

The solution to Hong Kong's serious roadside air pollution problem is easy

Roadside air pollution in Hong Kong is a serious environmental issue affecting human health. How serious? You can tell how bad the air is when you walk alongside a busy road in Hong Kong. The levels of air pollutants measured by roadside monitoring stations have consistently exceeded the Air Quality Objectives (AQO) adopted by the Environmental Protection Department (EPD).

In the EPD's "Air Quality in Hong Kong 2015 Statistical Summary," the concentration of nitrogen dioxide recorded at all three roadside monitoring stations – Central, Causeway Bay and Mong Kok exceeds both the hourly ($200\mu\text{g}/\text{m}^3$) and annual limit ($40\mu\text{g}/\text{m}^3$).

Although EPD has just reported that the air quality has improved significantly in 2016, with the number of bad air days falling by 44 percent, the nitrogen dioxide level at all roadside monitoring stations still failed to comply with the WHO standard. The culprit behind this street-level pollution is none other than vehicular emissions.

7 million premature deaths

Air pollution has become the world's top environmental health risk. The World Health Organization linked air pollution to seven million premature deaths in 2012. Air pollution is associated with various health problems – such as nose and throat irritation, shortness of breath, asthma, heart disease, and lung cancer. People suffering from asthma or chronic respiratory diseases are more susceptible to air pollutants.

Aside from respiratory diseases, a recent study revealed that air pollutants have been discovered in human brain, which may contribute to Alzheimer's disease. A study by the Department of Health showed that hospital admissions and premature deaths are positively correlated to high pollution incidents. According to the Hedley Environmental Index, air pollution in Hong Kong led to 1,686 premature deaths, 2.6 million doctor visits and a total economic cost of HK\$20.9 billion in 2016.

Over the past decade, the Hong Kong government has implemented several measures to tackle roadside emission – such as phasing out Pre-Euro IV diesel commercial vehicles, strengthening emission control for petrol

& LPG vehicles, tax incentives for cleaner private vehicles and promoting better vehicle maintenance and eco-driving habits.

However these measures do not address the root of the problem – the growth of vehicle numbers. The government's measures are offset by growing vehicle numbers. According to data from the Transport Department, the total licensed vehicles increased by about 39 per cent from 524,000 in 2003 to 728,000 in 2015, with an annual growth rate of about 3.4 per cent in recent years.

In 2014, the Transport Advisory Committee identified private cars as the largest contributor to the traffic mix, accounting for 70 per cent of the total number of vehicles in Hong Kong. Yet, they are also the least efficient passenger carriers. Private cars take up 40-70 per cent of the total traffic flow of the major roads, but only carry 16 per cent of passengers.

Is clean air possible? The answer is yes, Hong Kong has a well-established public transport network to meet passenger demand. We can all contribute to reducing air pollution by not driving our cars and choosing public transport. In addition, the government should strengthen the public transportation network through transport-oriented development to maximise access to public transports in Hong Kong.

Let's adopt a cleaner lifestyle and don't drive. Let's join hands to improve the worsening air quality.

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