

## Travel Time Estimation of Public Transport Networks Based on Commercial Incidence Areas in Quito Historic Center

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**Abstract :** Public transportation buses usually vary the speed depending on the places with the number of passengers. They require having efficient travel planning, a plan that will help them choose the fast route. Initially, an estimation tool is necessary to determine the travel time of each route, clearly establishing the possibilities. In this work, we give a practical solution that makes use of a concept that defines as areas of commercial incidence. These areas are based on the hypothesis that in the commercial places there is a greater flow of people and therefore the buses remain more time in the stops. The areas have one or more segments of routes, which have an incidence factor that allows to estimate the times. In addition, initial results are presented that verify the hypotheses and that promise adequately the travel times. In a future work, we take this approach to make an efficient travel planning system.

**Keywords :** commercial incidence, planning, public transport, speed travel, travel time

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