

2005 Pleasanton Plan 2025

DRAFT

9. AIR QUALITY ELEMENT

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9. AIR QUALITY ELEMENT

BACKGROUND AND PURPOSE

Air Quality is an optional element of a General Plan.¹ This Element provides a guide to reduce air pollution, to meet federal and State air quality standards, and to address Pleasanton's efforts to become a more sustainable community.

The purpose of the Air Quality Element is to protect the health, safety, and welfare of the community by promoting community development that is compatible with adopted air quality standards and that minimizes climate change. Exposure to air pollutants represents a health risk to everyone living in the Bay Area, particularly children, the elderly, and people with respiratory problems. In addition to health problems, poor air quality can pose a threat to the region's economic growth due to perceived environmental degradation and potential government-imposed sanctions against non-attainment areas,² such as the withholding of federal highway funds.

Under the *California Clean Air Act*, each city and county in the Bay Area is required to adopt and implement all feasible control measures to improve air quality in the region. By including an Air Quality Element in its General Plan, the City of Pleasanton shows its commitment to improve air quality and to achieve and maintain compliance with State and federal air quality standards.

LOCAL AND REGIONAL METEOROLOGICAL INFLUENCES

In spite of population and employment growth over the past 30 years, air quality has improved in Pleasanton. Improvements to air quality are due largely to both cleaner-burning automobile engines and fuels that emit fewer pollutants. Tighter regulatory controls imposed on industrial and other such point sources of air pollutants have also contributed to air-quality improvements in the region and in Pleasanton.

The amount of a pollutant emitted and the atmosphere's ability to transport and dilute the pollutant determine the amount of a given pollutant in the ambient atmosphere. The frequency of hot sunny days during the summer months is an important factor that affects air pollution potential. Although climate and topography influence air pollution potential, air pollution occurring in a location also depends upon total contaminants emitted in the surrounding area and/or the amount transported from more distant places. Pollutants such as ozone, created by photochemical processes – sunshine and certain chemicals – in the air, may result in high concentrations many miles downwind from the sources of the original chemicals.

¹ State of California, Governor's Office of Planning and Research, *General Plan Guidelines*, 2003.

² The *Federal Clean Air Act* defines Non-attainment areas as geographic areas that do not meet one or more of the Ambient Air Quality standards for the criteria pollutants. The *Federal Clean Air Act* and/or the *California Clean Air Act* designate the criteria pollutants and their standards.

Wind data for the Livermore Municipal Airport show wind predominantly blowing from the west and southwest, reflecting the location of the Hayward Canyon and Niles Canyon gaps in the East Bay Hills. Winds are generally highest in the afternoon and lowest at dawn. From 1998 to 2005, BAAQMD measured average wind speeds between 12 and 13 miles per hour (mph) and maximum gusts between 47 and 56 mph.³ Calm conditions occur about one fourth of the time.⁴

An inversion is a layer of warmer air over a layer of cooler air. Inversions affect air quality because they influence the vertical depth of the atmosphere available for diluting air contaminants near the ground. The highest air pollutant concentrations in the Bay Area generally occur during inversions because they reduce vertical air dilution. Both wind and the amount of sunlight affect stability. The more stable the air, the slower the mixing, resulting in an increased probability of air pollutant build up. During the summer, inversions generally occur from about 500 to less than 5,000 feet above ground. Surface inversions, which are lower and thus worse for air pollution, occur mostly from October through January but frequently dissipate by afternoon.⁵

The topography of the Tri-Valley also affects air quality. The Tri-Valley, ringed by the Diablo Range of hills, is a sheltered inland valley with its floor at an altitude of about 400 feet. Hills rising 1,000 to 1,500 feet tall border the valley floor on the west and east, with only narrow gaps in the hills allowing wind movement: the Hayward Canyon and Niles Canyon passes (to the west) and the Altamont Pass (to the east). To the valley's north lie the Black Hills including the 3,849-foot tall Mount Diablo, while the south side of the valley rises up about 3,000 to 3,500 feet.

The Tri-Valley subregional air basin, in which Pleasanton is located, also contains the growing communities of Livermore, Dublin, San Ramon, and Danville. The Tri-Valley area is located generally downwind with respect to the rest of the Bay Area, so that pollutants released upwind contaminate the air stream into the Tri-Valley area. In turn, winds transport pollutants generated within the Tri-Valley easterly through the Altamont Pass into the San Joaquin Valley.

The combined effects of frequent light or calm winds, frequent inversions that restrict vertical dilution, and terrain that restricts horizontal dilution give Pleasanton a relatively high atmospheric potential for pollution.

AIR POLLUTANTS AND STANDARDS

Both the federal and State governments have adopted air quality standards. These are designed as health-based standards to protect the public health, safety, and welfare. In order to evaluate

³ Bay Area Air Quality Management District, Weather Data, <http://gate1.baaqmd.gov/aqmet/met.aspx>, September 28, 2005.

⁴ California Department of Water Resources, *Wind in California*, Bulletin No. 185, January 1978.

⁵ Bay Area Air Quality Management District, "Climate, Physiography, and Air Pollution Potential – Bay Area and Its Subregions (Referenced by County)," http://www.baaqmd.gov/dst/papers/bay_area_climate.pdf, September 28, 2005.

compliance with these standards, local air districts continuously monitor selected air pollutants. Table 9-1 presents these standards. The primary pollutants for which there are standards are discussed below.

Ozone (O₃)

Ozone is an easily recognizable air pollutant due to its visual appearance as smog. Ozone is generated from complex chemical reactions of nitrogen oxides (NO_x) and reactive organic gases (ROG) in the presence of sunlight. In both the Tri-Valley and Bay Area, motor vehicles provide the largest single source of ozone's chemical components. In addition, winds transport emissions from outside the area into the Tri-Valley, where they can be trapped by a temperature inversion and chemically "cooked" on the hot, still days of summer and early fall.

Ozone exposure aggravates respiratory diseases, irritates eyes, damages lung tissue, and may cause cancer and other diseases. Ozone also harms vegetation, reduces crop yields, and accelerates deterioration of paints, finishes, rubber products, plastics, and fabrics.

Carbon Monoxide (CO)

Carbon monoxide is a highly toxic odorless, colorless gas. Automobile emissions provide the main source of carbon monoxide through the incomplete combustion of fuels. Ambient carbon monoxide concentrations normally correspond closely to vehicular traffic, although wind speed and atmospheric mixing also influence concentrations. Under certain conditions, carbon monoxide may distribute more uniformly out to some distance from vehicular sources. Since the major source of carbon monoxide is automobiles, concentrations of carbon monoxide are greatest near heavily-traveled roadways. The emission rate of carbon monoxide is highly dependent on traffic speed, with emissions increasing as speed decreases and idling increases. In past years, the Tri-Valley suffered from relatively high carbon monoxide concentrations. The Tri-Valley area, including Pleasanton, currently meets (and is expected to meet in the future) ambient standards for carbon monoxide.

Carbon monoxide's health effects are related to its affinity for hemoglobin in blood. At high concentrations, carbon monoxide reduces the oxygen-carrying capacity of blood, aggravating heart disease, impairing central nervous system functions, and causing fatigue, headaches, and dizziness.

Suspended Particulates (PM₁₀ and PM_{2.5})

Suspended particulates are solid and liquid particles of dust, soot, aerosols, and other matter that are small enough to remain suspended in the air for a long period of time. A portion of the total

TABLE 9-1 AMBIENT AIR QUALITY STANDARDS AND BAY AREA ATTAINMENT

Pollutant	Averaging Time	California Standards ^a		Federal Standards ^b	
		Concentration	Attainment Status	Concentration	Attainment Status
Ozone	8 hour	–	–	8 pphm	N ^c
	1 hour	9 pphm (180 µg/m ³)	N	–	–
Carbon Monoxide	8 hour	9.0 ppm (10 mg/m ³)	A	9 ppm (10 mg/m ³)	A ^d
	1 hour	20 ppm (23 mg/m ³)	A	35 ppm (40 mg/m ³)	A
Nitrogen Dioxide	Annual Average	–	–	0.053 ppm (100 µg/m ³)	A
	1 hour	0.25 ppm (470 µg/m ³)	A	–	–
Sulfur Dioxide	Annual Average	–	–	80 µg/m ³ (0.03 ppm)	A
	24 hour	0.04 ppm (105 µg/m ³)	A	0.14 ppm (365 µg/m ³)	A
	1 hour	0.25 ppm (655 µg/m ³)	A	–	–
Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	20 µg/m ³	N	50 µg/m ³	A
	24 hour	50 µg/m ³	N	150 µg/m ³	U
Fine Particulate Matter (PM _{2.5})	Annual Arithmetic Mean	12 µg/m ³	N	15 µg/m ³	A
	24 hour	–	–	65 µg/m ³	A
Sulfates	24 hour	25 µg/m ³	A	–	–
Lead	Calendar Quarter	–	–	1.5 µg/m ³	A
	30-Day Average	1.5 µg/m ³	A	–	–
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	U	–	–
Vinyl Chloride	24 Hour	0.010 ppm (26 µg/m ³)	Not available	–	–
Visibility Reducing Particles	8 Hour (1000 to 1800 PST)	Visibility > or = 10 miles	A	–	–

Notes: A = Attainment, N = Nonattainment, U = Unclassified (no determination made), pphm = parts per hundred million, ppm = parts per million, mg = milligram (one-thousandth of a gram), µg = microgram (one-millionth of a gram), m³ = cubic meter, PST = Pacific Standard Time.

- a California standards for ozone, carbon monoxide, sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter (PM₁₀), and visibility reducing particles are values that are not to be violated (exceeded). The standards for sulfates, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or violated.
- b National standards other than for ozone, particulates, and those based on annual averages are not to be violated (exceeded) more than once a year. The ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.
- c In June 2004, the federal government designated the Bay Area as a marginal nonattainment area of the national 8-hour ozone standard.
- d In April 1998, the federal government redesignated the Bay Area to attainment for the national 8-hour carbon monoxide standard.

Source: Bay Area Air Quality Management District, "Ambient Air Quality Standards and Bay Area Attainment Status," July 2005.

particulate matter in the air is due to natural sources such as wind-blown dust and pollen. Human-made sources include combustion, automobiles, fireplaces, factories, construction, and roads – especially unpaved roads and busy highways.

Both particulates (PM_{10}) and fine particulates ($PM_{2.5}$) can damage lungs and cause persistent coughs, phlegm, wheezing, and physical discomfort. Inhalation of fine particulate matter may lead to reduced life span. Non-health-related effects include reduced visibility and soiling of surfaces.

Nitrogen Dioxide (NO_2)

Nitrogen dioxide is a reddish-brown toxic gas readily visible during periods of heavy pollution. It is one of the oxides of nitrogen that results from combustion. Major sources of nitrogen oxides include automobiles and industrial uses, such as refineries, industrial boilers, and other types of combustion equipment. The Bay Area, including Pleasanton, meets ambient standards for nitrogen dioxide, and the BAAQMD does not expect future violations of these standards.

Nitrogen dioxide increases the risk of chronic bronchitis, lung irritations, and sore throats. Nitrogen dioxide also leads to reduced visibility.

Sulfur Dioxide (SO_2)

Sulfur dioxide is a colorless gas with a pungent, irritating odor created by the combustion of sulfur-containing fossil fuels. Major sources of sulfur dioxide in the Bay Area are refineries and some chemical plants. The Bay Area, including Pleasanton, meets ambient standards for sulfur dioxide, and the BAAQMD does not expect future violations of these standards.

Sulfur dioxide aggravates chronic obstructive lung disease and increased risk of acute and chronic respiratory illness. Sulfur dioxide also accelerates corrosion of materials.

Hazardous Pollutants

In addition to the above pollutants, for which there are ambient air quality standards, is a second type of regulated pollutants called toxic air contaminants (TACs). These are known to be injurious, even in small quantities, but are relatively uncommon outside of industrial and medical uses. The federal and State governments provide emission regulations, rather than ambient air standards, for these pollutants.

In 2002, the BAAQMD monitored 67 different toxic air contaminants in Alameda County including about 2,490 pounds of carcinogenic (cancer-causing) contaminant emissions and 725 pounds of non-carcinogenic contaminant emissions. BAAQMD operates several programs to identify and control ambient levels of these pollutants including: (1) Air Toxic New Source Review, (2) Air Toxics Hot Spots Program, (3) Control Measures for Categories of Sources, (4) Emissions Inventory, and (5) Ambient Monitoring Network. The air toxics program is a separate and complementary program to

criteria air pollutants – pollutants discussed above in this section for which there are standards – that is designed to evaluate and reduce adverse health effects resulting from toxic air contaminant exposure.

The City evaluates Toxic Air Contaminants on a project-by-project basis, based upon a conservative health risk evaluation. The City’s Hazardous Materials Storage Permit policies (Chapter 9.16 of the *Pleasanton Municipal Code*) regulate businesses that handle, store, or transport hazardous materials (see additional information in the Public Safety Element).

AIR POLLUTANT SOURCES

Pleasanton contains various air pollution sources besides motor vehicle fuel combustion, its largest single source. Additional major pollutant sources include space and water heating, industrial processes, and commercial-use fuel combustion. Other pollutant sources include evaporation of fuels and solvents, incineration, fires, agricultural tilling, and pesticides.

