CONTRIBUTION STUDY OF TRANSPORTATION ACTIVITIES TOWARD CARBON EMISSION IN EASTERN SURABAYA

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Abstract

Transportation is one of the activities that generate carbon emissions. Fuel combustion process in these activities can generate carbon emissions, especially carbon dioxide. Carbon emissions can cause global warming due to greenhouse gases.

This research was conducted by surveying the calculation of the number of vehicles using the method of traffic counting. The survey was conducted at peak hours and peak days on several roads in the eastern part of Surabaya. The data of survey results were calculated with secondary data in order to get the average number of vehicles per street. The number of vehicle average data that obtained were analyzed by two calculations, i.e. converting the unit into the vehicle passenger car unit (pcu) and without conversion. Total carbon emissions average was calculated using emission factors. The number of average carbon emissions were used to calculate the estimations of carbon emissions on each road in the study area and the mapping was analyzed by program Surfer 8.

The study showed the CO2 emissions were 10,040,239,06 ton/year and 9,699,758,98 ton/year for pcu converting and without converting results, respectively in eastern part of Surabaya.

Key word: carbon emission, eastern part of Surabaya, surfer 8, transportation.