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MODELING THE IMPACT OF ROAD TRAFFIC ON AIR POLLUTION IN URBAN ENVIRONMENT CASE STUDY: A NEW OVERPASS IN THE CITY OF CRAIOVA

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Abstract

Since the last century, as a consequence of advanced industrialization, the remarkable growth of population, and its mobility have turned the field of transport into the main factor responsible for air pollution attributable to mobile sources of pollution. The continuous accumulation of various pollutants in the environment determines severe consequences on humans, animals and plants, buildings, works of art and landscape. Road transport represents, through its characteristic features – high flexibility and accessibility – the mode of transport largely involved in meeting the needs of mobility, both for people and goods, though it is answerable for polluting the environment to a significant degree. In the short term, in order to ensure sustainable development in transport, traffic management measures are required, which would reduce air pollution generated by cars. In this paper the authors have evaluated the correlation between the volume of emissions pollution and average speed, where the variations of average speed are generated by infrastructure characteristics in urban areas. It was found that, by introducing an overpass in the centre of the city of Craiova, a reduction is obtained in emissions of CO, C_6H_6, NO_x and PM_{10}.

Key words: air pollution, emission factors, road traffic, transport modeling

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