The Bay Area Air Quality Management District (BAAQMD) is the main local permitting agency for air pollutant sources. Pleasanton contains numerous minor sources of air pollutants that have permits from the BAAQMD, such as dry cleaning plants, gas stations, auto body shops, and other businesses that use organic compounds, which could pollute the air.

ODORS

In addition to these sources of pollutants, the Air Resources Board of the California Environmental Protection Agency has identified land-use types that frequently cause odors, dust or other nuisances.⁶ In Pleasanton, these operations generally include: (1) sand-and-gravel harvesting areas – including asphalt plants – along Stanley Boulevard, (2) the Dublin San Ramon Services District sewage treatment plant on Johnson Drive and the treatment ponds and drying beds north of Stoneridge Drive, (3) the solid waste transfer station on Busch Road, and (4) some agricultural areas.

The City relies on the California *Health and Safety Code* to regulate odors. These laws have been written to protect the public health and welfare throughout the State, including in and around Pleasanton. The Bay Area Air Quality Management District (BAAQMD) regulates odors in the City of Pleasanton and has equipment, expertise, and personnel to enforce nuisance odor reduction. The Bay Area Air Quality Management District enforces California *Health and Safety Code* Section 41700 (public nuisance) as well as the Air District’s own Regulation 1-301 (which is a restatement of Section 41700 *Health and Safety Code*) against odor sources that cause a public nuisance. The *Health and Safety Code* exempts agricultural sources from this restriction, and the local enforcement authority handles odor complaints related to composting operations (Section 41705). For Alameda County, the local enforcement authority for composting operations is the Alameda County Environmental Health Department.

⁶ California Environmental Protection Agency, Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective*, April 2005.

Not all odors constitute a public nuisance; some are pleasant, some benign, while others are bothersome. For an odor to be considered a nuisance it would have to bother a widespread segment of the population and not just a handful of individuals.

An asphalt plant within the Pleasanton Planning Area is located on CEMEX property south of Stanley Boulevard near the Vineyard Avenue corridor. This property is under Alameda County's jurisdiction. Operations of this plant have resulted in numerous odor complaints from Pleasanton residents living in the vicinity. In 2007 the City reached an agreement with Alameda County, Granite Construction, and CEMEX to move the asphalt plant closer to Stanley Boulevard near Shadow Cliffs. This should reduce odor impacts to residents in the Vineyard Avenue corridor.

The Dublin-San Ramon Services District (DSRSD) sewage treatment plant is located directly west of Val Vista Park while the ponds and the processed sludge are located across Stoneridge Drive from the closest residential neighborhood. The sewage treatment plant generally meets air emissions standards. It has been the subject of odor complaints in the past, although there have been fewer complaints since the recent upgrade and capacity increase of the plant. Even before these improvements, emissions from the sewage treatment plant represented a nuisance rather than a health hazard to residents located near the facilities.

The Bay Area Air Quality Management District (BAAQMD) sends out an inspector if a person makes a complaint regarding odors or emissions from the plant. In addition to BAAQMD inspectors, DSRSD also investigates odor complaints.

SENSITIVE RECEPTORS

Sensitive receptors include the infirm, children, the elderly, and people sensitive to air pollutants. Examples of land uses where sensitive receptors congregate are hospitals, childcare centers, schools, playgrounds, rehabilitation centers, residences, and senior housing, including assisted living and nursing homes. Table 9-2 lists sensitive receptors and Figure 9-1 shows locations of potential sensitive receptors in Pleasanton.

RECENT AIR QUALITY CONDITIONS

In 1988, the State adopted the *California Clean Air Act*. The standards contained in this Act are more restrictive than parallel federal standards. The Act requires that each regulatory authority governing air pollutant emissions throughout the State adopt a strategy to achieve and maintain the State ambient ozone, carbon monoxide, sulfur dioxide, and nitrogen dioxide standards by the earliest practicable date. In the Bay Area, the BAAQMD is the agency responsible for preparing the strategy to improve air quality. Based on monitoring data collected and compiled by the BAAQMD, the Bay Area is currently not in attainment for ozone (O₃). In response to legal requirements of the *Clean Air Act*, BAAQMD has prepared a series of clean air plans aimed at reducing emissions from stationary and

TABLE 9-2: AIR QUALITY SENSITIVE RECEPTOR LOCATIONS, 2005**Pleasanton Unified School District Schools**

1. Phoebe Apperson Hearst Elementary School, 5301 Case Avenue
2. Vintage Hills Elementary School, 1125 Concord Street
3. Valley View Elementary School, 480 Adams Way
4. Alisal Elementary School, 1454 Santa Rita Road
5. Walnut Grove Elementary School, 1999 Harvest Road
6. George C. Lydicksen Elementary School, 7700 Highland Oaks Drive
7. Thomas H. Donlon Elementary School, 4150 Dorman Road
8. Henry P. Mohr Elementary School, 3300 Dennis Drive
9. Fairlands Elementary School, 4151 West Las Positas Boulevard
10. Pleasanton Middle School, 5001 Case Avenue
11. Harvest Park Middle School, 4900 Valley Avenue
12. Thomas S. Hart Middle School, 4433 Willow Road
13. Village and Horizon High Schools, 4645 Bernal Ave. & 245 Abbie Street
14. Amador Valley High School & Adult Education, 1155 Santa Rita Road
15. Foothill High School, 4375 Foothill Road
16. Potential School Site, Busch Road
17. Potential Elementary School, Vineyard Avenue

Private Schools

18. Carden West School, 4576 Willow Road
19. Hacienda School, 3800 Stoneridge Drive
20. Lighthouse Baptist School, 118 Neal Street
21. Quarry Lane School, 3750 Boulder Street

Note: Family childcare and about 15 residential-care facilities for the elderly are provided in residential neighborhoods throughout Pleasanton. Because residents are also sensitive receptors, Figure 11-4 does not delineate childcare providers and elder residential care in these neighborhoods.

Childcare Centers Not in Schools or Residences

22. Adventures in Learning, 3200 Hopyard Road
23. Beth Emek Preschool, 3400 Nevada Street (at Bernal Avenue)
24. The Child Day School, 883 Rose Avenue
25. Children's World Learning Center, 7110 Koll Center Parkway
26. Early Years Children's Center, 1251 Hopyard Road
27. Gingerbread Preschool, 4333 Black Avenue
28. Hacienda Child Development Center, 4671 Chabot Drive
29. Kindercare Learning Center-Pleasanton, 3760 Brockton Drive
30. Kinderkirk Christian Preschool-Pleasanton, 4300 Mirador Drive
31. La Petite Academy, 5725 Valley Avenue
32. Love and Care Preschool, 7106 Johnson Drive
33. Quarry Lane School, 4444-A Black Avenue
34. Saint Clare's Day Care Center, 3350 Hopyard Road
35. Shining Light Preschool, 4455 Del Valle Parkway
36. Sonshine Enrichment Center, 1225 Hopyard Road
37. YMCA Child Development Program, 4667 Bernal Avenue

Facilities for the Medically Fragile and Elderly

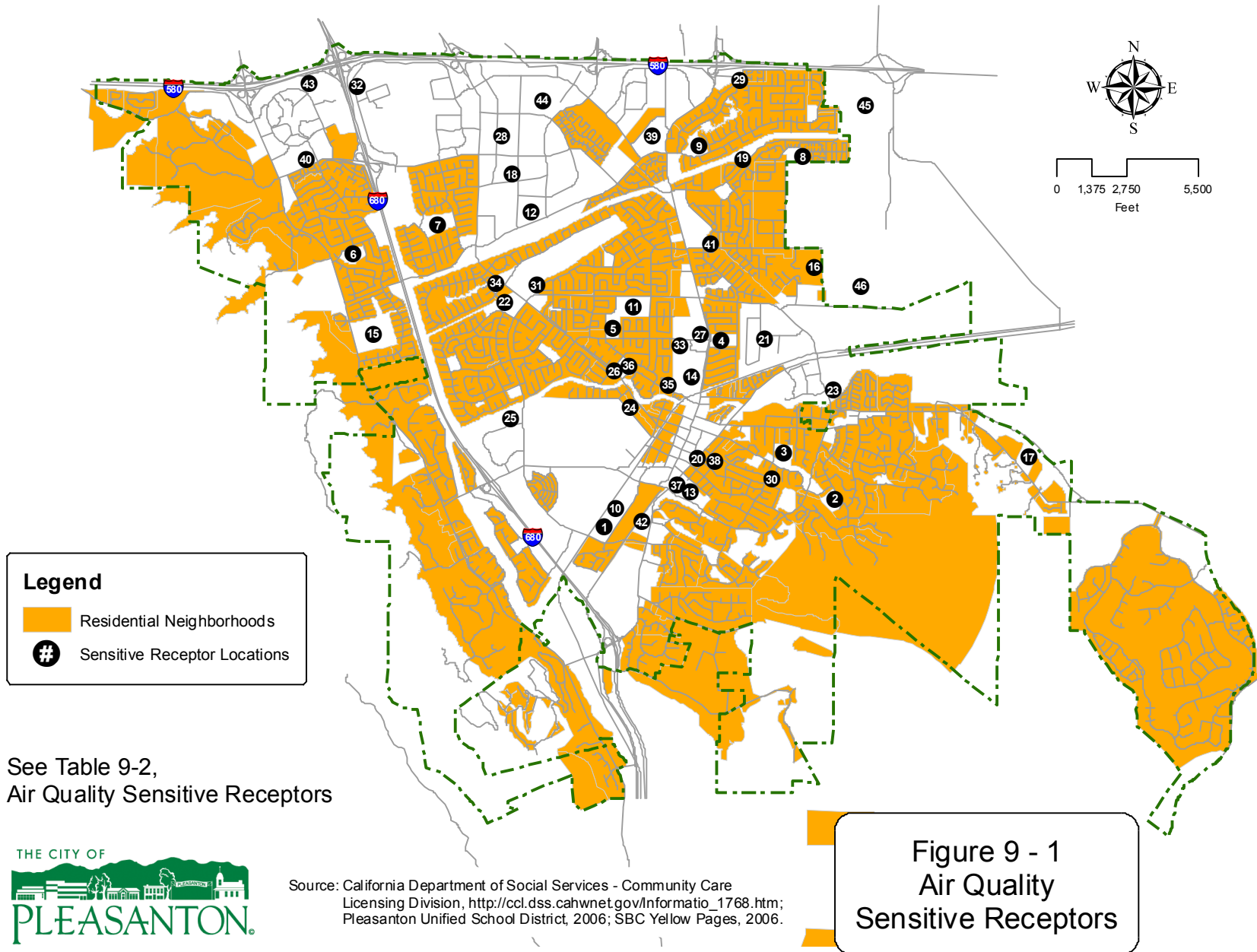
38. Pleasanton Nursing and Rehabilitation Center, 300 Neal Street
39. Valley Care Medical Center, 5555 West Las Positas Boulevard
40. Kaiser Permanente Medical Center, 7601 Stoneridge Drive
41. Eden Villa Pleasanton Residential Care, 4115 Mohr Avenue
42. Pleasanton Senior Center, 5353 Sunol Blvd.

Future Sensitive Receptors

43. West Pleasanton/Dublin BART Station
44. Hacienda – Housing locations are not yet specifically identified.
45. Staples Ranch Senior Continuing Care.
46. East Pleasanton – Housing locations are not yet identified.

Sources: California Department of Social Services – Community Care Licensing Division, http://ccl.dss.cahwnet.gov/Informatio_1768.htm; Pleasanton Unified School District, 2006; SBC Yellow Pages, 2006; Pleasanton Planning and Community Development Department, 2006.

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mobile sources. In January 2006, the BAAQMD replaced the *2000 Clean Air Plan* with the *2005 Bay Area Ozone Strategy*.

The State has also established measures to control additional pollutants including particulate matter 10 microns or less in size (PM₁₀) and fine particulate matter 2.5 microns or less in size (PM_{2.5}).

Pleasanton, in conjunction with the Hacienda Business Park Owners Association, monitored carbon monoxide (CO), particulate matter, and meteorological conditions until 1992 when BAAQMD assumed responsibility for the station on Chabot Drive in Pleasanton. In 1996, BAAQMD ceased monitoring in Hacienda Business Park as no violations of any pollution standard had occurred for years. BAAQMD continues to monitor ozone, carbon monoxide (CO), nitrogen dioxide, sulfur dioxide, and particulates at its Livermore Station. Table 9-3 shows air quality data for 1995 to 2005. These data indicate violations of ozone and suspended particulate standards.

Since 1995, ozone levels in the Tri-Valley have generally decreased. The number of days violating State standards has averaged about seven annually (over the last three years) compared to an average of about 15 annually during the mid-1990s. In addition since 1983, there have been no days in which the levels of carbon monoxide violated either State or federal standards.

During the past 10 years, the Tri-Valley area has violated State particulate matter (PM₁₀) standards from zero to three times each year, while it has not violated federal standards. Since the BAAQMD began monitoring the new PM_{2.5} standard, it has measured no violations of either State or federal standards in the Tri-Valley area.

In order to protect public health, the Bay Area Air Quality Management District issues Spare the Air advisories on days when unhealthy air quality is forecast due to high pollutant levels. The Air District advises people who are especially sensitive to pollution to limit their time outdoors, particularly in the afternoon hours. On Spare the Air Days, the District requests that Bay Area residents make clean air choices including driving less, taking public transportation, trip-linking, walking, biking, choosing non-gasoline-powered lawn and garden equipment, avoiding polluting household products, and in the winter, curtailing burning of wood. The Air District and Metropolitan Transportation Commission partner with numerous Bay Area transit operators to offer free commutes on several Spare the Air days each year.

