Parked cars 'can cut down pollution for pedestrians'

'' EXPOSURE TO PAVEMENT POLLUTION CAN BE CUT BY ALMOST HALF ''

THEY may spoil street vistas, but parked cars can be good for your health. Vehicles parked parallel to the pavement deflect exhaust fumes away from the footpath and reduce the exposure of pedestrians to pollution, by almost 50% in some cases.

A team of environmental engineers from Trinity College Dublin used a computer generated street to measure the effectiveness of different parking layouts in shielding pedestrians from car-exhaust pollutants such as carbon dioxide.

They discovered parked cars can deflect polluted air from passing vehicles onto buildings, leaving a clean pocket of fresh, unpolluted air which can saves pedestrians from at least 35% of emissions.

John Gallagher, a PhD student who led the research, said: "Efforts should be made to reduce exposure to air pollutants further to encourage more commuters to walk. There has been a focus in recent years on the use of boundary walls or avenue trees and bushes to act as barriers between street pollution and pedestrians, but we are the first to examine the impact of parked cars."

The simulated streets were typical of a two-lane system in Dublin city centre, measuring 20 to 25 metres in width, with four- or five-storey buildings on either side. The researchers accounted for varying conditions, including the amount of fresh air blowing over the buildings, the speed and direction of the wind, and the number of cars parked on the street.

The study, published in the Atmospheric Environment Journal, showed that when no cars were parked along the footpath and the wind blew across the street from right to left, road pollutants were blown to the opposite footpath and up the face of the buildings, exposing pedestrians to harmful carbon-dioxide emissions.

When a line of cars were parked parallel on the left side of the street, however, the polluted air blew over the cars and up the walls of the buildings, leaving a pocket of fresh, unpolluted air on the footpath and saving pedestrians from 35% to 49% of emissions.

Parallel-parked cars were also effective at blocking fumes from the road when the wind blew down the street rather than across it, saving pedestrians from 33% of emissions. However, cars parked at a 90-degree or 45-degree angle could increase pedestrian exposure to pollutants in certain wind conditions by channelling the fumes from the road onto the footpath.

The more cars that were parallel parked on the side of the road the more pollution was blocked, but researchers found that almost half of all spaces had to be filled for them to have any effect if the wind was blowing from across the road. They added that pedestrians should get maximum protection during rush hour, when pollution is worst, as that is when parking places are most likely to be occupied.

"The drawback of parallel parking bays is that you reduce the number of spaces, but (as) we are trying to reduce emissions and promote public transport, the aim of urban planners should be to protect those who do not contribute to urban air pollution, " said Gallagher.

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