COUNTY OF LOS ANGELES
Public Health

AIR QUALITY RECOMMENDATIONS FOR LOCAL JURISDICTIONS

Development of new schools, housing, and other sensitive land-uses in proximity to freeways

Studies indicate that residing near sources of traffic pollution is associated with adverse health effects such as exacerbation of asthma, onset of childhood asthma, non-asthma respiratory symptoms, impaired lung function, reduced lung development during childhood, and cardiovascular morbidity and mortality.[1] These associations are diminished with distance from the pollution source.

Given the association between traffic pollution and health, the California Air Resources Board recommends that freeways be sited at least 500 feet from residences, schools, and other sensitive land uses.[2] Other reputable research entities such as the Health Effects Institute indicate that exposure to unhealthy traffic emissions may in fact occur up to 300 to 500 meters (984 to 1640 feet). The range reported by HEI reflects the variable influence of background pollution concentrations, meteorological conditions, and season.[3]

Based on this large body of scientific evidence, the Los Angeles County Department of Public Health strongly recommends:

- A buffer of at least 500 feet should be maintained between the development of new schools, housing or other sensitive land uses and freeways. Consideration should be given to extending this minimum buffer zone based on site-specific conditions, given the fact that unhealthy traffic emissions are often present at greater distances.[*] Exceptions to this recommended practice should be made only upon a finding by the decision-making body that the benefits of such development outweigh the public health risks.

- New schools, housing or other sensitive land uses built within 1500 feet of a freeway should adhere to current best-practice mitigation measures to reduce exposure to air pollution which may include: the use of air filtration to enhance heating, ventilation and air conditioning (HVAC) systems, and the orientation of site buildings and placement of outdoor facilities designed for moderate physical activity as far from the emission source as possible.[4]

Development of parks and active recreational facilities in proximity to freeways

Parks and recreational facilities provide great benefits to community residents including increased levels of physical activity, improved mental health, and opportunities to strengthen social ties with neighbors.[5,6,7] However, siting parks and active recreational facilities near freeways may increase public exposure to

[*] Conditions along a freeway and on different freeways are subject to considerable variation. Vehicle types on the roadway (diesel, gas, electric, or hybrid vehicles), average speeds, average daily traffic volumes and other factors all impact the levels of pollution generated by a freeway, and thus the necessary buffer zone to reduce health risks.

harmful pollutants, particularly while exercising. Studies show that heavy exercise near sources of traffic pollution may have adverse health effects.[8, 9, 10] However, there are also substantial health benefits associated with exercise.[11] Therefore, DPH recommends the following cautionary approach when siting parks and active recreational facilities near freeways:

- New parks with athletic fields, courts, and other outdoor facilities designed for moderate to vigorous physical activity, should be sited at least 500 feet from a freeway. Consideration should be given to extending this minimum buffer zone based on site-specific conditions given the fact that unhealthy traffic emissions are often present at greater distances. Exceptions to this recommended practice should be made only upon a finding by the decision-making body that the benefits of such development outweigh the public health risks.

- New parks built within 1500 feet of freeways should adhere to best-practice mitigation measures that minimize exposure to air pollution. These include the placement of athletic fields, courts, and other active outdoor facilities as far as possible from the air pollution source.

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[1] Health Effects Institute. 2010. Traffic-Related Air Pollution: A Critical Review of the Literature on Emissions, Exposure, and Health Effects. HEI Special Report. p.1-11

[2] California Environmental Protection Agency. California Air Resources Board. Air Quality and Land Use Handbook: A Community Health Perspective. April 2005.

[3] Health Effects Institute. 2010. Traffic-Related Air Pollution: A Critical Review of the Literature on Emissions, Exposure, and Health Effects. HEI Special Report. p.1-11

[4] California Environmental Protection Agency. California Air Resources Board. Status of Research on Potential Mitigation Concepts to Reduce Exposure to Nearby Traffic Pollution. August 23, 2012.

[5] L. Frank et al. 2005. Linking Objectively Measured Physical Activity with Objectively Measured Urban Form: Findings From SMARTRAQ. American Journal of Preventive Medicine, at 117-1255.

[6] Tabbush R and E O'Brien. 2003. Health and Well-being: Trees, Woodlands, and Natural Spaces. Forestry Commission, Edinburgh.

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[11] de Hartog JJ, Boogaard H, Nijland H, and G Hoek. Do the Health Benefits of Cycling Outweigh the Risks? Environmental Health Perspectives. 2010; 118(8): 1109-1116.