CLIMATE CHANGES ¹

The Earth's climate is changing because human activities – primarily the combustion of fossil fuels – are altering the chemical composition of the atmosphere through the buildup of greenhouse gases.

¹ Bay Area Air Quality Management District, Board of Directors Resolution on Climate Change, "Climate Change and Protection," <http://www.baaqmd.gov/pln/climatechange.htm>, June 1, 2005.

TABLE 9.3: 1995 – 2005 LOCAL AIR QUALITY CONDITIONS

<u>POLLUTANT</u>	Emissions Information by Year											
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Ozone												
Ozone Peak One-Hour Concentrations	16	14	11	15	15	15	11	16	13	11	12	12.7
State 1-Hour Standard: 9 pphm: No. of Violations	20	22	3	21	14	7	9	10	10	5	6	13
Federal 1-Hour Standard: 12 pphm: No. of Violations	7	8	0	6	2	2	0	2	1	0	—	—
Ozone Peak Eight-Hour Concentrations	—	—	—	—	12	11	9	11	9	8	9	10.1
State 8-Hour Standard: 7 pphm: No. of Violations	—	—	—	—	—	—	—	—	—	—	7	15
Federal 8-Hour Standard: 8 pphm: No. of Violations	—	—	—	—	5	2	2	6	3	0	1	5
Particulate Matter												
PM ₁₀ Annual Geometric Mean	19.4	19.9	22.0	19.4	22.7	19.4	21.1	21.5	—	—	—	—
PM ₁₀ Annual Average Concentration	—	—	—	—	25.7	21.8	24.6	24.5	18.9	20	18.8	21.8
PM ₁₀ Maximum 24-Hour Concentration	—	—	—	—	87	71	109	64	33	49	49	69
State PM10 Standard: 50 µg/m ³ : No. of Violations	1	1	2	2	3	2	3	2	0	0	0	3
Federal PM10 Standard: No. of Violations	0	0	0	0	0	0	0	0	0	0	0	0
Fine Particulate Matter (PM_{2.5})												
Annual Average Concentration	—	—	—	—	—	—	—	13.8	9.0	10.3	9.0	11.0
Maximum 24-Hour Concentration: 35 µg/m ³ , 65 µg/m ³ in 2006	—	—	—	—	—	56.4	107.5	62	42	41	32.1	50.8
State PM _{2.5} Standard: 12 µg/m ³ 3-Year Average: No. of Violations	—	—	—	—	—	—	—	0	0	0	0	0
Federal PM _{2.5} Standards: No. of Violations	—	—	—	—	—	—	2	0	0	0	0	3

Notes: No. = number, ppm = parts per million, pphm = parts per hundred million, mg = milligram (one-thousandth of a gram), µg = microgram (one-millionth of a gram), m³ = cubic meter.

Violations of standards are indicated by bold typeface on the table.

BAAQMD has measured no violations (exceedances) of the carbon monoxide, nitrogen dioxide, or sulfur dioxide standards from 1995 to 2005.

Sources: BAAQMD, Bay Area Air Pollution Summary, 1999–2005; BAAQMD, Summary of Air Pollution in the Bay Area, 1995–1998. All data are from the Livermore Station.

Greenhouse gases allow the sun's ultraviolet radiation to penetrate the atmosphere and warm the Earth's surface, but do not let the infrared radiation emitted from the Earth escape back into outer space.

Carbon dioxide (CO₂) emissions are the leading cause of climate change, with additional contributions from air pollutants such as methane, nitrous oxides, and hydrofluorocarbons. Carbon dioxide concentrations, which had been stable for the past 10,000 years, began rising only during the last two hundred years in California and have now increased by about 30 percent over historic levels. In the last decade, transportation accounted for the largest portion of air emissions, averaging 59 percent of total CO₂ emissions, followed by 16 percent from electricity generation, and 12 percent from other industries.

In terms of air quality, climate change affects public health because higher temperatures result in more air pollution, increased smog, and associated respiratory disease and heart-related illnesses. Continued warming threatens to erode air-quality improvements made in the Bay Area within the past 50 years and may make it more difficult for the region to meet ozone and particulate-matter standards.

Although emission reductions have not been not quantified, many transportation control measures will also reduce greenhouse gas emissions from motor vehicles. Control measures that result in reducing or eliminating motor vehicle trips or result in more efficient motor vehicle operations would help reduce greenhouse gas emissions as well as reducing ozone concentrations. In addition, energy conservation measures – including green building – would directly target greenhouse gases while also helping to reduce ozone.

Climate Protection Project

The Alameda County Waste Management Authority is coordinating the Climate Protection Project. The County has contracted with the International Council for Local Environmental Initiatives (ICLEI) on behalf of participating cities to receive the following:

- A baseline greenhouse gas emissions inventory and forecast;
- Assistance in developing an emission-reduction target;
- A survey of existing polices and programs to reduce emissions and save energy;
- A template local Climate Action Plan that Pleasanton can use as a start in developing its individual local action plan.

In 2007 the City joined both the Alameda County Climate Protection Project and ICLEI for a one year period. During this time the City will work with ICLEI to develop an action plan that will consist of polices and measures that will include existing and future actions capable of meeting local greenhouse-gas-reduction targets. The City will then consider implementing, monitoring, and reporting appropriate and achievable components of the proposed action plan.

FUTURE AIR QUALITY

Buildout of the General Plan would replace currently vacant and underutilized land with mostly residential, commercial, and industrial uses. These urban uses are a source of pollutants from the combustion of fuel for space and water heating as well as from the use of consumer products. These urban uses also contribute to residential and commercial motor vehicle trips that use fuel. Pleasanton projects about 3,800 more housing units and about a 50 percent increase in commercial and industrial development from 2006 until General Plan buildout – from 21.0 million square feet in 2006 to about 32.8 million at buildout.² This substantial increase in development will lead to fuel-use and air-emission intensification related to vehicle use.

The General Plan also would allow for additional regulated point sources of pollutants and users of hazardous materials. Although the number and nature of future additional air pollutant point sources within Pleasanton are not known, BAAQMD requires that each individual source meet its rules and regulations. These regulations require that sources of hazardous materials or criteria pollutants above certain thresholds obtain permits prior to constructing or operating the facility. BAAQMD regulations may require use of Best Available Control Technology with emission reductions at other locations to offset proposed increases, and may require detailed analysis and/or modeling of air pollution impacts prior to issuing a permit. In certain cases, BAAQMD may also require on-site monitoring prior to and after construction, and may attach conditions that it believes are necessary to avoid public health hazards and community complaints.

By far the largest change in subregional emissions related to buildout under the General Plan would be related to automobile traffic. Table 9-4 shows total daily vehicle miles traveled (VMT) associated with county-wide vehicle use, the largest source of air emissions. Emissions generated by automobiles are estimated for 2005 and 2025. Note that all emissions, with the exception of carbon dioxide, would continue to drop and that countywide air quality would improve. This is due to improvements in the vehicle fleet: better controls on newer vehicles while older vehicles are removed from roadways. Carbon dioxide, the gas related to climate change, will continue to grow at about the same rate as future gasoline consumption. Thus to lower greenhouse gas emissions would require consuming less gasoline. Although Pleasanton development contributes to vehicle miles traveled, commuting within the Tri-Valley is a regional problem.

PURPOSE OF AIR QUALITY PLANNING

Air quality in the Tri-Valley area has continually improved over the past 30 years. However, the area continues to violate both federal and State ozone and particulate matter (PM₁₀) standards. Continued improvement of air quality is not assured given climatic warming coupled with continuing population and job growth in the Bay Area. Additional subregional public transit options would lead to decreased dependence on the single-occupant vehicle. Until the Tri-Valley as a whole becomes more sustainable

² Based on growth projections in the Land Use Element of this General Plan.

and/or development ceases, air quality considerations will continue to be important in the planning process.

TABLE 9-4: PROJECTED COUNTY-WIDE VEHICULAR EMISSIONS, 2005 AND 2025 (TONS/DAY)

	<u>2005</u>	<u>2025</u>	<u>Percent Change</u>
Vehicle Miles Traveled	36,218,000	48,872,000	35 %
Diesel Consumption (gallons)	409,030	481,420	18 %
Gasoline Consumption (gallons)	1,755,530	2,342,660	33 %
Reactive Organic Gases (ROG)	31.03	11.11	- 65 %
Nitrogen Oxides (NOX)	72.31	20.5	- 72 %
Sulfur Oxides (SOX)	0.57	0.27	- 53 %
Particulate Matter (PM ₁₀)	3.02	2.52	- 17 %
Carbon Monoxide (CO)	295.45	83.34	- 72 %
Carbon Dioxide (CO ₂)	21.19	28.1	+ 33 %

Source: Illingworth & Rodkin, using Emfac2007 V2.3 Nov. 2006, Dec. 2007.

The combined effects of future growth in population and traffic, along with expected deterioration in travel speed and congestion, may offset projected decreases in mobile and stationary-emission rates. Attainment and maintenance of the ozone standard in the future is not likely to occur without implementation of air-emission reduction programs.

The climatological setting of Pleasanton ensures that the potential for ozone and suspended particulate problems will continue to exist. An increase in future traffic volumes will have the potential to exacerbate these problems.

AIR QUALITY PLANNING

The major reason for including an Air Quality Element in the General Plan is to coordinate the planning of land use, circulation, housing, energy, and other City policies with their potential effects on air quality. The City of Pleasanton is committed to incorporating air quality considerations into its plans, policies, and programs for future development.

Sustainable Development and Planning

The City of Pleasanton embraces the concept of sustainable development and planning. A sustainable city draws from the environment only those resources that are necessary and that can be used or recycled perpetually, or returned to the environment in a form that nature can use to generate more resources. Relating the sustainability concept to air quality means reducing emissions related to buildings as well as reducing the frequency and distance of vehicle trips within Pleasanton. Trip

reduction can be accomplished by (1) including housing opportunities for Pleasanton workers of all socioeconomic levels; (2) providing local job opportunities to existing Pleasanton residents; (3) providing neighborhood-serving retail and recreational uses that are readily accessible to residential neighborhoods; (4) maximizing transit, bicycle, and walking opportunities to workers and residents; (5) providing services such as childcare, restaurants, banks, and markets at major employment centers, (6) alleviating the need for and/or number of work-related trips, and (7) concentrating all new development within the Urban Growth Boundary with emphasis on development near transit nodes.

Reducing Building-Related Emissions

By ordinance, the City of Pleasanton currently requires developers to utilize green building practices. The objective of green building design is to implement several related goals: energy efficiency, healthy indoor air quality, waste reduction, water efficiency, and planning for sustainable development. Green building practices that have the potential to improve air quality include non-CFC refrigerants, low-VOC-emitting materials, photovoltaic panels, passive-energy design, and no wood-burning fireplaces.

The City's hazardous materials regulations (Chapter 9.16 of the *Pleasanton Municipal Code*) ensure review and monitoring of stored materials to prevent gases leaking into the environment.

Reducing Vehicle Trips

The Livermore-Amador Valley Transit Authority (LAVTA) bus system – known as Wheels in Pleasanton, Bay Area Rapid Transit (BART) system, Altamont Commuter Express (ACE) train, and various regional bus agencies and private shuttles provide residents and employees with convenient transit alternatives to and from the City of Pleasanton.

Good examples of Pleasanton's efforts to integrate air quality into the planning process include the City's *Transportation Systems Management (TSM) Ordinance* (Chapter 17.24 of the *Pleasanton Municipal Code*), the City's Commendable Commutes program, and the City's pRide program. As part of Transportation Demand Management (TDM) in Pleasanton, the City sponsors a Commendable Commutes program. Employers who wish to enroll in the program enter into a participation agreement with the City and agree to develop a trip-reduction program and goals, conduct a bi-annual transportation survey, and appoint a management-level employee as a transportation coordinator who represents the employer as a member of the Transportation Committee. The City also promotes an internal employee trip-reduction program, known as pRide, which provides incentives for City employees who usually drive to try a commute alternative such as riding public transit, telecommuting, carpooling, walking or bicycling. Programs include parking cashout, prize drawings, transit subsidies, and a guaranteed ride home in case of illness, family emergency, unscheduled overtime, or missed rideshare trip.

The TDM program reduces air pollutants as well as noise, safety hazards, and other environmental effects. The City's policies and programs to reduce traffic congestion in the Circulation Element are referenced in the Air Quality, Noise, Energy, and other General Plan elements.

Providing housing for Pleasanton workers within the city and the Tri-Valley will also help reduce vehicle miles traveled. The City has adopted a preference system to determine eligibility for affordable housing projects, giving preference to people who both live and work in Pleasanton, with secondary priority given to people who either live or work in Pleasanton. The City is also part of the Tri-Valley Housing Opportunity Center that works toward providing homeownership opportunities to underserved low income groups. The Center holds marketing campaigns targeted at people working in the Tri-Valley area.

The City phases and funds public facilities to encourage compact growth and minimize traffic-generating sprawl. Current zoning designations locate existing and planned residential areas and sensitive receptors apart from possible point (stationary) sources of air pollutants. In addition, the Pleasanton Ridge open space and rural open space areas to the south and east allow for dispersion of air pollutants.

The City also conditions new projects to construct physical improvements aimed at promoting alternative transportation. For example, the City has required new office building developers to provide showers and lockers for bicycle commuters, install new transit stops, and construct traffic improvements to reduce traffic congestion.

