

FILE NO. 080934

ORDINANCE NO. 281-08

1 [Requiring Air Quality Assessment and Ventilation for Certain Urban Infill Residential  
2 Developments.]

3 **Ordinance amending the San Francisco Health Code by adding new Article 38 to**  
4 **require air quality assessment and ventilation for certain urban infill residential**  
5 **developments; amending the San Francisco Building Code by adding a third paragraph**  
6 **to Section 1203.5 and amending the San Francisco Mechanical Code by adding new Section**  
7 **449 to require special ventilation systems for certain urban infill residential**  
8 **developments; making environmental findings; adopting findings of local conditions**  
9 **pursuant to California Health and Safety Code Section 17958.7, and directing the Clerk**  
10 **of the Board of Supervisors to forward this Ordinance to the California Building**  
11 **Standards Commission.**

12  
13 Note: Additions are single-underline italics Times New Roman;  
14 deletions are ~~strikethrough italics Times New Roman~~.  
15 Board amendment additions are double underlined.  
16 Board amendment deletions are ~~strikethrough normal~~.

17 Be it ordained by the People of the City and County of San Francisco:

18 Section 1. Findings.

19 (a) Environmental Findings. The Planning Department has determined that the  
20 actions contemplated in this Ordinance are in compliance with the California Environmental  
21 Quality Act (California Public Resources Code sections 21000 et seq.). Said determination is  
22 on file with the Clerk of the Board of Supervisors in File No. \_\_\_\_\_, and is incorporated  
23 herein by reference.

24 (b) ~~Section 2.~~ Findings Regarding Local Conditions and Directions to the Clerk.  
25 California Health and Safety Code Section 17958.7 provides that before making any changes  
or modifications to the California Building Code and the California Mechanical Code and any

1 other applicable provisions published by the California Building Standards Commission, the  
2 governing body must make an express finding that each such change or modification is  
3 reasonably necessary because of specified local conditions, and the findings must be filed  
4 with the California Building Standards Commission before the local changes or modifications  
5 can become effective.

6 The Board of Supervisors finds that:

7 (1) The topography of San Francisco has led to development of a high density of  
8 buildings on small lots, and often in close proximity to major roadways, necessitating special  
9 provisions for ventilation. (Topography).

10 (2) High building density and crowded occupancy has left fewer parcels available for  
11 residential development than needed to satisfy regional demand, and many of those sites are  
12 in close proximity to major roadways, necessitating special provisions for ventilation.  
13 (Topography).

14 (3) The configuration of the City as a peninsula restricts the availability of land suitable  
15 for residential development, leading such development to sites that are close to major  
16 roadways, necessitating special provisions for ventilation. (Topography).

17 (4) The region is subject to strong winds, which often direct roadway air pollutants to  
18 surrounding areas. (Climate).

19 Pursuant to the applicable California Health and Safety Code Sections, the Board of  
20 Supervisors finds and determines that these local conditions give rise to the need for  
21 modification of the 2007 California Building Code and the 2007 California Mechanical Code  
22 provisions published by the Building Standards Commission. Further, the Board finds and  
23 determines that the proposed modifications are reasonably necessary based on these local  
24 conditions.

1 Section 2. The San Francisco Building Code is hereby amended by adding a third  
2 paragraph to Section 1203.5, to read as follows:

3 Sec. 1203.5. Add a third paragraph as follows:

4 On Newly constructed residential buildings containing ten or more dwelling units-sites  
5 located within the Potential Roadway Exposure Zone and having a PM 2.5 concentration at the  
6 proposed building site greater than 0.2 ug/m3 attributable to Local Roadway Traffic Sources,  
7 as determined by the Director of Public Health pursuant to Article 38 of the San Francisco Health  
8 Code, and with a PM 2.5 concentration attributable to Local Roadway Traffic Sources, as  
9 defined in such Article 38, greater than 0.2 ug/m3 shall have the ventilation systems designed  
10 and constructed for residential units shall be engineered to remove >80% of ambient PM 2.5 from  
11 indoor areas-habitable areas of dwelling units.

