These transportation planning, designing and management issues are addressed in the Transit Network Design Problem (TNDP). It deals with a complete hierarchy of decision making process. It includes strategic, tactical and operational decisions. The main body of TNDP is two stages, namely; route design stage and frequency setting. The TNDP is extensively studied in the last five decades; however the research gate is still widely open due to its many practical and modeling challenges. In this paper, a comprehensive background is given to illustrate the issues and challenges related to the TNDP to help in directing the incoming researches towards the untouched areas of the problem.

**Keywords :** frequency setting, network design, transit planning, urban planning

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