RELATIONSHIP TO OTHER ELEMENTS

Policies and programs established throughout the General Plan affect air quality in Pleasanton. Policies that encourage infill development tend to reduce lengthy traffic trips and consequently vehicle emissions.

Land Use Element

The Land Use Element provides guiding principles for the type, location, size, and density of land uses throughout the City of Pleasanton. Land use objectives that limit air-quality emissions would comply with the Air Quality Element. The Land Use Element includes policies to provide mixed-use developments in the Downtown and business park areas, locates high-density uses near transit facilities, and provides neighborhood-serving retail convenient to residential neighborhoods.

Circulation Element

The Circulation Element strives to improve traffic and circulation systems throughout Pleasanton. Circulation objectives that limit air-quality emissions would comply with the Air Quality Element. The Circulation Element would lead to improved air quality by maintaining level-of-service standards that encourage free-flowing traffic and by continuing to encourage Transportation Demand Management programs such as Commendable Commutes and pRide, which reduce both vehicular trips and traffic congestion.

Public Safety Element

The Public Safety Element promotes mitigation for hazards in the Pleasanton Planning Area. Hazardous material objectives that limit air pollutants and toxic air emissions would comply with the Air Quality Element. The Public Safety Element seeks to minimize risks to lives and property by reducing hazardous material emissions.

Conservation and Open Space Element

The Conservation and Open Space Element identifies existing and planned open space and recreational uses throughout the City of Pleasanton. Conservation and Open Space objectives that buffer sensitive receptors from noxious uses would comply with the Air Quality Element. The Conservation and Open Space Element encourages an open-space buffer surrounding Pleasanton.

Energy Element

The Energy Element guides Pleasanton toward a sustainable energy future. Energy objectives that reduce the use of carbon-based fuels would also lesson air pollutant emissions. The Energy Element encourages increases in renewable energy use, energy conservation, energy efficiency, and energy self-sufficiency.

Economic and Fiscal Element

The Economic and Fiscal Element strives to enhance Pleasanton's economic base. Economic objectives that would lead to fewer automobile trips would also lesson air pollutant emissions.

Subregional Planning Element

The Subregional Planning Element facilitates Pleasanton's involvement in cooperative planning of the Tri-Valley area. Programs that would continue Pleasanton's cooperation with the Bay Area Air Quality Management District and other regional agencies to monitor and control air pollutants would result in fewer air emissions.

AIR QUALITY GOALS, POLICIES, AND PROGRAMS

The following goals, policies, and programs, in addition to those contained in other elements, constitute an action program to implement the objectives described in this element.

GOALS, POLICIES, AND PROGRAMS

Goal 1: Implement a proactive approach, and use available technology to maintain and improve air quality within Pleasanton and the region to protect the public health, safety, and welfare.

Goal 2: Promote sustainable development and planning to minimize additional air emissions.

Air Quality Standards

Policy 1: Adhere to federal and State air quality standards for local pollutants of concern.

Program 1.1: Incorporate measures in conditions of approval for development projects to reduce grading, construction, and operations-related air quality impacts.

Program 1.2: Support State and federal legislation that promotes improvements in air quality.

Also implement programs from the Hazardous Materials section of the Public Safety Element.

Land Use

Policy 2: Support development plans that reduce mobile-source emissions by reducing vehicle trips and vehicle miles traveled.

Implement programs from the Land Use Element to provide mixed-use developments, locate high-density uses near transit facilities, and provide neighborhood-serving retail uses convenient to residential neighborhoods. These programs would reduce vehicle trips and vehicle miles traveled, thus reducing air-pollutant emissions.

Policy 3: Separate air pollution sensitive land uses from sources of air pollution.

Program 3.1: Locate new air pollution point sources, such as manufacturing and extracting facilities, away from residential areas and other sensitive land uses following the California Air Resource Board's recommendations.³

³ This program is currently based on Tables 1-1 and 1-2 of the California Environmental Protection Agency, California Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective*, April 2005 or as amended. As new information becomes available, then this program will use updated information.

- Program 3.2: Locate new sensitive receptors, such as residences, childcare centers, schools, playgrounds, and medical facilities away from point sources of air pollution and busy traffic corridors following the California Air Resource Board's recommendations.⁴
- Program 3.3: Require site specific studies of air quality health risk for development that would place sensitive receptors closer than 500 feet from the edge of a freeway or close to a significant point source of air pollution.

Motor Vehicle Travel

Policy 4: Reduce air pollution from motor-vehicle trips and vehicle-miles traveled.

To reduce vehicle miles traveled with commensurate reductions in air pollution and climate change, implement Transportation Demand Management (TDM) programs from the Circulation Element, including the addition of local and regional bicycle lanes. In order to shorten the distance of worker commutes, also implement programs from the Housing Element to provide mixed-use development and to provide housing opportunities for Pleasanton workers of all socioeconomic levels.

Development

Policy 5: Review proposed projects for their potential to impact air quality conditions.

- Program 5.1: Include air quality as a factor in the City's environmental review process. Encourage development plans which minimize negative impacts on air quality.
- Program 5.2: Require projects which generate high levels of air pollutants, such as manufacturing facilities and hazardous waste handling operations, to incorporate air quality mitigations in their design.
- Program 5.3: Consider adopting a wood smoke ordinance for fireplaces and wood stoves.

Energy and Conservation

Policy 6: Reduce air pollution and the production of greenhouse gases by increasing energy efficiency, conservation, and the use of renewable resources.

⁴ *Ibid*, April 2005. As new information becomes available, then this program will use updated information.

Program 6.1: For a one year period, the City will work with the International Council for Local Environmental Initiatives (ICLEI) to develop an action plan capable of reducing the City's greenhouse emissions. The City will consider implementing, monitoring, and reporting appropriate and achievable components of the proposed action plan.

Implement programs from the Energy Element including those related to "green building," such as encouraging passive-solar construction, as well as those related to reducing energy from appliances, equipment, and lighting.

Implement programs from the Public Facilities and Community Programs Element to reduce solid waste.

Also implement the program in the Water Element to conserve Pleasanton's urban forest as well as programs in the Community Character Element to replace and protect street trees. Tree shade not only helps lower energy use during hot months, most tree species remove air pollutants from the environment.

Technology Measures

Policy 7: Provide leadership to Pleasanton residents and businesses by implementing all technology-based air-pollutant-reduction programs that are reasonable and feasible.

Program 7.1: When replacing or adding motor vehicles to the City fleet, maximize the percentage of hybrid or other low-fuel usage, low-emission vehicles, as reasonable and feasible. The City should also purchase the smallest vehicles possible appropriate to the intended use.

Program 7.2: Continue to properly maintain the City vehicle fleet to insure as-designed vehicle operation. Proper preventative maintenance includes regular tune-ups, filter replacements, and engine diagnosis.

Program 7.3: As resources allow, continue and increase police bicycle patrols.

Program 7.4: As the City replaces landscaping equipment, gas cans, street sweepers, and other electrical and mechanical equipment, consider purchasing the least polluting equipment available.

Program 7.5: Postpone activities that contribute to air emissions on Spare the Air Days. Activities include: use of fossil fuel-powered landscaping equipment; surface coating and paint projects; and refueling vehicles. Reschedule vehicle trips, if feasible, without impacting project deadlines.

- Program 7.6: Where feasible, consider adopting a measure requiring large vehicles (gross weight rating of greater than 14,000 pounds) and off-road equipment owned by the City and/or private contractors to restrict engine idling to less than 5 consecutive minutes and to prohibit engine idling in parking lots.

Odors

Policy 8:	Minimize unpleasant odors in residential neighborhoods.
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- Program 8.1: Continue efforts to have the asphalt plant relocated away from Vineyard Avenue residents.

- Program 8.2: Continue working with the Dublin-San Ramon Services District (DSRSD) to ensure that odors from the sewage-treatment plant are minimized and other air emissions meet all regulatory requirements.

Public Awareness

Policy 9:	Encourage citizen and business participation in reducing air pollution.
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- Program 9.1: Provide regional and local air-quality information on the City of Pleasanton's website, including links to the Bay Area Air Quality Management District, the California Air Resources Board, Alameda County Waste Management Authority Stop Waste.org, and other environmental-based internet sites.

- Program 9.2: Establish an air quality public awareness program which includes changes that people can make to minimize air pollution. This program would educate the public and encourage people to choose the cleanest paints and consumer products, and to purchase the most energy-efficient appliances.

- Program 9.3: Develop incentives for the public to help reduce air pollution. This includes offering incentive programs for using non-motorized (i.e., pedestrian and bicycle) and low-polluting mobility alternatives.

- Program 9.4: Develop a recognition and awards program for businesses that reduce air pollution.

- Program 9.5: Provide information to the public regarding the importance of Spare the Air Days and how people can make a positive impact on the environment.

Implement measures from the Circulation Element to encourage public participation in Ride-Share and other public transportation programs.

2005 Pleasanton Plan 2025

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9. AIR QUALITY ELEMENT

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IX9. AIR QUALITY ELEMENT

BACKGROUND AND PURPOSE

Air Quality is an optional element of a General Plan.¹ This Element provides a guide to reduce air pollution, to meet federal and State air quality standards, and to address Pleasanton's efforts to become a more sustainable community.

The purpose of the Air Quality Element is to protect the health, safety, and welfare of the community by promoting community development ~~which that~~ is compatible with adopted air quality standards and that minimizes climate change. Exposure to air pollutants represents a health risk to everyone living in the Bay Area, particularly children, the elderly, and people with respiratory problems. In addition to health problems, poor air quality can pose a threat to the region's economic growth due to perceived environmental degradation and potential government-imposed sanctions against non-attainment areas,² such as the withholding of federal highway funds.

Under the *California Clean Air Act*, each city and county in the Bay Area is required to adopt and implement all feasible control measures to improve air quality in the region. By including an Air Quality Element in its General Plan, the City of Pleasanton shows its commitment to improve air quality and to achieve and maintain compliance with State and federal air quality standards.

LOCAL AND REGIONAL METEOROLOGICAL INFLUENCES ~~ON AIR QUALITY~~

In spite of population and employment growth over the past 30 years, air quality has improved in Pleasanton. Improvements to air quality are due largely to both cleaner-burning automobile engines and fuels that emit fewer pollutants. Tighter regulatory controls imposed on industrial and other such point sources of air pollutants have also contributed to air-quality improvements in the region and in Pleasanton.

~~The amount of a given pollutant in the ambient atmosphere is determined by t~~The amount of a pollutant emitted and the atmosphere's ability to transport and dilute the pollutant determine the amount of a given pollutant in the ambient atmosphere. The frequency of hot sunny days during the summer months is an important factor that affects air pollution potential. Although climate and topography influence air pollution potential, air pollution occurring in a location also depends upon total contaminants emitted in the surrounding area and/or the amount transported from more distant places. Pollutants such as ozone, created by photochemical processes – sunshine and certain

¹ State of California, Governor's Office of Planning and Research, *General Plan Guidelines*, 2003.

² The *Federal Clean Air Act* defines Non-attainment areas as geographic areas that do not meet one or more of the *Ambient Air Quality* standards for the criteria pollutants. The *Federal Clean Air Act* and/or the *California Clean Air Act* designate the criteria pollutants and their standards.

chemicals – in the air, may result in high concentrations many miles downwind from the sources of the original chemicals.

~~The major determinants of transport and dilution are wind, atmospheric stability, terrain, and, for photochemical pollutants, sunshine.~~

Wind data for the Livermore Municipal Airport show wind predominantly blowing from the west and southwest, reflecting the location of the Hayward Canyon and Niles Canyon gaps in the East Bay Hills. Winds are generally highest in the afternoon and lowest at dawn. From 1998 to 2005, BAAQMD measured average wind speeds between 12 and 13 miles per hour (mph) and maximum gusts between 47 and 56 mph.³ ~~Calm conditions are comparatively frequent (occurring about 23 percent one fourth of the time).⁴~~

An inversion is a layer of warmer air over a layer of cooler air. Inversions affect air quality because they influence the vertical depth of the atmosphere available for diluting air contaminants near the ground. The highest air pollutant concentrations in the Bay Area generally occur during inversions because they reduce vertical air dilution. Atmospheric stability refers to the tendency of the atmosphere's thermal stratification to suppress or promote vertical dilution of pollutants. The occurrence of high atmospheric stability, known as inversion conditions, severely reduces vertical mixing of pollutants. Atmospheric stability in the Bay Area is measured twice daily by radiosondes released at the Oakland Airport. Both wind and the amount of sunlight affect stability. The more stable the air, the slower the mixing, resulting in an increased probability of air pollutant build up. During the summer, inversions generally occur from about 500 to less than 5,000 feet above ground. Surface inversions, which are lower and thus worse for air pollution, occur mostly from October through January, are generally elevated above ground level, and are present over 90 percent of the time in both the morning and afternoon. In winter, surface-based inversions dominate in the morning hours, but frequently dissipate by afternoon.⁵

The topography of the ~~Livermore-Amador-Tri-~~Valley also affects air quality. The ~~Livermore-Amador-Tri-~~Valley, ringed by the Diablo Range of hills, is a sheltered inland valley with ~~the valley's~~ floor at an altitude of about 400 feet. Hills rising 1,000 to 1,500 feet tall border the ~~The valley floor is ringed by hills on the west and east, exceeding 1,000 feet,~~ with only narrow gaps in the hills allowing wind movement; the Hayward Canyon and Niles Canyon passes (to the west) and the Altamont Pass (to the east). To the valley's north lie the Black Hills including the 3,849-foot tall Mount Diablo, while the south side of the valley rises up about 3,000 to 3,500 feet.

