

LEGISLATIVE DIGEST

[Health, Building Codes - Ventilation Requirement for Urban Infill Development]

Ordinance amending the Health Code, Article 38, to require an enhanced ventilation system for sensitive use projects within the Air Pollutant Exposure Zone, and establishing document review fees; amending the Building Code to correspond to the Health Code changes; and making environmental findings and findings of consistency with the General Plan and the eight priority policies of Planning Code Section 101.1.

Existing Law

To avoid health problems associated with exposure to roadway pollution, the California Resources Board recommends avoiding the placement of residential and other sensitive uses within 500 feet (approximately 150 meters) of freeways and other busy roadways. The expansion of residential development and the limited amount of land available in San Francisco led to residential development in urban infill sites near freeways or busy arterial roadways, potentially increasing residents' exposure to air pollutants and their associated health risks.

Article 38 requires the developers of residential projects containing 10 or more units and located near freeways to and major roadways to submit an Air Quality Assessment to evaluate the concentration of PM_{2.5} (solid particles and liquid droplets which are less than 2.5 micrometers in diameter) from traffic generated within 500 feet from the site, which must be submitted to the Director of Health.

If this Air Quality Assessment indicates that the concentration level of PM_{2.5} is greater than 0.2 ug/m³, the project shall: (1) be designed or relocated on the site in a way that would avoid residential exposure greater than 0.2 ug/m³, or (2) submit to the Director a Ventilation Proposal capable of removing ≥ 80% of ambient PM_{2.5} from habitable areas of the dwelling units, and meets the requirements of San Francisco Building Code Section 1203.5.

Amendments to Current Law

The "Potential Roadway Exposure Zone" is redefined as the "Air Pollutant Exposure Zone" and includes other sources of air pollution emissions.

The Air Pollutant Exposure Map shall depict all locations within the City where the estimated cumulative PM_{2.5} concentration is greater than 10µg/m³ or where the estimated cumulative excess risk of cancer from air pollutants resulting from lifetime (70 years) exposure is greater

than 100 in a million. The map shall also include all locations within 500 feet of any freeway, if those locations were not otherwise captured by modeling estimates.

The amendment defines “Health Vulnerable Locations” as those San Francisco zip codes, census tracts or other defined locations having the highest percentage of health vulnerable residents, based on criteria such as State discharge data from respiratory and cardiovascular related hospitalizations, non-accident mortality, or other criteria as determined by the Director of Health. For these areas, the Air Pollutant Exposure Zone Map shall depict all locations where the estimated cumulative PM_{2.5} concentration is greater than 91µg/m³ or where the estimated cumulative excess risk of cancer from air pollutants resulting from lifetime (70 years) exposure is greater than 90 in a million.

The amendment defines “Sensitive Use” as any building or facility designed for residential use, or serving specific sensitive populations, such as adult support centers, child care centers, community treatment centers, health care facilities, schools, and group homes.

All buildings containing any Sensitive Use located the Air Pollutant Exposure Zone that are: (1) newly constructed; (2) undergoing a major alteration to an existing building; or (3) applying for a San Francisco Planning Department – permitted Change of use shall be required to submit an Enhanced Ventilation System be capable of achieving the protection from particulate matter (PM_{2.5}) equivalent to that associated with MERV 13 filtration.

Background Information

Scientific studies show that exposure to particulate matter from air pollution leads to significant human health problems, including: aggravated asthma; chronic bronchitis; reduced lung function; irregular heartbeat; heart attack; and premature death in people with heart or lung disease. Exposure to air pollutants that are carcinogens can also have significant human health consequences. For example, exposure to diesel exhaust is an established cause of lung cancer.

Persons living in close proximity to air pollution sources, such as freeways or busy roadways, have poorer lung functions and are more susceptible to developing asthma and other respiratory problems, compared with persons living at a greater distance; from such sources. The California Air Resources Board’s 2005 Land Use Guidance document, “Air Quality And Land Use Handbook: A Community Health Perspective,” reviewed traffic-related air pollution studies and found that particulate matter pollution levels decrease by about 70 percent at 500 feet from freeways and high-traffic roadways, defined as urban roads with 100,000 vehicles/day or rural roads with 50,000 vehicles/day.

Consequently, health vulnerability varies among neighborhoods and populations within San Francisco, as measured by population health records of air pollution-associated hospital

discharges and emergency room visits, and non-accident mortality. Health vulnerable populations are likely to have more significant health consequences from air pollutant exposure compared to populations that are less vulnerable. "Sensitive Use" buildings have the highest proportion of individuals who are most vulnerable to air pollutant exposures.

Available technologies exist to protect sensitive uses from air pollution health effects. Available and accepted air pollution modeling technology allows for the estimation of certain air pollutant concentrations for individual land parcels. Furthermore, available building ventilation and engineering technologies provide mechanisms to protect indoor environments from the infiltration of ambient air pollutants.

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