12 Section 3. The San Francisco Mechanical Code is hereby amended by adding new  
13 Section 419, to read as follows:

14 Sec. 419. Air Quality Assessment and Ventilation Requirement for Urban Infill  
15 Residential Developments.

16 On residential building sites located within the Potential Roadway Exposure Zone, as  
17 determined by the Director of Public Health pursuant to Article 38 of the San Francisco Health  
18 Code, and with a PM 2.5 concentration attributable to Local Roadway Traffic Sources, as  
19 defined in such Article 38, greater than 0.2 ug/m3, the ventilation system for residential units  
20 shall be engineered to remove >80% of ambient PM 2.5 from indoor areas.

21 Section 34. The San Francisco Health Code is hereby amended by adding Article 38,  
22 to read as follows:

23 ARTICLE 38: AIR QUALITY ASSESSMENT AND VENTILATION REQUIREMENT FOR  
24 URBAN INFILL RESIDENTIAL DEVELOPMENTS.

1           SEC. 3801. SHORT TITLE. This Article shall be entitled "Air Quality Assessment and  
2 Ventilation Requirement for Urban Infill Residential Developments."

3           SEC. 3802. FINDINGS.

4           (a) Motor vehicles are a major source of air pollution in the United States, particularly in  
5 urban areas;

6           (b) Pollution from motor vehicles imposes severe health burdens on children and families  
7 living near freeways and busy roadways. Health research has consistently shown that persons living in  
8 close proximity to freeways or busy roadways have poorer lung functions and are more susceptible to  
9 develop asthma and other respiratory problems, compared with persons living at a greater distance;

10           (c) To avoid the health problems associated with exposure to roadway pollution, the California  
11 Air Resources Board recommends avoiding the placement of residential and other sensitive uses within  
12 500 feet (approximately 150 meters) of busy freeways and other busy roadways. However, significant  
13 residential development in the state is occurring in urban infill sites, near freeways or busy arterial  
14 roadways, potentially increasing these residents' exposure to air pollutants and their associated health  
15 risks; and

16           (d) This situation is exacerbated in the City of San Francisco, which, by virtue of being located  
17 on a peninsula, has a limited amount of land available for new residential development.

18           SEC. 3803. DEFINITIONS.

19           For the purposes of this Article, the following words shall have the following meanings:

20           (a) "Applicant" means a person applying for any building permit as specified by  
21 Section 106.1 of the San Francisco Building Code.

22           (a) "Building" means a new structure containing ten or more dwelling units as those  
23 terms are defined in the San Francisco Building Code.

24           (b) "Department" means the San Francisco Department of Public Health.

1           (c) "Director" means the Director of the San Francisco Department of Public Health or the  
2 Director's designee.

3           ~~(d) "Licensed Engineer" means a person licensed by the California Board of~~  
4 ~~Professional Engineers and Land Surveyors, or an equivalent board from another state, and~~  
5 ~~who is authorized to work as an engineer in the State of California.~~

6           ~~(de) "Local Roadway Traffic Sources" means traffic generated on roadways within 200~~  
7 ~~meters 500 feet from the building site.~~

8           ~~(ef) "PM 2.5" means solid particles and liquid droplets found in the air, that are less than 2.5~~  
9 ~~micrometers in diameter, which scientific studies have linked with a series of significant health~~  
10 ~~problems, including premature mortality, increased respiratory symptoms, decreased lung~~  
11 ~~function, asthma and bronchitis.~~

12           ~~(fg) "Potential Roadway Exposure Zone" means those areas within the City and County of San~~  
13 ~~Francisco which, by virtue of their proximity to freeways and major roadways, may exhibit high PM~~  
14 ~~2.5 concentration attributable to Local Roadway Traffic Sources, concentration which can cause~~  
15 ~~serious asthma and other respiratory problems to persons that reside therein.~~

16           ~~(gh) "Potential Roadway Exposure Zone Map" means a map, prepared and periodically~~  
17 ~~updated by the Director and available to the public in the Department's website, depicting the Potential~~  
18 ~~Roadway Exposure Zone.~~

19           (h) "Site" means a parcel of land as defined in the San Francisco Building Code.