³ Bay Area Air Quality Management District, Weather Data, <http://gate1.baaqmd.gov/aqmet/met.aspx>, September 28, 2005.

⁴ California Department of Water Resources, *Wind in California*, Bulletin No. 185, January 1978.

⁵ Bay Area Air Quality Management District, "Climate, Physiography, and Air Pollution Potential – Bay Area and Its Subregions (Referenced by County)," http://www.baaqmd.gov/dst/papers/bay_area_climate.pdf, September 28, 2005.

The ~~Tri-Valley Livermore Amador~~-subregional air basin, in which Pleasanton is located, also contains the growing communities of Livermore, Dublin, San Ramon, ~~and Danville, and Alamo~~. The ~~Livermore-AmadorTri-Valley~~ area is located generally downwind with respect to the ~~Greater rest of the~~ Bay Area, so that ~~the air stream into the Valley is already contaminated by pollutants released upwind~~ pollutants released upwind contaminate the air stream into the Tri-Valley area. In turn, winds transport pollutants generated within the ~~Livermore-AmadorTri-Valley~~ are transported easterly through the Altamont Pass into the San Joaquin Valley. ~~Pollutants from the Bay Area are suspected to be transported into the Sierra Nevada, where they may contribute to acid rain and acid deposition.~~

The combined effects of frequently light or calm winds, frequent inversions that restrict vertical dilution, and terrain that restricts horizontal dilution give Pleasanton a relatively high atmospheric potential for pollution.

AIR POLLUTANTS AND STANDARDS ~~MODES~~

Both ~~the~~ Federal and State ~~governments~~ standards have been adopted for the protection of air quality standards. These are designed as health-based standards to protect the public health, safety, and welfare ~~from effects such as illness, visibility reduction, soiling, nuisance, and other forms of damage~~. In order to evaluate compliance with these standards, local air districts continuously monitor selected air pollutants ~~are continuously monitored~~. Table 9-1 presents these standards ~~are presented in Table IX-4~~. The primary pollutants for which there are standards are discussed below.

Ozone (O_3)

Ozone is an easily recognizable air pollutant, due to its visual appearance as smog. ~~Ozone is generated from complex chemical reactions of nitrogen oxides (NO_x) and reactive organic gases (ROG) -The creation of ozone is the result of a complex chemical reaction between hydrocarbons and oxides of nitrogen~~ in the presence of sunlight. In both the Tri-Valley and Bay Area, ~~the motor vehicles provide the largest single major~~ source of ozone's chemical components ~~precursors is from automobile emissions~~. In addition, winds transport emissions from outside the area ~~are also transported~~ into the Tri-Valley, where they can be trapped by a temperature inversion and chemically "cooked" on the hot, still days of summer and early fall.

~~Ozone exposure aggravates respiratory diseases, irritates eyes, damages lung tissue, and may cause cancer and other diseases. The health effects of ozone are eye irritation and damage to lung tissues. Ozone also harms vegetation, reduces crop yields, and accelerates deterioration of paints, finishes, rubber products, plastics, and fabrics. damages some materials such as rubber, and may damage plants and crops.~~

Carbon Monoxide (CO)

Carbon monoxide is a highly toxic ~~n~~-odorless, colorless gas ~~that is highly toxic~~. Automobile emissions provide the main source of carbon monoxide through ~~It is formed by~~ the incomplete combustion of

TABLE 9-1 AMBIENT AIR QUALITY STANDARDS AND BAY AREA ATTAINMENT

Pollutant	Averaging Time	California Standards ^a		Federal Standards ^b	
		Concentration	Attainment Status	Concentration	Attainment Status
Ozone	8 hour	–	–	8 pphm	N ^c
	1 hour	9 pphm (180 µg/m ³)	N	–	–
Carbon Monoxide	8 hour	9.0 ppm (10 mg/m ³)	A	9 ppm (10 mg/m ³)	A ^d
	1 hour	20 ppm (23 mg/m ³)	A	35 ppm (40 mg/m ³)	A
Nitrogen Dioxide	Annual Average	–	–	0.053 ppm (100 µg/m ³)	A
	1 hour	0.25 ppm (470 µg/m ³)	A	–	–
Sulfur Dioxide	Annual Average	–	–	80 µg/m ³ (0.03 ppm)	A
	24 hour	0.04 ppm (105 µg/m ³)	A	0.14 ppm (365 µg/m ³)	A
	1 hour	0.25 ppm (655 µg/m ³)	A	–	–
Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	20 µg/m ³	N	50 µg/m ³	A
	24 hour	50 µg/m ³	N	150 µg/m ³	U
Fine Particulate Matter (PM _{2.5})	Annual Arithmetic Mean	12 µg/m ³	N	15 µg/m ³	A
	24 hour	–	–	65 µg/m ³	A
Sulfates	24 hour	25 µg/m ³	A	–	–
Lead	Calendar Quarter	–	–	1.5 µg/m ³	A
	30-Day Average	1.5 µg/m ³	A	–	–
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	U	–	–
Vinyl Chloride	24 Hour	0.010 ppm (26 µg/m ³)	Not available	–	–
Visibility Reducing Particles	8 Hour (1000 to 1800 PST)	Visibility > or = 10 miles	A	–	–

Notes: A = Attainment, N = Nonattainment, U = Unclassified (no determination made), pphm = parts per hundred million, ppm = parts per million, mg = milligram (one-thousandth of a gram), µg = microgram (one-millionth of a gram), m³ = cubic meter, PST = Pacific Standard Time.

- a California standards for ozone, carbon monoxide, sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter (PM₁₀), and visibility reducing particles are values that are not to be violated (exceeded). The standards for sulfates, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or violated.
- b National standards other than for ozone, particulates, and those based on annual averages are not to be violated (exceeded) more than once a year. The ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.
- c In June 2004, the federal government designated the Bay Area as a marginal nonattainment area of the national 8-hour ozone standard.
- d In April 1998, the federal government redesignated the Bay Area to attainment for the national 8-hour carbon monoxide standard.

Source: Bay Area Air Quality Management District, "Ambient Air Quality Standards and Bay Area Attainment Status," July 2005.

~~fuels, and its main source is automobiles. Ambient carbon monoxide concentrations normally correspond closely to vehicular traffic, although wind speed and atmospheric mixing also influence concentrations. Under certain conditions, carbon monoxide may distribute more uniformly out to some distance from vehicular sources. Unlike ozone, carbon monoxide is a localized pollutant, i.e., high concentrations are found only near the source although there can be a widespread “cloud” providing high background levels of carbon monoxide. Since the major source of carbon monoxide is automobiles, concentrations of carbon monoxide are greatest near heavily-traveled roadways. The emission rate of carbon monoxide is highly dependent on traffic speed, with emissions increasing as speed decreases and idling increases. In past years, the Tri-Valley suffered from relatively high carbon monoxide concentrations. The Tri-Valley area, including Pleasanton, currently meets (and is expected to meet in the future) ambient standards for carbon monoxide. Historically, carbon monoxide concentrations have been decreasing in the Bay Area as newer autos have met increasingly stringent emission control requirements.~~

Carbon monoxide’s health effects are related to its affinity for hemoglobin in blood. At high concentrations, carbon monoxide reduces the oxygen-carrying capacity of amount of oxygen in the blood, ~~causing aggravating heart difficulties in people with chronic diseases, impairing central nervous system functions, and causing fatigue, headaches, and dizziness. reduction of lung capacity, and impairment of mental abilities.~~

Suspended Particulates (PM₁₀ and PM_{2.5})

Suspended particulates are solid and liquid particles of dust, soot, aerosols, and other matter ~~which that~~ are small enough to remain suspended in the air for a long period of time. A portion of the total particulate matter in the air is due to natural sources such as wind-blown dust and pollen. Human-made sources include combustion, automobiles, fireplaces, factories, construction, and roads; especially unpaved roads and busy highways.

Both particulates (PM₁₀) and fine particulates (PM_{2.5}) can damage lungs and The effects of high concentrations of suspended particulates on humans include aggravation of chronic disease and heart/lung disease symptoms. cause persistent coughs, phlegm, wheezing, and physical discomfort. Inhalation of fine particulate matter may lead to reduced life span. Non-health-related effects include reduced visibility and soiling of surfaces.

Nitrogen Dioxide (NO₂)

Nitrogen dioxide is a reddish-brown toxic gas readily visible during periods of heavy pollution. It is one of the oxides of nitrogen that results from combustion. ~~Other oxides of nitrogen, particularly nitric oxide, are converted to nitrogen dioxide in the presence of sunlight.~~ Major sources of nitrogen oxides include of nitrogen are automobiles and industrial uses, such as refineries, industrial boilers, and other types of combustion equipment. The Bay Area, including Pleasanton, meets ambient

standards for nitrogen dioxide, and the BAAQMD does not expect future violations of these standards.

Nitrogen dioxide ~~The health effects associated with this pollutant are increases in the incidences risk of chronic bronchitis, and lung irritations, and sore throats. Nitrogen dioxide also leads to reduced visibility.~~

Sulfur Dioxide (SO₂)

~~Sulfur dioxide is a colorless gas with a pungent, irritating odor. It is created by the combustion of sulfur-containing fossil fuels. Major sources of sulfur dioxide in the Bay Area are refineries and some chemical plants. The Bay Area, including Pleasanton, meets ambient standards for sulfur dioxide, and the BAAQMD does not expect future violations of these standards. This substance is known to oxidize to sulfur trioxide, which combines with moisture in the atmosphere to form a sulfuric acid mist.~~

~~Sulfur dioxide aggravates chronic obstructive lung disease and increased risk of acute and chronic respiratory illness. ItSulfur dioxide also damages and irritates lung tissue and accelerates corrosion of materials.~~

Hazardous Pollutants

~~In addition to the above pollutants, for which there are ambient air quality standards, there is a second class-type of regulated pollutants called Toxic Air Contaminants (TACs). These are known to be injurious, even in small quantities, but are relatively uncommon outside of industrial and medical uses. The federal and State governments provide re are emission regulations for these pollutants, rather than ambient air quality standards, for these pollutants.~~

~~In 2002, the BAAQMD monitored 67 different toxic air contaminates in Alameda County including about 2,490 pounds of carcinogenic (cancer-causing) contaminant emissions and 725 pounds of non-carcinogenic contaminant emissions. BAAQMD operates several programs to identify and control ambient levels of these pollutants including: (1) Air Toxic New Source Review, (2) Air Toxics Hot Spots Program, (3) Control Measures for Categories of Sources, (4) Emissions Inventory, and (5) Ambient Monitoring Network. The air toxics program is a separate and complementary program to criteria air pollutants – pollutants discussed above in this section for which there are standards – that is designed to evaluate and reduce adverse health effects resulting from toxic air contaminant exposure.~~

~~To date, Toxic Air Contaminants regulated by the Bay Area Air Quality Management District (BAAQMD) are asbestos, beryllium, mercury, vinyl chloride, hexavalent chromium, ethylene oxide, perchloroethylene, and benzene. In addition, the BAAQMD is authorized to require permits for services that generate toxic emissions for which there are no definite emissions regulations. The City evaluates Toxic Air Contaminants are evaluated on a project-by-project basis, based upon a worst-caseconservative evaluation of the health risks evaluation. Businesses which handle, store, or~~

~~transport hazardous materials are regulated by~~ The City's Hazardous Materials Storage Permit policies (Chapter 9.16 of the *Pleasanton Municipal Code*) Ordinance² regulate businesses that handle, store, or transport hazardous materials; (see additional information ~~described~~ in the Public Safety Element).

AIR POLLUTANT SOURCES ~~AND SENSITIVE RECEPTORS~~

Pleasanton contains various air pollution sources besides motor vehicle fuel combustion, its largest single source. ~~The Fuel combustion of fuel for s~~ Additional major pollutant sources include space and water heating, industrial processes, and commercial-use fuel combustion ~~are three such major pollutant sources.~~ The Other pollutant sources are include evaporation of fuels and solvents, incineration, fires, agricultural tilling, and pesticides use are other examples. ~~The largest single source is vehicles.~~

The Bay Area Air Quality Management District (BAAQMD) is the main local permitting agency for air pollutant sources. ~~There are n~~ Pleasanton contains n numerous minor sources of air pollutants ~~in Pleasanton~~ that have permits from the BAAQMD, such as dry cleaning plants, gas stations, auto body shops, and other businesses that using organic compounds, which ~~hold the potential for~~ could polluting the air.

ODORS

In addition to these sources of pollutants, the ~~District~~ Air Resources Board of the California Environmental Protection Agency has identified ~~types of land-uses types which that~~ frequently cause odors, dust or other nuisances.⁶³ In Pleasanton, these operations generally include: (1) sand-and-gravel harvesting areas – including asphalt plants – along Stanley Boulevard, (2) the Dublin San Ramon Services District (DSRSD) sewage treatment plant on Johnson Drive and the treatment ponds and drying beds north of Stoneridge Drive, (3) the solid waste transfer station on Busch Road, and (4) some agricultural areas.

