REDUCING TRAFFIC CONGESTION BY URBAN PLANNING IMPROVEMENT

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INTRODUCTION

Carbon dioxide (CO_2) emitted by human activities is one of the most important issues of our era, and the most responsible for Earth's climate changes. Governments, industries and all Earth's inhabitants are making great efforts to reduce CO_2 emissions and vehicle traffic congestion is directly related to this problem.

Greenhouse gas emissions are not the only problem caused by vehicle traffic. The time spent in traffic congestion affects the health of drivers and passengers, causing stress and frustration, and is considered a waste of potentially productive time. It can result in late arrival for employment, meetings, and education, secondarily causing more waste of time because of the need for more time allocation to avoid these delays. Vehicles are subjected to more breakdowns and maintenance due to the intense use of their components during frequent acceleration and braking in congestion.

Problems related to vehicle traffic congestion seems to constantly increase despite the efforts of urban planning stakeholders. Smart cities are being designed to avoid traffic jams by properly distributing their infrastructure, in coordination with the residential population density, providing a better experience for its residents. Unfortunately, inhabitants of older cities still have to live with these problems.

Consequently, the information discovered by correlating vehicle congestions and city venues and facilities can in urban planners to project commercial spots distributions. Avoiding traffic jams should improve the quality of urban environments, decrease CO_2 emissions and enhance community health. The city of Chicago was chosen to test the hypothesis of the capacity to generate useful information to improve its urban planning.