20           SEC. 3804. APPLICABILITY OF ARTICLE.

21           ~~An Applicant shall comply with this~~ This Article shall apply to newly constructed  
22 buildings containing ten or more dwelling units located within the Potential Roadway Exposure  
23 Zone, and that have been determined to have a PM 2.5 concentration at the proposed site

1 greater than 0.2 ug/m<sup>3</sup> attributable to Local Roadway Traffic Sources, as defined herein.

2 when:

3 ~~(a) the parcel of land or part thereof for which the Applicant seeks a building permit is~~  
4 ~~located in any area of the City and County of San Francisco within the Potential Roadway~~  
5 ~~Exposure Zone, as shown in the Potential Roadway Exposure Zone Map, and~~

6 ~~(b) The building permit sought is for a residential or mixed use project with ten or more~~  
7 ~~new dwelling units.~~

8 SEC. 3805. POTENTIAL ROADWAY EXPOSURE ZONE AND POTENTIAL ROADWAY  
9 EXPOSURE ZONE MAP.

10 (a) Pursuant to Section 4.110 of the Charter of the City and County of San Francisco, the  
11 Director shall create a Potential Roadway Exposure Zone Map, depicting the Potential Roadway  
12 Exposure Zone.

13 (b) The Director shall from time to time update the Potential Roadway Exposure Zone Map, to  
14 account for changes in circumstances that lead to changes in the Potential Roadway Exposure Zone,  
15 including, but not limited, to:

16 (1) Construction of new roadways in residential areas;

17 (2) Changes in traffic patterns in the City's roadway system; or

18 (3) Specific scientific data showing that certain areas should be included in the Potential  
19 Roadway Exposure Zone Map.

20 (c) The Director shall post the Potential Roadway Exposure Zone Map in the Department's  
21 website, and make paper copies of the map available to the public upon request.

22 (d) In creating and updating the Potential Roadway Exposure Zone Map, the Director shall  
23 follow the procedures of Section 380944, and shall make specific findings explaining how the

1 boundaries of the Potential Roadway Exposure Zone Map reflect the standard meet the definition of  
2 Section 3803(fg).

3 (e) The current Potential Roadway Exposure Zone Map is attached to this Ordinance  
4 as Attachment A.

5 SEC. 3806. AIR QUALITY ASSESSMENT AND AIR QUALITY REPORT

6 (a) An Applicant who meets Projects meeting the conditions of Section 3804 shall have  
7 performed an cause an environmental professional competent in air quality modeling and  
8 assessment, to perform an Air Quality Assessment, to evaluate the concentration of PM 2.5 from  
9 Local Roadway Traffic Sources at the site. All locations at the site where residential buildings or  
10 construction may occur shall be evaluated. The Department shall develop guidance, pursuant to  
11 Section 380944, setting forth what types of analyses shall be conducted. The Applicant project  
12 sponsor shall follow the Department's guidance, unless an alternative proposal is approved in writing  
13 by the Director.

14 (b) At the completion of the Air Quality Assessment required by Section 3806(a), the Applicant  
15 shall submit an Air Quality Report shall be submitted to the Director. The Air Quality Report shall  
16 contain the following information:

17 (1) The names, addresses and professional expertise of the persons who conducted the Air  
18 Quality Assessment;

19 (2) An explanation of the methodology used in the Air Quality Assessment; and

20 (3) The results of the Air Quality Assessment.

21 (c) Review by the Director. The Director shall determine whether the Air Quality Report  
22 required by this Article was conducted as required by this Article, and whether the Air Quality Report  
23 is complete. If the Air Quality Report was not conducted as required by this Article or does not comply  
24 with the requirements of this Section, the Director shall notify the Applicant project sponsor in  
25

1 writing within 30 days of receipt of the Air Quality Report, indicating the reasons the report is  
2 unacceptable. A copy of the notification shall be sent to the Director of Building Inspection.

3 (d) Finding of No Dangerous PM 2.5 Concentration. If the Air Quality Report indicates that  
4 the concentration level of PM 2.5 from Local Roadway Traffic Sources at the site is less than 0.2  
5 ug/m3, the Director shall provide the Applicant project sponsor and the Director of Building  
6 Inspection with written notification that the project Applicant has complied with the requirements of  
7 this Article.