The City relies on the California Health and Safety Code to regulate odors. These laws have been written to protect the public health and welfare throughout the State, including in and around Pleasanton. The Bay Area Air Quality Management District (BAAQMD) regulates odors in the City of Pleasanton and has equipment, expertise, and personnel to enforce nuisance odor reduction. The Bay Area Air Quality Management District enforces California Health and Safety Code Section 41700 (public nuisance) as well as the Air District's own Regulation 1-301 (which is a restatement of Section 41700 Health and Safety Code) against odor sources that cause a public nuisance. The Health and Safety Code exempts agricultural sources from this restriction, and the local enforcement authority handles odor complaints related to composting operations (Section 41705). For Alameda County, the local enforcement authority for composting operations is the Alameda County Environmental Health Department.

⁶³ California Environmental Protection Agency, Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective*, April 2005.

Not all odors constitute a public nuisance; some are pleasant, some benign, while others are bothersome. For an odor to be considered a nuisance it would have to bother a widespread segment of the population and not just a handful of individuals.

An asphalt plant within the Pleasanton Planning Area is located on CEMEX property south of Stanley Boulevard near the Vineyard Avenue corridor. This property is under Alameda County's jurisdiction. Operations of this plant have resulted in numerous odor complaints from Pleasanton residents living in the vicinity. In 2007 the City reached an agreement with Alameda County, Granite Construction, and CEMEX to move the asphalt plant closer to Stanley Boulevard near Shadow Cliffs. This should reduce odor impacts to residents in the Vineyard Avenue corridor.

The Dublin-San Ramon Services District (DSRSD) sewage treatment plant is located directly west of Val Vista Park while the ponds and the processed sludge are located across Stoneridge Drive from the closest residential neighborhood. The sewage treatment plant generally meets air emissions standards. It has been the subject of odor complaints in the past, although there have been fewer complaints since the recent upgrade and capacity increase of the plant. Even before these improvements, emissions from the sewage treatment plant represented a nuisance rather than a health hazard to residents located near the facilities.

The Bay Area Air Quality Management District (BAAQMD) sends out an inspector if a person makes a complaint regarding odors or emissions from the plant. In addition to BAAQMD inspectors, DSRSD also investigates odor complaints.

As business parks develop, it is possible that electronic manufacturers and other users of hazardous and potentially annoying substances may locate within the Planning Area. The Pleasanton General Plan separates most of these existing and potential locations from residential areas and sensitive receptors through the use of Public Health and Safety buffer zones, as shown on the General Plan Map.

SENSITIVE RECEPTORS

Sensitive receptors include can be defined as those most likely to be used by the infirm, children, the elderly, children, infirmed, or persons and people with particular sensitivity sensitive to air pollutants. Examples of land uses where sensitive receptors congregate are hospitals, childcare centers, schools, playgrounds, rehabilitation centers, residences, and senior housing, including assisted living and convalescent nursing homes. Table 9-2 lists sensitive receptors and Figure IX9-1 gives shows the locations of such potential sensitive receptors in Pleasanton.

RECENT AIR QUALITY CONDITIONS

In 1988, the State adopted the *California Clean Air Act* ~~(CCAA)~~. The standards contained in this Act are more restrictive than ~~the~~ parallel ~~F~~federal standards. The Act requires that each regulatory

authority governing ~~emissions of~~ air pollutants ~~emissions throughout in different regions of~~ the State adopt a strategy to achieve and maintain the State ambient ~~air quality standards for~~ ozone, carbon monoxide, sulfur dioxide, and nitrogen dioxide ~~standards~~ by the earliest practicable date. In the Bay Area, the BAAQMD is the agency responsible for preparing the strategy to improve ~~the~~ air quality. Based on monitoring data collected and compiled by the BAAQMD, the Bay Area is ~~currently~~ not in attainment for ozone (O₃) ~~and carbon monoxide (CO)~~. In response to legal requirements of the ~~1988 CCAA Clean Air Act~~, the BAAQMD has prepared ~~a series of clean air plans a plan (The the measures~~ aimed at reducing emissions from stationary and mobile sources. ~~In January 2006, the BAAQMD replaced the 2000 Clean Air Plan with the 2005 Bay Area Ozone Strategy.~~

~~The State has also established measures to control additional pollutants including particulate matter 10 microns or less in size (PM₁₀) and fine particulate matter 2.5 microns or less in size (PM_{2.5}).~~

Pleasanton, in conjunction with the Hacienda Business Park Owners Association, ~~monitored~~s carbon monoxide (CO), ~~total suspended particulate matter (TSP), particulate matter less than ten microns (PM-10), and meteorological conditions until 1992 when BAAQMD assumed responsibility for the station on Chabot Drive in Pleasanton. In 1996, BAAQMD ceased monitoring in Hacienda Business Park as no violations of any pollution standard had occurred for years. The CO monitoring station is located at the southeast corner of the Hopyard Road/ Stoneridge Drive street intersection, the TSP and PM-10 monitoring station is located on the roof of the Hacienda Child Development Center on Chabot Drive, and the meteorological station is located at the Dublin San Ramon Services District's watertreatment plant lagoons. BAAQMD assumed responsibility for the operations of the meteorological station as of May 14, 1992. BAAQMD continues to monitor~~ ozone, carbon monoxide (CO), nitrogen dioxide, sulfur dioxide, and particulates~~all of the above-listed pollutants, plus ozone and lead,~~ at its Livermore Station. Table ~~IX-3~~ shows air quality data for ~~1983-1995 to 1994~~2005. These data indicate ~~Violations of standards for ozone, carbon monoxide, and suspended particulate standardss are indicated.~~

Since ~~1983~~1995, ozone levels in the ~~Livermore Amador Tri-~~Valley have generally decreased. ~~During this time, the number of days exceeding violating State standards has averaged about seven annually (over the last three years) compared to an average of about 15 annually during the mid-1990s, has ranged from twenty-one in 1988 to five in 1994, and the number of days exceeding Federal standards has ranged from eight in 1983 to zero in 1992. In addition S~~since 1983, there have been no days in which the levels of carbon monoxide ~~violatedexceeded~~ either State or ~~F~~federal standards.

During the past ~~seven-10~~ years, ~~the Tri-Valley area has violated days where State~~ particulate matter (PM-₁₀) ~~exceeded standards from zero to three times each year, while it has not violated federal standards. Since the BAAQMD began monitoring the new PM_{2.5} standard, it has measured no violations of either State or federal standards have been as high as ten in 1991 to as low as one in 1994. At no time did total particulate matter exceed Federal standards in the Tri-Valley area.~~

TABLE 9-2: AIR QUALITY SENSITIVE RECEPTOR LOCATIONS, 2005

Pleasanton Unified School District Schools

1. Phoebe Apperson Hearst Elementary School, 5301 Case Avenue
2. Vintage Hills Elementary School, 1125 Concord Street
3. Valley View Elementary School, 480 Adams Way
4. Alisal Elementary School, 1454 Santa Rita Road
5. Walnut Grove Elementary School, 1999 Harvest Road
6. George C. Lydicksen Elementary School, 7700 Highland Oaks Drive
7. Thomas H. Donlon Elementary School, 4150 Dorman Road
8. Henry P. Mohr Elementary School, 3300 Dennis Drive
9. Fairlands Elementary School, 4151 West Las Positas Boulevard
10. Pleasanton Middle School, 5001 Case Avenue
11. Harvest Park Middle School, 4900 Valley Avenue
12. Thomas S. Hart Middle School, 4433 Willow Road
13. Village and Horizon High Schools, 4645 Bernal Ave. & 245 Abbie Street
14. Amador Valley High School & Adult Education, 1155 Santa Rita Road
15. Foothill High School, 4375 Foothill Road
16. Potential School Site, Busch Road
17. Potential Elementary School, Vineyard Avenue

Private Schools

18. Carden West School, 4576 Willow Road
19. Hacienda School, 3800 Stoneridge Drive
20. Lighthouse Baptist School, 118 Neal Street
21. Quarry Lane School, 3750 Boulder Street

Note: Family childcare and about 15 residential-care facilities for the elderly are provided in residential neighborhoods throughout Pleasanton. Because residents are also sensitive receptors, Figure 11-4 does not delineate childcare providers and elder residential care in these neighborhoods.

Childcare Centers Not in Schools or Residences

22. Adventures in Learning, 3200 Hopyard Road
23. Beth Emek Preschool, 3400 Nevada Street (at Bernal Avenue)
24. The Child Day School, 883 Rose Avenue
25. Children's World Learning Center, 7110 Koll Center Parkway
26. Early Years Children's Center, 1251 Hopyard Road
27. Gingerbread Preschool, 4333 Black Avenue
28. Hacienda Child Development Center, 4671 Chabot Drive
29. Kindercare Learning Center-Pleasanton, 3760 Brockton Drive
30. Kinderkirk Christian Preschool-Pleasanton, 4300 Mirador Drive
31. La Petite Academy, 5725 Valley Avenue
32. Love and Care Preschool, 7106 Johnson Drive
33. Quarry Lane School, 4444-A Black Avenue
34. Saint Clare's Day Care Center, 3350 Hopyard Road
35. Shining Light Preschool, 4455 Del Valle Parkway
36. Sonshine Enrichment Center, 1225 Hopyard Road
37. YMCA Child Development Program, 4667 Bernal Avenue

Facilities for the Medically Fragile and Elderly

38. Pleasanton Nursing and Rehabilitation Center, 300 Neal Street
39. Valley Care Medical Center, 5555 West Las Positas Boulevard
40. Kaiser Permanente Medical Center, 7601 Stoneridge Drive
41. Eden Villa Pleasanton Residential Care, 4115 Mohr Avenue
42. Pleasanton Senior Center, 5353 Sunol Blvd.

Future Sensitive Receptors

43. West Pleasanton/Dublin BART Station
44. Hacienda – Housing locations are not yet specifically identified.
45. Staples Ranch Senior Continuing Care.
46. East Pleasanton – Housing locations are not yet identified.

Sources: California Department of Social Services – Community Care Licensing Division, http://ccl.dss.cahwnet.gov/Informatio_1768.htm; Pleasanton Unified School District, 2006; SBC Yellow Pages, 2006; Pleasanton Planning and Community Development Department, 2006.

TABLE 9.3: 1995 – 2005 LOCAL AIR QUALITY CONDITIONS

<u>POLLUTANT</u>	Emissions Information by Year											
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Ozone												
Ozone Peak One-Hour Concentrations	16	14	11	15	15	15	11	16	13	11	12	12.7
State 1-Hour Standard: 9 pphm: No. of Violations	20	22	3	21	14	7	9	10	10	5	6	13
Federal 1-Hour Standard: 12 pphm: No. of Violations	7	8	0	6	2	2	0	2	1	0	—	—
Ozone Peak Eight-Hour Concentrations	—	—	—	—	12	11	9	11	9	8	9	10.1
State 8-Hour Standard: 7 pphm: No. of Violations	—	—	—	—	—	—	—	—	—	—	7	15
Federal 8-Hour Standard: 8 pphm: No. of Violations	—	—	—	—	5	2	2	6	3	0	1	5
Particulate Matter												
PM ₁₀ Annual Geometric Mean	19.4	19.9	22.0	19.4	22.7	19.4	21.1	21.5	—	—	—	—
PM ₁₀ Annual Average Concentration	—	—	—	—	25.7	21.8	24.6	24.5	18.9	20	18.8	21.8
PM ₁₀ Maximum 24-Hour Concentration	—	—	—	—	87	71	109	64	33	49	49	69
State PM10 Standard: 50 µg/m ³ : No. of Violations	1	1	2	2	3	2	3	2	0	0	0	3
Federal PM10 Standard: No. of Violations	0	0	0	0	0	0	0	0	0	0	0	0
Fine Particulate Matter (PM_{2.5})												
Annual Average Concentration	—	—	—	—	—	—	—	13.8	9.0	10.3	9.0	11.0
Maximum 24-Hour Concentration: 35 µg/m ³ , 65 µg/m ³ in 2006	—	—	—	—	—	56.4	107.5	62	42	41	32.1	50.8
State PM _{2.5} Standard: 12 µg/m ³ 3-Year Average: No. of Violations	—	—	—	—	—	—	—	0	0	0	0	0
Federal PM _{2.5} Standards: No. of Violations	—	—	—	—	—	—	2	0	0	0	0	3

Notes: No. = number, ppm = parts per million, pphm = parts per hundred million, mg = milligram (one-thousandth of a gram), µg = microgram (one-millionth of a gram), m³ = cubic meter.

Violations of standards are indicated by bold typeface on the table.

BAAQMD has measured no violations (exceedances) of the carbon monoxide, nitrogen dioxide, or sulfur dioxide standards from 1995 to 2005.

Sources: BAAQMD, Bay Area Air Pollution Summary, 1999–2005; BAAQMD, Summary of Air Pollution in the Bay Area, 1995–1998. All data are from the Livermore Station.

In order to protect public health, the Bay Area Air Quality Management District issues Spare the Air advisories on days when unhealthy air quality is forecast due to high pollutant levels. The Air District advises people who are especially sensitive to pollution to limit their time outdoors, particularly in the afternoon hours. On Spare the Air Days, the District requests that Bay Area residents make clean air choices including driving less, taking public transportation, trip-linking, walking, biking, choosing non-gasoline-powered lawn and garden equipment, avoiding polluting household products, and in the winter, curtailing burning of wood. The Air District and Metropolitan Transportation Commission partner with numerous Bay Area transit operators to offer free commutes on several Spare the Air days each year.

