

THE URBAN ENVIRONMENTAL IMPACTS OF PUBLIC TRANSPORTATION IN MEXICO CITY: A THEORETICAL FRAMEWORK AND CONCEPTUAL MODEL FOR UNDERSTANDING THE POTENTIAL BENEFITS OF BRT'S IN THE LATIN AMERICAN MEGACITY

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Transportation is at the heart of a city's level of economic competitiveness, denizen wellbeing, and environmental sustainability. In Mexico City, arguably the largest urban center in Latin America, the majority of all passenger trips are served by surface public transportation, currently in the form of minibuses that are known to have environmentally undesirable characteristics. In this paper, a theoretical framework for the environmental impacts of urban transportation systems is applied to the case of Mexico City and its current public transport infrastructure. A simple yet elucidatory conceptual model of the environmental benefits that would result from converting this infrastructure to one which supports Bus Rapid Transit (BRT) systems is then outlined. Both the theoretical framework and conceptual model are built upon three levels of analysis: air pollution, energy use, and land use; with special emphasis placed on the implications of each for climate change. The contamination of air, the consumption of energy, and the urbanization of land in a city are all directly linked to how the mobility of its residents is planned and managed, and all have strong linkages to processes at local and global scales that exacerbate climate change. The results both from the reflections upon the theoretical framework and the analysis done through the conceptual model indicate that implementing BRT systems in Mexico City would be highly desirable for all three types of environmental impacts considered in the study.