8 SEC. 3807. VENTILATION REQUIREMENT

9 (a) If the Air Quality Report indicates that the concentration level of PM 2.5 from Local  
10 Roadway Traffic Sources at the site is greater than 0.2 ug/m3 and the Applicant wants to pursue  
11 development of the site, the Applicant the project shall:

12 (1) be designed Redesign the project, or relocated the project within on the site, in a way  
13 that would avoid residential exposure to PM 2.5 concentration from Local Roadway Traffic Sources  
14 greater than 0.2 ug/m3, as demonstrated by the Air Quality Report, or

15 (2) Ssubmit to the Director a Ventilation Proposal, prepared by a Licensed Engineer,  
16 design professional, to install in the project a ventilation system to meet the requirements of San  
17 Francisco Building Code Section 1203.5 and San Francisco Mechanical Code Section 419. The  
18 Applicant shall send a copy of such proposal to the Director of Building Inspection. Building  
19 permit documents submitted to the Department of Building Inspection shall incorporate  
20 designs and details necessary for the construction of such ventilation system.

21 (b) The Ventilation Proposal shall explain in detail how the project Applicant will achieve the  
22 standards mandated by San Francisco Building Code Section 1203.5 and San Francisco Mechanical  
23 Code Section 419. The Ventilation Proposal shall include a statement signed by the Licensed  
24 Engineer design professional who prepared it, certifying that in his or her judgment the ventilation  
25



1 system proposed will be capable of removing >80% of ambient PM 2.5 from habitable areas of  
2 dwelling units indoor areas.

3 ~~SEC. 3808. CERTIFICATION~~

4 ~~(a) The Applicant shall certify under penalty of perjury to the Director that:~~

5 ~~(1) The Air Quality Report established that the concentration level of PM 2.5 from~~  
6 ~~Local Roadway Traffic Sources at the site is less than 0.2 ug/m3; or~~

7 ~~(B) The Applicant has made provisions for the installation of the ventilation system~~  
8 ~~proposed in the Ventilation Proposal.~~

9 ~~(b) Applicant Declarations. The certification shall state:~~

10 ~~"The Applicant recognizes that it has a nondelegable duty to install ventilation system~~  
11 ~~in compliance with San Francisco Building Code Section 1203.5 and San Francisco~~  
12 ~~Mechanical Code Section 419; that it, and not the City, is responsible for the installation and~~  
13 ~~proper functioning of such system; that it, and not the City, attests to and is responsible for the~~  
14 ~~accuracy the representations made in the Certification, and that it will continue to remain liable~~  
15 ~~and responsible, to the extent such liability or responsibility is imposed by State and federal~~  
16 ~~law, for its failure to perform in accordance to the law."~~

17 ~~SEC. 3809. NOTIFICATION TO THE DIRECTOR OF BUILDING INSPECTION~~

18 ~~After receipt of the Certification required by Section 3808, the Director shall provide the~~  
19 ~~Applicant and the Director of Building Inspection with written notification that the Applicant has~~  
20 ~~complied with the requirements of this Article.~~

21 SEC. 380840. MAINTENANCE OF DOCUMENTS BY DIRECTOR

22 The Air Quality Report, Ventilation Proposal, Certification and related documents shall become  
23 part of the file maintained by the Department. Such file shall be available to the public upon request.

24 SEC. 380944. RULES AND REGULATIONS

1           (a) Adoption of Rules. The Director may adopt, and may thereafter amend, rules, regulations  
2 and guidelines that the Director deems necessary to implement the provisions of this Article. For the  
3 purposes of this Article, a public hearing before the Health Commission shall be held prior to the  
4 adoption or any amendment of the rules, regulations and guidelines recommended for implementation,  
5 including creation and amendments to update the Potential Roadway Exposure Zone Map. In addition  
6 to notices required by law, the Director shall send written notice, at least 15 days prior to the hearing,  
7 to any interested party who sends a written request to the Director for notice of hearings related to the  
8 adoption of rules, regulations and guidelines pursuant to this Section.