CLIMATE CHANGES ⁷

The Earth's climate is changing because human activities – primarily the combustion of fossil fuels – are altering the chemical composition of the atmosphere through the buildup of greenhouse gases. Greenhouse gases allow the sun's ultraviolet radiation to penetrate the atmosphere and warm the Earth's surface, but do not let the infrared radiation emitted from the Earth escape back into outer space.

Carbon dioxide (CO₂) emissions are the leading cause of climate change, with additional contributions from air pollutants such as methane, nitrous oxides, and hydrofluorocarbons. Carbon dioxide concentrations, which had been stable for the past 10,000 years, began rising only during the last two hundred years in California and have now increased by about 30 percent over historic levels. In the last decade, transportation accounted for the largest portion of air emissions, averaging 59 percent of total CO₂ emissions, followed by 16 percent from electricity generation, and 12 percent from other industries.

In terms of air quality, climate change affects public health because higher temperatures result in more air pollution, increased smog, and associated respiratory disease and heart-related illnesses. Continued warming threatens to erode air-quality improvements made in the Bay Area within the past 50 years and may make it more difficult for the region to meet ozone and particulate-matter standards.

Although emission reductions have not been not quantified, many transportation control measures will also reduce greenhouse gas emissions from motor vehicles. Control measures that result in reducing or eliminating motor vehicle trips or result in more efficient motor vehicle operations would help reduce greenhouse gas emissions as well as reducing ozone concentrations. In addition, energy conservation measures – including green building – would directly target greenhouse gases while also helping to reduce ozone.

⁷ Bay Area Air Quality Management District, Board of Directors Resolution on Climate Change, "Climate Change and Protection," <http://www.baaqmd.gov/pln/climatechange.htm>, June 1, 2005.

Climate Protection Project

The Alameda County Waste Management Authority is coordinating the Climate Protection Project. The County has contracted with the International Council for Local Environmental Initiatives (ICLEI) on behalf of participating cities to receive the following:

- A baseline greenhouse gas emissions inventory and forecast;
- Assistance in developing an emission-reduction target;
- A survey of existing polices and programs to reduce emissions and save energy;
- A template local Climate Action Plan that Pleasanton can use as a start in developing its individual local action plan.

In 2007 the City joined both the Alameda County Climate Protection Project and ICLEI for a one year period. During this time the City will work with ICLEI to develop an action plan that will consist of polices and measures that will include existing and future actions capable of meeting local greenhouse-gas-reduction targets. The City will then consider implementing, monitoring, and reporting appropriate and achievable components of the proposed action plan.

FUTURE AIR QUALITY

Buildout of the General Plan would ~~result in the replacement of~~ currently vacant and underutilized land with mostly residential, commercial, and industrial uses. These urban uses are a source of ~~small amounts of~~ pollutants from the combustion of fuel for space and water heating as well as from the use of consumer products. These urban uses also contribute to residential and commercial motor vehicle trips that use fuel. Pleasanton projects about 3,800 more housing units and about a 50 percent increase in commercial and industrial development from 2006 until General Plan buildout – from 21.0 million square feet in 2006 to about 32.8 million at buildout.⁸ This substantial increase in development will lead to fuel-use and air-emission intensification related to vehicle use.

The General Plan also would allow for additional regulated point sources of pollutants and users of hazardous materials. Although the number and nature of future additional air pollutant point sources within Pleasanton are not known, BAAQMD requires that each individual source will be required to meet its the rules and regulations of the BAAQMD. These regulations require that sources of hazardous materials or criteria pollutants above certain thresholds obtain permits prior to constructiong or operationg of the facility. BAAQMD regulations may require ~~the~~ use of Best Available Control Technology with; emission reductions at other locations to offset proposed increases, and may require detailed analysis and/or modeling of air pollution impacts prior to issuing a permit. In certain cases, BAAQMD may also require on-site monitoring prior to and after

⁸ Based on growth projections in the Land Use Element of this General Plan.

construction, and may attach conditions that it ~~feels~~ believes are necessary to avoid public health hazards and community complaints.

By far the largest change in subregional emissions related to buildout under the General Plan would be related to automobile traffic. ~~Table 9-4 shows total daily vehicle miles traveled (VMT) emissions associated with county-wide vehicle use, the largest source of air emissions—is summarized in Table IX-3. Emissions of four pollutants—generated by automobiles are shown—estimated for 1995 and 2010~~2005 and 2025. ~~Note that all emissions, with the exception of carbon dioxide, would continue to drop and that countywide air quality would improve. This is due to improvements in the vehicle fleet: better controls on newer vehicles while older vehicles are removed from roadways. Carbon dioxide, the gas related to climate change, will continue to grow at about the same rate as future gasoline consumption. Thus to lower greenhouse gas emissions would require consuming less gasoline.~~ Although Pleasanton ~~development~~ contributes to ~~the generation of VMT~~vehicle miles traveled, commuting within the Tri-Valley is a regional problem.

TABLE 9-4: PROJECTED COUNTY-WIDE VEHICULAR EMISSIONS, 2005 AND 2025 (TONS/DAY)

	<u>2005</u>	<u>2025</u>	<u>Percent Change</u>
Vehicle Miles Traveled	36,218,000	48,872,000	35 %
Diesel Consumption (gallons)	409,030	481,420	18 %
Gasoline Consumption (gallons)	1,755,530	2,342,660	33 %
Reactive Organic Gases (ROG)	31.03	11.11	- 65 %
Nitrogen Oxides (NOX)	72.31	20.5	- 72 %
Sulfur Oxides (SOX)	0.57	0.27	- 53 %
Particulate Matter (PM ₁₀)	3.02	2.52	- 17 %
Carbon Monoxide (CO)	295.45	83.34	- 72 %
Carbon Dioxide (CO ₂)	21.19	28.1	+ 33 %

Source: Illingworth & Rodkin, using Emfac2007 V2.3 Nov. 2006, 2007.

[discussion of CO deleted because CO concentrations are no longer a problem in the Tri-Valley] ~~to which many jurisdictions not be important in determining the maximum concentrations, however, due to its local nature. Therefore, estimates of the carbon monoxide concentrations at congested intersections have been prepared using an air pollutant dispersion model. The eight intersections modeled were selected because they carry the highest volumes of traffic within Pleasanton. Carbon monoxide levels near these intersections should be the highest found in the area. Although freeways in the area carry higher volumes than surface streets, the low speeds and idling associated with the intersections result in a greater density of emissions than for the freeways.~~

The resulting estimated worst case carbon monoxide levels in the Pleasanton area are shown in Table IX-4. Highest case concentrations of carbon monoxide are currently below the Federal and State standards, and are projected to remain below these standards through 2010.

It should be noted that these projections are based on certain assumptions concerning traffic growth, congestion levels, and roadway and intersection improvements as described in the Circulation Element, as well as meteorological conditions, background levels of carbon monoxide, and other factors which have a certain level of uncertainty. Should the assumptions in the calculation prove incorrect, different results may occur. For this reason, the continuation of the carbon monoxide monitoring program and careful evaluation of its results will be necessary to ensure that carbon monoxide levels do remain below the State and Federal standards in Pleasanton.

PURPOSE OF AIR QUALITY PLANNING

The past improvement in air quality in the Livermore-Amador-Tri-Valley area has been very continually improved encouraging over the past 30 years. However, the area continues to violate both federal and State ozone and particulate matter (PM₁₀) standards. The following trends and analysis make clear that continued improvement of air quality is not always assured given climatic warming coupled with continuing population and job growth in the Bay Area. Additional subregional public transit options would lead to decreased dependence on the single-occupant vehicle. Until the Tri-Valley as a whole becomes more sustainable and/or development ceases, consideration of air quality considerations will continue to be important in the planning process is as important as ever.

Despite the fact that the Livermore-Amador Valley is developed at relatively low densities, ozone air quality is at approximately the national ambient standard. The combined effects of future growth in population and traffic, combined along with expected deterioration in travel speed and congestion, will may offset projected decreases in mobile and stationary emission rates. Attainment and maintenance of the ozone standard in the future is not likely to occur without effort in the area of air quality planning implementation of air-emission reduction programs.

The climatological setting of Pleasanton ensures that the potential for local carbon monoxide, ozone and suspended particulate problems will continue to exist. An increase in future traffic volumes in the future, if combined with deterioration of congestion levels, will have the potential to exacerbate carbon monoxide these problems.

The potential for future "hardware" measures to reduce air pollutants (emission controls on vehicles or stationary sources, for example) is limited. The easiest and least costly control measures have already been implemented, so future controls of this type offer diminishing returns for higher cost.

AIR QUALITY PLANNING

The major reason for including an Air Quality Element in the General Plan is to coordinate the planning of land use, circulation, housing, energy, and other City policies with their potential effects on

air quality. The City of Pleasanton is committed to incorporating air quality considerations into its plans, policies, and programs for future development. [moved text below]

Sustainable Development and Planning

The City of Pleasanton embraces the concept of sustainable development and planning. A sustainable city draws from the environment only those resources that are necessary and that can be used or recycled perpetually, or returned to the environment in a form that nature can use to generate more resources. Relating the sustainability concept to air quality means reducing emissions related to buildings as well as reducing the frequency and distance of vehicle trips within Pleasanton. Trip reduction can be accomplished by (1) including housing opportunities for Pleasanton workers of all socioeconomic levels; (2) providing local job opportunities to existing Pleasanton residents; (3) providing neighborhood-serving retail and recreational uses that are readily accessible to residential neighborhoods; (4) maximizing transit, bicycle, and walking opportunities to workers and residents; (5) providing services such as childcare, restaurants, banks, and markets at major employment centers, (6) alleviating the need for and/or number of work-related trips, and (7) concentrating all new development within the Urban Growth Boundary with emphasis on development near transit nodes.

Reducing Building-Related Emissions

By ordinance, the City of Pleasanton currently requires developers to utilize green building practices. The objective of green building design is to implement several related goals: energy efficiency, healthy indoor air quality, waste reduction, water efficiency, and planning for sustainable development. Green building practices that have the potential to improve air quality include non-CFC refrigerants, low-VOC-emitting materials, photovoltaic panels, passive-energy design, and no wood-burning fireplaces.

The City's ~~h~~Hazardous ~~m~~Materials Ordinance regulations (Chapter 9.16 of the *Pleasanton Municipal Code*) ensures review and monitoring of stored materials to prevent ~~gases~~ leaking ~~of gases~~ into the environment.

Reducing Vehicle Trips

The City's ~~Transportation Systems Management (TSM) Ordinance~~ requires major employers to promote the use of alternatives to single-occupant, peak-hour commuting. The Livermore-Amador Valley Transit Authority (LAVTA) bus system – known as Wheels in Pleasanton, and the Bay Area Rapid Transit (BART) system, Altamont Commuter Express (ACE) train, and various regional bus agencies and private shuttles provide residents and employees with convenient transit alternatives ~~as the City developsto~~ and from the City of Pleasanton.

A ~~g~~Good examples of Pleasanton's efforts to integrate air quality into the planning process ~~is~~ include the City's *Transportation Systems Management (TSM) Ordinance* (Chapter 17.24 of the *Pleasanton Municipal Code*), the City's Commendable Commutes program, and the City's pRide program. ~~5~~ By requiring employees to reduce peak-hour traffic trips, the TSM Ordinance. As part of Transportation Demand Management (TDM) in Pleasanton, the City sponsors a Commendable Commutes program.

Employers who wish to enroll in the program enter into a participation agreement with the City and agree to develop a trip-reduction program and goals, conduct a bi-annual transportation survey, and appoint a management-level employee as a transportation coordinator who represents the employer as a member of the Transportation Committee. The City also promotes an internal employee trip-reduction program, known as pRide, which provides incentives for City employees who usually drive to try a commute alternative such as riding public transit, telecommuting, carpooling, walking or bicycling. Programs include parking cashout, prize drawings, transit subsidies, and a guaranteed ride home in case of illness, family emergency, unscheduled overtime, or missed rideshare trip.

The TDM program reduces results in significant reductions of carbon monoxide and other air pollutants as well as reductions in noise, safety hazards, and other environmental effects. The City's policies and programs to reduce traffic congestion in the Circulation Element; therefore, are referenced carried forward to effective programs in the Air Quality, Noise, Energy, and other Elements of the General Plan elements. In order to reduce traffic trips and resultant air pollution, the City asks employers to take progressively greater actions, according to the size of the company and other factors. The steps contained in the Ordinance for employers of varying size include completion of a transportation survey, promotion of transportation alternatives, commitment to a company TSM program tailored to employees' needs, appointment of a transportation coordinator, inclusion of TSM requirements in lease agreements, and other measures.

Providing housing for Pleasanton workers within the city and the Tri-Valley will also help reduce vehicle miles traveled. The City has adopted a preference system to determine eligibility for affordable housing projects, giving preference to people who both live and work in Pleasanton, with secondary priority given to people who either live or work in Pleasanton. The City is also part of the Tri-Valley Housing Opportunity Center that works toward providing homeownership opportunities to underserved low income groups. The Center holds marketing campaigns targeted at people working in the Tri-Valley area.

The City phases and funds Ppublic facilities are phased and funded to encourage compact growth and minimize traffic-generating sprawl. Current zoning designations locate eExisting and planned residential areas and sensitive receptors are located apart from possible point (stationary) sources of air pollutants by Public Health and Safety buffer zones. And In addition, the Pleasanton Ridge open space and rural open space areas to the south and east allow for dispersion of air pollutants, the entire developed portion of the Planning Area is surrounded on three sides by open space and undeveloped uses to separate Pleasanton from neighboring communities and allow for dispersion of air pollutants.

