

State Program

California Clean Air Act

The California Clean Air Act of 1988 empowers regional air quality management districts with new authority to design, adopt, implement, and enforce comprehensive plans for attaining and maintaining both the federal and the more stringent state air quality standards by the earliest practical date. Among its provisions, the California Clean Air Act provides districts with the authority to establish new controls on mobile sources of pollution.

Specific transportation performance standards are part of the California Clean Air Act requirements, including:

- Substantially reduce the rate of increase in passenger vehicle trips and vehicle miles travelled;
- Achieve a designated vehicle occupancy rate during the peak travel periods by 1999; and
- Provide for no net increase in vehicle emissions beyond the year 1997.
- The introduction of Low Emission Vehicles starting in 1994, with increasing standards beginning in 1997; more stringent emission reductions are required by the year 2003 with the introduction of Zero Emission Vehicles.

The area-wide plan required by the California Clean Air Act was adopted in October 1991.⁷ The Plan proposes the imposition of controls on stationary sources (factories, power plants, industrial sources, etc.) and Transportation

⁷ Bay Area Air Quality Management District, Bay Area '91 Clean Air Plan (CAP), 1991.

Control Measures (TCMs) designed to reduce emissions from automobiles, including **indirect sources**.

The Bay Area '91 Clean Air Plan forecasts continued improvement in regional air quality. An analysis of carbon monoxide trends shows attainment of the standards throughout the Bay Area by the mid-1990s. However, implementation of the Plan would not provide for attainment of the State ozone standard even by the year 2000.

Congestion Management Program

Although the California Clean Air Act (Sher, AB 2595) and **Congestion Management Program** legislation (Katz, AB 471 and AB 1791) are not statutorily linked, the requirements and goals of the two programs overlap. While the Congestion Management Program (CMP) is an independent requirement separate from the California Clean Air Act, it requires appropriate land use, transportation, and air quality agencies to integrate their planning processes, share information and develop a coordinated approach in response to congestion and air quality problems.

One of the purposes of the CMP is to bring about improvements in air quality. With the potential new funding for transportation improvements provided for in the enabling legislation came the requirement that the CMP improve the relationship between transportation, land use and air quality.

The CMP enacting legislation requires that urban counties designate or create a **Congestion Management Agency** to develop a traffic data base, develop guidelines for mitigating deficiencies in the CMP roadway system, and monitor implementation of the CMP elements on an annual basis. The CMA is required to prepare a biennial

Congestion Management Program in order to be eligible for new gas tax subvention. The required elements of the CMP are:

- An element defining the CMP transportation system and Level of Service (LOS) standards;
- A transit service and standards element;
- A transportation demand management and trip reduction element;
- A program for analyzing the impacts of land use decisions and estimating the costs for mitigating these impacts; and
- An element that contains the member agency's Capital Improvement Program (CIP).

There are numerous references to air quality in the CMP legislation. Some references outline consultive roles and cooperative processes that the transportation, land use and air quality agencies should follow in developing the CMP. Other aspects of the legislation require direct links between, or even overlap with the California Clean Air Act. These are:

- The requirement that cities and counties adopt and implement trip reduction ordinances, also required by the California Clean Air Act.
- The Capital Improvement Program Element of the CMP must determine that projects "conform to transportation-related emissions air quality mitigations", which requires that the CIP be consistent with the TCMs included in the state-mandated Clean Air Plan and federal-mandated State Implementation Plan.

- Deficiency plans required under the CMP must contribute to a "significant improvement in air quality".

The CMP legislation also requires that the BAAQMD prepare and adopt a list of deficiency plan actions, improvements and programs that improve system-wide Level of Service (LOS) and improve air quality for use in local deficiency plans.

Deficiency Plans are required by the CMP legislation and allow cities to adopt innovative and comprehensive solutions to LOS deficiencies rather than requiring them to adhere to strict standards for every roadway or intersection. Cities are required to prepare Deficiency Plans for CMP system roadways and intersections located within their jurisdictions that exceed the CMP traffic LOS standard (E in Santa Clara County). LOS is expressed as a volume to capacity ratio, indicated by an alphabetic scale of A through F. LOS A represents free flowing traffic and F is severely congested traffic. Deficiency Plans consist of improvements to roadways, intersections, and other facilities and services which will improve systemwide traffic levels of service and contribute to a significant improvement in air quality. If a CMP roadway or intersection falls below the LOS standard (i.e. LOS E) and the jurisdiction in which the roadway or intersection is located does not have a CMA-approved Deficiency Plan, then the jurisdiction is at risk of losing new gas tax revenues.

Deficiency Plans are intended to allow local jurisdictions to proceed with development projects even if strict adherence to CMP traffic LOS standards can not be achieved for each CMP roadway or intersection. This is particularly important when resulting LOS levels may contradict other community goals, such as mixed-use development near transit lines or higher density residential development in specific areas. In

traffic LOS violation on one particular CMP roadway or intersection for transportation system improvements to other facilities or services (e.g. transit, bicycles, walking or transportation demand management) that will improve systemwide traffic levels of service. A city which implements its Deficiency Plan, and exceeds the traffic LOS standard on a particular roadway or at a specific intersection, will not be found in nonconformance with the CMP and will not risk losing its gas tax revenue.