9           In developing such regulations, the Director shall consider, inter alia, State and federal  
10 statutes, regulations and guidelines pertaining to the health effects of roadway air pollutants. The  
11 Director shall also consult with the Planning Department's Environmental Review Officer at  
12 least 30 days prior to initiating any amendments or modifications to these rules or regulations,  
13 including changes to the Potential Roadway Exposure Zone Map, and shall seek such  
14 officer's concurrence on any proposed change.

15           The Director shall also, from time to time, consult with the Green Building Task Force,  
16 to coordinate and resolve any potential conflicts that may arise between the Green Building  
17 Ordinance and this Ordinance.

18           (b) Guidelines for Regulations. Rules, regulations and guidelines may address among others,  
19 the following subjects:

20           (1) Minimum standards for acceptable Air Quality Assessment tests. The minimum standards  
21 shall be designed to assist interested persons including, but not limited to, the Director of the  
22 Department of Building Inspection, other state and local public agencies and Licensed Engineers  
23 design professionals, to evaluate whether analyses, other than those required by Section 3806(a)  
24 must be conducted to detect the presence of harmful roadway air pollutants;  
25

1            (2) Minimum education and experience requirements for the persons who prepare Air Quality  
2            Assessments pursuant to Section 3806(a) and Ventilation Proposals pursuant to Section 3807; and  
3            (3) Creation and Periodic Updates of the Potential Roadway Exposure Zone Map.

4            ~~SEC. 3812. NOTIFICATION REQUIREMENT~~

5            ~~(a) For each project subject to this Article, the Director shall prepare a summary of the~~  
6            ~~requirements of this Article. The Director shall maintain that summary in the project's file,~~  
7            ~~together with the rest of the project's documents required by Section 3810.~~

8            ~~(b) Notification to Buyer. Before selling any dwelling unit, the Applicant shall provide a~~  
9            ~~copy of the summary prepared pursuant to Section 3812(a) to the buyer or buyers of that unit,~~  
10           ~~and shall obtain a written receipt from the buyer or buyers acknowledging receipt of the~~  
11           ~~summary. Failure to give notice as required by this Section shall not excuse or exempt the~~  
12           ~~buyer of the property from compliance with the requirements of this Article.~~

13           ~~(c) Informational Plaque. Prior to issuance of a certificate of occupancy, the Applicant~~  
14           ~~shall cause an informational plaque to be placed in a conspicuous location in the building~~  
15           ~~lobby at street level. The plaque shall contain the summary required by Section 3812(a), and~~  
16           ~~inform residents and visitors that further information on the project's compliance with this~~  
17           ~~Article is available upon request at the Department. The plaque shall be of no less than 24~~  
18           ~~inches by 36 inches in size, unless specifically reduced by the Director in cases where the~~  
19           ~~nature, size, or other constraints would make these dimensions inappropriate.~~

20           SEC. 381043. MAINTENANCE REQUIREMENT

21           (a) The ventilation systems installed pursuant to Section 3807 shall be properly maintained,  
22           following standard practices, and as specified by the manufacturer.

23           (b) Project sponsors Applicants shall preserve documentation of their actions installing  
24           and/or maintaining the ventilation systems for five years after installation.

1           (c) ~~The Director may, at his discretion, require periodic reports on the maintenance of~~  
2 ~~the ventilation systems installed pursuant to Section 3807.~~

3           ~~SEC. 3814. ENFORCEMENT~~

4           (a) ~~The Director may, at its discretion, conduct inspection visits to buildings for which~~  
5 ~~a Certification has been presented pursuant to Section 3807.~~

6           (b) ~~The Director may enforce the provisions of this Article against violations by serving~~  
7 ~~notice requiring the correction of any violation of the requirements of this Article within a~~  
8 ~~reasonable time specified by the Director. Upon the violator's failure to comply with the notice~~  
9 ~~within the time period specified, the Director may request the City Attorney to maintain an~~  
10 ~~action for injunction to enforce the provisions of this Article and for assessment and recovery~~  
11 ~~of a civil penalty for such violation.~~

