

## **ABSTRACT**

*Environmental problems are a topic that is often in the world spotlight. The transportation sector is one of the many factors that affect the level of carbon emissions in the atmosphere. Over time, the increasing level of vehicle mobility has caused various problems faced by several regions. In addition, increasing carbon emissions can also affect the degradation of the surrounding environment. This study attempts to analyze the influence of factors that affect the level of carbon emissions from vehicle mobility, fossil fuel consumption, economic growth, green area and the Covid-19 phenomenon. The sample used is panel data from 35 districts and cities in Central Java Province in the period 2020 to 2022.*

*The results of the analysis show that the increase in vehicle mobility is positively proportional to the trend of carbon emissions which also shows negative externalities for individuals around it. This increase is also proven by the existence of a unidirectional relationship from the level of fossil fuel consumption. In the economic growth sector, it shows that EKC is proven. In the early stages, economic growth will increase CO<sub>2</sub> emissions. However, when it reaches a certain point, it will begin to reduce the level of emissions produced. Green Land Area shows a positive relationship that is suspected of the use of forest land for production purposes or other purposes that cause CO<sub>2</sub> emissions. The Covid-19 phenomenon has an inverse relationship which explains that when a pandemic occurs, the level of emissions decreases when there are several applications used for public health purposes.*

***Keywords: Vehicle Mobility, Carbon Emissions, Economic Growth, Externalities,  
Environmental Kuznets Curve***

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