The City also conditions new projects to construct physical improvements aimed at promoting alternative transportation. For example, the City has required new office building developers to provide showers and lockers for bicycle commuters, install new transit stops, and construct traffic improvements to reduce traffic congestion.

RELATIONSHIP TO OTHER ~~GENERAL PLAN~~ ELEMENTS

[moved here]~~The level of air quality in Pleasanton is directly related to p~~Policies and programs established throughout the General Plan affect air quality in Pleasanton. ~~The amount and type of land uses designated in the Land Use Element; the number, length, and timing of traffic trips, established in the Circulation Element; the amount and rate of housing development, established in the Housing Element; and the amount of open space, established in the Conservation and Open Space Element collectively contribute to the City's level of air quality.~~

~~The City's Growth Management Program establishes annual limits to housing production which enables the City to monitor and mitigate the effects of growth on air quality and other factors. Policies which that encourage infill development tend to reduce lengthy traffic trips and consequently vehicle emissions. The General Plan Map promotes the location of high density uses near transit facilities and employment and shopping centers, and enables mixed-use developments in the Downtown and business park areas, which also tend to reduce automobile trips.~~

Land Use Element

The Land Use Element provides guiding principles for the type, location, size, and density of land uses throughout the City of Pleasanton. Land use objectives that limit air-quality emissions would comply with the Air Quality Element. The Land Use Element includes policies to provide mixed-use developments in the Downtown and business park areas, locates high-density uses near transit facilities, and provides neighborhood-serving retail convenient to residential neighborhoods.

Circulation Element

The Circulation Element strives to improve traffic and circulation systems throughout Pleasanton. Circulation objectives that limit air-quality emissions would comply with the Air Quality Element. The Circulation Element would lead to improved air quality by maintaining level-of-service standards that encourage free-flowing traffic and by continuing to encourage Transportation Demand Management programs such as Commendable Commutes and pRide, which reduce both vehicular trips and traffic congestion.

Public Safety Element

The Public Safety Element promotes mitigation for hazards in the Pleasanton Planning Area. Hazardous material objectives that limit air pollutants and toxic air emissions would comply with the Air Quality Element. The Public Safety Element seeks to minimize risks to lives and property by reducing hazardous material emissions.

Conservation and Open Space Element

The Conservation and Open Space Element identifies existing and planned open space and recreational uses throughout the City of Pleasanton. Conservation and Open Space objectives that

buffer sensitive receptors from noxious uses would comply with the Air Quality Element. The Conservation and Open Space Element encourages an open-space buffer surrounding Pleasanton.

Energy Element

The Energy Element guides Pleasanton toward a sustainable energy future. Energy objectives that reduce the use of carbon-based fuels would also lesson air pollutant emissions. The Energy Element encourages increases in renewable energy use, energy conservation, energy efficiency, and energy self-sufficiency.

Economic and Fiscal Element

The Economic and Fiscal Element strives to enhance Pleasanton's economic base. Economic objectives that would lead to fewer automobile trips would also lesson air pollutant emissions.

Subregional Planning Element

The Subregional Planning Element facilitates Pleasanton's involvement in cooperative planning of the Tri-Valley area. Programs that would continue Pleasanton's cooperation with the Bay Area Air Quality Management District and other regional agencies to monitor and control air pollutants would result in fewer air emissions.

AIR QUALITY GOALS, POLICIES, AND PROGRAMS

The following goals, policies, and programs, in addition to those contained in other Elements, constitute an action program to implement the objectives described in this Element.

~~IX. AIR QUALITY~~ GOALS, POLICIES, AND PROGRAMS

Goal 1: ~~To~~ implement a proactive approach, and use available technology to maintain and improve air quality within Pleasanton and the region to protect the public health, safety, and welfare.

Goal 2: Promote sustainable development and planning to minimize additional air emissions.

Air Quality Standards

Policy 1: Adhere to ~~F~~federal, and State, ~~regional, and local~~ air quality standards, ~~whichever is most stringent~~, for local pollutants of concern.

~~Program 1.1:~~ ~~At least annually update the air quality projections contained in this Element to verify compliance with established standards.~~

Program 1.1: Incorporate measures in conditions of approval for development projects to reduce grading, construction, and operations-related air quality impacts.

Program 1.2: Support State and federal legislation that promotes improvements in air quality.

~~Program 1:~~ ~~Require appropriate mitigation measures to improve air quality to acceptable levels in the event that standards are not met. Also implement programs from the Hazardous Materials section of the Public Safety Element.~~

Land Use

Policy 2: Support development plans that reduce mobile-source emissions by reducing vehicle trips and vehicle miles traveled.

Moved to land use

~~Program 2.1:~~ ~~Encourage pedestrian-oriented development which provides options for non-motorized transit to outside primary destination points such as parks, schools, and shopping centers.~~

Moved to land use

~~Program 2.2:~~ ~~Encourage the provision of services, facilities, and infrastructure to reduce the need to travel by single-occupant vehicles. Program: Facilitate the provision of services such as child care, restaurants, banks, and convenience markets at major employment centers to reduce vehicle trips.~~

Implement programs from the Land Use Element to provide mixed-use developments, locate high-density uses near transit facilities, and provide neighborhood-serving retail uses convenient to residential neighborhoods. These programs would reduce vehicle trips and vehicle miles traveled, thus reducing air-pollutant emissions.

Policy ~~36~~: Separate air pollution sensitive land uses from sources of air pollution.

Program ~~63.1~~: Locate new air pollution point sources, such as manufacturing and extracting facilities, ~~a substantial distance~~ away from residential areas and other sensitive receptors/land uses following the California Air Resource Board's recommendations.⁹

Program 3.2: Locate new sensitive receptors, such as residences, childcare centers, schools, playgrounds, and medical facilities away from point sources of air pollution and busy traffic corridors following the California Air Resource Board's recommendations.¹⁰

Program 3.3: Require site specific studies of air quality health risk for development that would place sensitive receptors closer than 500 feet from the edge of a freeway or close to a significant point source of air pollution.

moved to Land use

~~Program 6.2:~~ ~~Require landscape buffer zones within residential and sensitive receptor site plans to separate those uses from transportation corridors, transit hubs, freeways, arterials, point sources, and hazardous materials locations.~~

Motor Vehicle Travel

Policy 4: Reduce air pollution from motor-vehicle trips and vehicle-miles traveled.

Moved to circulation

~~Program 4.4~~ ~~Develop standards for the design and use of new drive-through businesses to minimize adverse impacts on air quality.~~

Moved to circulation

~~Program 4.5:~~ ~~Encourage the use of modes of transportation other than the single-occupant automobile, to reduce air pollution.~~

Moved to land use

~~Program 4.7:~~ ~~Encourage appropriate home occupations in residential neighborhoods to reduce the need for commute travel.~~

Moved to circulation

~~Program 4.9~~ ~~Require design measures and facilities to accommodate access by pedestrians, bicycles, and transit in new developments.~~

⁹ This program is currently based on Tables 1-1 and 1-2 of the California Environmental Protection Agency, California Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective*, April 2005 or as amended. As new information becomes available, then this program will use updated information.

¹⁰ *Ibid*, April 2005. As new information becomes available, then this program will use updated information.

To reduce vehicle miles traveled with commensurate reductions in air pollution and climate change, implement Transportation Demand Management (TDM) programs from the Circulation Element, including the addition of local and regional bicycle lanes. In order to shorten the distance of worker commutes, also implement programs from the Housing Element to provide mixed-use development and to provide housing opportunities for Pleasanton workers of all socioeconomic levels.

~~Program 2.1: Identify areas of potential future air quality problems (hot spots) and periodically monitor pollutant levels for possible violation of Federal, State, regional, and local standards.~~

~~Policy 2: Verify the City's air quality projections with periodic spot monitoring.~~

~~Policy 3: Monitor air pollutants of concern on a continuous basis.~~

~~Program 3.1: Require major business parks to fund the installation and maintenance of permanent, continuous monitoring stations for carbon monoxide, trace metals, PM-10, as well as meteorological conditions.~~

~~Program 3.2: Notify the City Council and publish findings of all violations of air quality standards in an annual report.~~

Development

~~Policy 5.4: Review proposed projects for their potential to impact air quality conditions.~~

~~Program 4.1
5.1: Include air quality as a factor in the City's environmental review process. Encourage development plans which minimize negative impacts on air quality.~~

Moved from above

~~Program 4.2
5.2: Require projects which generate high levels of air pollutants, such as manufacturing facilities and hazardous waste handling operations, to incorporate air quality mitigations in their design.~~

~~Program 5.3: Consider adopting a wood smoke ordinance for fireplaces and wood stoves.~~

Energy and Conservation

~~Policy 6: Reduce air pollution and the production of greenhouse gases by increasing energy efficiency, conservation, and the use of renewable resources.~~

~~Program 6.1: For a one year period, the City will work with the International Council for Local Environmental Initiatives (ICLEI) to develop an action plan capable of reducing the City's greenhouse emissions. The City will consider implementing, monitoring, and reporting appropriate and achievable components of the proposed action plan.~~

Implement programs from the Energy Element including those related to “green building,” such as encouraging passive-solar construction, as well as those related to reducing energy from appliances, equipment, and lighting.

Implement programs from the Public Facilities and Community Programs Element to reduce solid waste.

Also implement the program in the Water Element to conserve Pleasanton’s urban forest as well as programs in the Community Character Element to replace and protect street trees. Tree shade not only helps lower energy use during hot months, most tree species remove air pollutants from the environment.

[Moved to Safety Element]

~~Policy 5: Review proposed projects for their potential to generate hazardous air pollutants.~~

~~Program 5.1: Include the Fire Department’s hazardous materials specialist in staff review procedures for proposed land uses which may handle, store, or transport lead, mercury, vinyl chloride, benzene, asbestos, beryllium, and other hazardous materials.~~

~~Program 5.2: Require uses which utilize hazardous materials to submit emergency response plans for possible spills, leaks, or other accidental emissions of hazardous materials.~~

~~Program 5.3: Update and implement the City’s hazardous materials response program for accidental emissions of hazardous materials.~~

[moved to Energy Element]

~~Program 5.4: Switch conventional public lights in buildings, traffic signals, and exit lights to LEDs (light emitting diodes), whenever practical and feasible. Encourage the public to also switch~~

Technology Measures

Policy 7: Provide leadership to Pleasanton residents and businesses by implementing all technology-based air-pollutant-reduction programs that are reasonable and feasible.

Program 7.1: When replacing or adding motor vehicles to the City fleet, maximize the percentage of hybrid or other low-fuel usage, low-emission vehicles, as reasonable and feasible. The City should also purchase the smallest vehicles possible appropriate to the intended use.

Program 7.2: Continue to properly maintain the City vehicle fleet to insure as-designed vehicle operation. Proper preventative maintenance includes regular tune-ups, filter replacements, and engine diagnosis.

Program 7.3: As resources allow, continue and increase police bicycle patrols.

- Program 7.4: As the City replaces landscaping equipment, gas cans, street sweepers, and other electrical and mechanical equipment, consider purchasing the least polluting equipment available.
- Program 7.5: Postpone activities that contribute to air emissions on Spare the Air Days. Activities include: use of fossil fuel-powered landscaping equipment; surface coating and paint projects; and refueling vehicles. Reschedule vehicle trips, if feasible, without impacting project deadlines.
- Program 7.6: Where feasible, consider adopting a measure requiring large vehicles (gross weight rating of greater than 14,000 pounds) and off-road equipment owned by the City and/or private contractors to restrict engine idling to less than 5 consecutive minutes and to prohibit engine idling in parking lots.

Odors

- Policy 8: Minimize unpleasant odors in residential neighborhoods.
- Program 8.1: Continue efforts to have the asphalt plant relocated away from Vineyard Avenue residents.
- Program 8.2: Continue working with the Dublin-San Ramon Services District (DSRSD) to ensure that odors from the sewage-treatment plant are minimized and other air emissions meet all regulatory requirements.

Public Awareness

- Policy 27: Encourage citizen and business participation in reducing air pollution.
- Program 9.1: Provide regional and local air-quality information on the City of Pleasanton's website, including links to the Bay Area Air Quality Management District, the California Air Resources Board, Alameda County Waste Management Authority Stop Waste.org, and other environmental-based internet sites.
- Program 7.4: Establish an air quality public awareness program which includes changes that people can make to minimize air pollution. This program would educate the public and encourage people to choose the cleanest paints and consumer products, and to purchase the most energy-efficient appliances. ~~and promote citizen and business participation.~~

Program 9.3
~~7.2:~~ Develop incentives for the public to help reduce air pollution. This includes offering Program .3: Encourage and offer incentive programs for using non-motorized (i.e., pedestrian and bicycle) and nonlow-polluting mobility alternatives.

~~Program 7.3:~~ ~~Encourage and offer incentive programs for non-motorized (i.e., pedestrian and bicycle) and non-polluting mobility alternatives.~~

Program 9.4: Develop a recognition and awards program for businesses that reduce air pollution.

Program 9.5: Provide information to the public regarding the importance of Spare the Air Days and how people can make a positive impact on the environment.

Implement measures from the Circulation Element to encourage public participation in Ride-Share and other public transportation programs.