12           (c) ~~In undertaking the enforcement of this Article, the City and County of San~~  
13 ~~Francisco is assuming an undertaking only to promote the general welfare. It is not assuming,~~  
14 ~~nor is it imposing on its officers and employees, an obligation for breach of which it is liable in~~  
15 ~~money damages to any person who claims that such breach proximately caused injury.~~

16           ~~SEC. 381145. NO CONFLICT WITH FEDERAL OR STATE LAW~~

17           ~~Nothing in this Article shall be interpreted or applied so as to create any requirement, power,~~  
18 ~~or duty in conflict with any federal or state law.~~

19           ~~SEC. 381246. SEVERABILITY.~~

20           ~~If any section, subsection, sentence, clause, or phrase of this Article is for any reason held to be~~  
21 ~~invalid or unconstitutional by a decision of any court of competent jurisdiction, such decision shall not~~  
22 ~~affect the validity of the remaining portions of the Article. The Board of Supervisors hereby declares~~  
23 ~~that it would have passed this Article and each and every section, subsection, sentence, clause, or~~

1 phrase not declared invalid or unconstitutional without regard to whether any portion of this Article  
2 would be subsequently declared invalid or unconstitutional.

3 SEC. 381347. UNDERTAKING FOR THE GENERAL WELFARE.

4 In adopting and implementing this Article, the City and County of San Francisco is assuming an  
5 undertaking only to promote the general welfare. It is not assuming, nor is it imposing in its officers  
6 and employees, an obligation for breach of which it is liable in money damages to any person who  
7 claims that such breach proximately caused injury.

8 Section 45. Upon final passage of this Ordinance, the Clerk of the Board of  
9 Supervisors is hereby directed to transmit this Ordinance to the California Building Standards  
10 Commission pursuant to the applicable provisions of California law.

11  
12  
13 APPROVED AS TO FORM:  
14 DENNIS J. HERRERA, City Attorney

15 By:

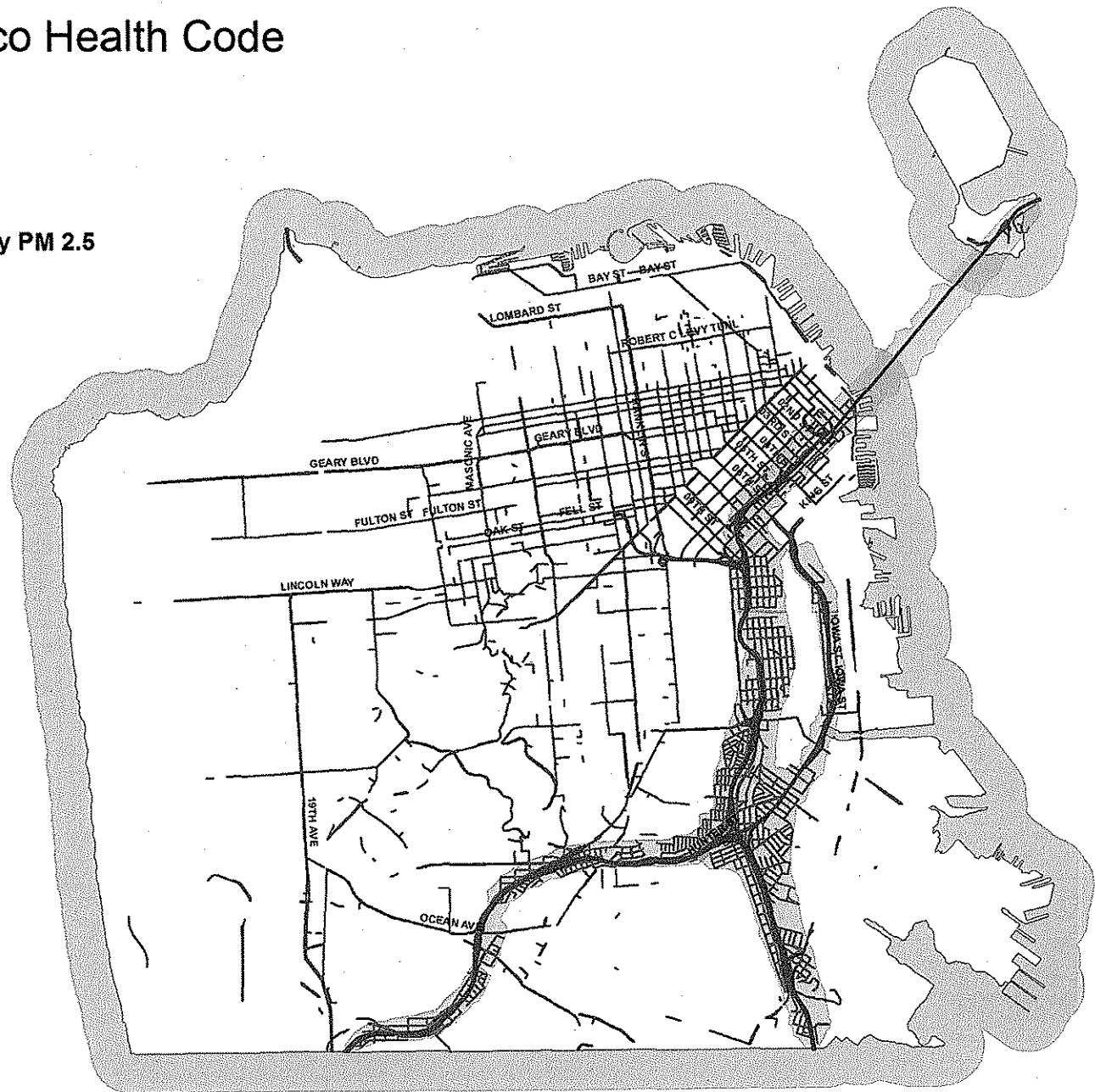
16   
17 ANDREA RUIZ-ESQUIDE  
18 Deputy City Attorney

