



A review on influence of age of vehicle and vehicle traffic on air pollution dispersion

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Abstract

Vehicular pollution is considered as a bigger issue especially in urban cities. Vehicular emissions contribute substantially to the air pollution with increase in pollutant levels of various organic compounds. Traffic characteristics like speed, acceleration, traffic volume and congestion patterns of vehicles have a major impact and influence on the rate of emissions. As vehicular volume and congestion increases, vehicular emission levels also increases and exposure to the pollutants causes many chronic health impacts for road users and pedestrians. This paper reviews various research articles on traffic characteristics and its high influence on the pollutant emission levels.

Introduction

An increasing number of air pollution related issues, attention has been given for maintaining the surroundings clean and to avoid air pollutants to minimize air pollution. Air pollution problems are the top hit list environmental problems persisting. The review focusses on publications about air pollution due to vehicles in international, peer reviewed journals environmental reports by organizational organization. Engines run on petrol and diesel cause for 50 % of global CO, hydrocarbon, and NOx emissions from fossil fuel [1]. Countries with a rapid growing economy are facing an environmental threat due to vehicular emissions. The paper gives an insight to various factors influencing air pollution dispersion. People of metropolitan, passengers who want to move from one place to another, most goods transport services depend on road transport (see Fig. 1).

Section snippets

Urban transportation

It is observed from the data of last 3 decades that the number of vehicles is doubled once in ten years especially in Asian countries while there is 2–5 percent annual growth in other developing and developed countries. This could be estimated that developing countries like our nation will consume more vehicles in the forth coming years [2]. It is

considered that the development of automobile industry has become a cause for major issues like economic inequality, health and welfare, environmental ...

Vehicular population

In the Asian countries, there is a tremendous production of light vehicles and heavy vehicles in recent years mainly in the metropolitan areas [9]. Exhaust emission from automobiles like passengers' travel or moving goods has become main reason for contaminated oxygen supply. [10]. On an average, all vehicle categories as well as the total vehicular population appear to follow an exponential growth pattern [11]. It is reported that more emitting of pollutants are available in most of the...

Factors affecting emission rates

(a) travel related factors

Driving strategies also cause for emissions of air pollutants. It adds resting, driving, race driving and stoppage. Emission of air pollutants depend on driving strategies and the engine of the vehicles. **Driving slower, vehicles congestion, race driving and stoppage too become the reason for the higher rate of emissions. But driving slower as well as less traffic flow leads to reduce air pollutants.**

(b) speed of the vehicle and emissions

Effects of vehicle emissions from ...

Conclusion

Emanating toxins from the vehicles at the street can be diminished by certain activities, for example, using quality fuel and setting some restrictions for newly designed cars. Speed control traffic lights help to avoid race driving and toxin emanations. The expanding levels of air contaminations are answerable for the rate of new cases of chronic illnesses like respiratory infections, malignancy, and heart illnesses [30]. The effect of air pollutant exceeds the local area limit. As vehicular...

CRedit authorship contribution statement

G. Sharmilaa: Conceptualization. **T. Ilango:** Validation....

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper....

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