# Attachment A: Potential Roadway Exposure Zone

Article 38 San Francisco Health Code

Annual Average Daily Emissions  
of PM 2.5

- Area around freeway effected by PM 2.5
- 0.2 ug/m3 or greater



Source: San Francisco Department  
of Public Health, 2008  
2001-2008 Lakes Environmental Software:  
CALRoads View Version 3.9.0



# City and County of San Francisco

City Hall  
1 Dr. Carlton B. Goodlett Place  
San Francisco, CA 94102-4689

## Tails Ordinance

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**File Number:** 080934

**Date Passed:**

Ordinance amending the San Francisco Health Code by adding new Article 38 to require air quality assessment and ventilation for certain urban infill residential developments; amending the San Francisco Building Code by adding a third paragraph to Section 1203.5 and amending the San Francisco Mechanical Code by adding new Section 419 to require special ventilation systems for certain urban infill residential developments; making environmental findings; adopting findings of local conditions pursuant to California Health and Safety Code Section 17958.7, and directing the Clerk of the Board of Supervisors to forward this Ordinance to the California Building Standards Commission.

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November 18, 2008 Board of Supervisors — PASSED ON FIRST READING

Ayes: 11 - Alioto-Pier, Ammiano, Chu, Daly, Dufty, Elsbernd, Maxwell,  
McGoldrick, Mirkarimi, Peskin, Sandoval

November 25, 2008 Board of Supervisors — FINALLY PASSED

Ayes: 11 - Alioto-Pier, Ammiano, Chu, Daly, Dufty, Elsbernd, Maxwell,  
McGoldrick, Mirkarimi, Peskin, Sandoval

File No. 080934

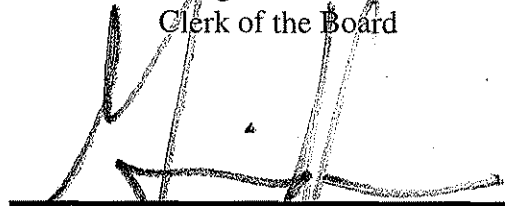
I hereby certify that the foregoing Ordinance was **FINALLY PASSED** on November 25, 2008 by the Board of Supervisors of the City and County of San Francisco.



Angela Calvillo  
Clerk of the Board

12/5/2008

Date Approved



Mayor Gavin Newsom