Below are joint actions that the CMA and member agencies have taken to address air quality issues:

- All Santa Clara County cities have adopted a Transportation Demand Management (TDM) Ordinance which affects employers with 100 or more employees. (In November 1990 the City adopted Sunnyvale's TDM Ordinance, Chapter 10.60 of the Municipal Code).
- The Commuter Network, a subsidiary of the CMA, is the agency delegated to implement the TDM ordinance in Santa Clara County cities. The Commuter Network and many cities have participated in various air quality programs including: Spare the Air campaigns, Earth Day events, Clean Air Week, etc.
- The cities in the county have proposed that various transportation projects from their capital improvement programs be included in the Regional Transportation Improvement Program (RTIP) and the State Transportation Improvement Program (STIP).
- In November, 1992, the CMA approved requirements for deficiency plans.

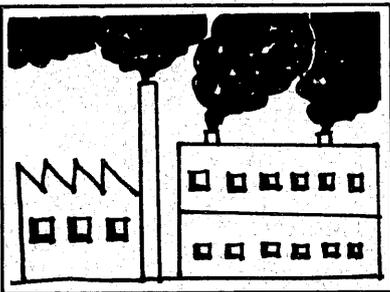
Air Pollution Sources

Criteria Pollutants

Sunnyvale contains a multitude of air pollution sources. The combustion of fuel (for space and water heating, industrial processes and commercial uses) is one such pollutant source, often referred to a **point sources**. The evaporation of fuels and solvents, incineration, fires, and pesticide use are other examples of typical pollutant sources. The largest single source of pollutants is vehicles, which in Santa Clara County are responsible for 89% of the emitted carbon monoxide, 77% of the emitted oxides of nitrogen, 66% of the emitted sulfur dioxide, 57% of the emitted hydrocarbons, and 5% of the emitted particulates.⁸

Sunnyvale does not have heavy industrial sources of pollutants, sometimes termed "smokestack" industries. There are, however, many relatively small sources of industrial emissions located within Sunnyvale industrial areas. Many of these sources are part of the microelectronics industry which create evaporative emissions, primarily from solvent use, rather than combustion emissions.

Toxic Air Contaminant Sources



Assembly Bill 2588, the Toxic "Hot Spots" Information and Assessment Act of 1987, requires that industry provide information to the public about emissions of **toxic air contaminants** and their impact on public health. This law required local air districts and the state Air Resources Board to prepare a detailed inventory of sources of over 200 toxic air contaminants, identify high priority emission sources,

⁸ Bay Area Air Quality Management District, Base Year 1983 Emissions Inventory Summary Report, August 1987.

and require preparation of health risk assessments for each of these priority sources.

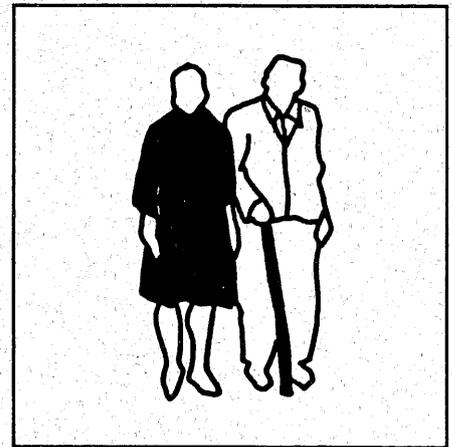
The inventory of toxic air contaminant (TAC) sources for the Bay Area identifies 71 sources of TACs within Sunnyvale. The majority of these sources are microelectronic industries, dry cleaners and auto repair businesses.

Of the 71 known TAC sources located in Sunnyvale only one, Lockheed Missiles and Space, was designated by the Bay Area Air Quality Management District as a high priority source based on the types and amounts of contaminants emitted. The results of the health risk assessment for this source classified this source as having a Level 0 impact, defined as a calculated maximum cancer risk of less than 10 in a million.⁹

Sensitive Receptors

The Bay Area Air Quality Management District defines **sensitive receptors** as those facilities most likely to be used by the elderly, children, infirm, or persons with particular sensitivity to air pollutants. Examples are hospitals, schools and convalescent homes. Such sensitive receptors are located throughout Sunnyvale.

Sensitive receptors need to be considered when locating new business or facilities that could emit air pollutants, particularly Toxic Air Contaminants. The siting of any new sensitive receptors also needs to consider any existing air pollutant sources nearby.



⁹ Bay Area Air Quality Management District, Toxic Air Contaminant Control Program Annual Report 1992, 1992.

FUTURE AIR QUALITY

Air quality in the Bay Area as a whole has been gradually improving over the last 20 years. This improvement has occurred despite substantial growth in population and industry. Increasingly stringent controls on mobile sources and stationary sources that have been adopted by the state of California and the Bay Area Air Quality Management District has affected this improvement. Nevertheless, the ambient air quality standards have not been met.

The California Clean Air Act of 1989 and federal Clean Air Act Amendments of 1990 require renewed efforts by state and local agencies to adopt rules and regulations that will improve air quality. These new rules will be regulating sources previously unregulated and making existing controls more stringent. Land use and transportation planning will become a more important aspect of air pollution improvement strategies.

Air quality as a whole has been improving in the Bay Area. It is forecasted to continue improving through the year 2000. However, forecasts through the year 2000, which are the longest forecasts available, do not demonstrate attainment of all state and federal air quality standards. Attainment of air quality standards requires fundamental changes in land use and travel patterns as well as continued implementation of existing and developing technologies.

The following discussion addresses the air quality implications of future growth within Sunnyvale on both local and regional air quality. The local air quality analysis projects concentrations of carbon monoxide near major intersections in Sunnyvale based upon projected traffic volumes assuming buildout under the General Plan. The regional air quality analysis examines the amount of new regional pollutants generated by population and

employment growth in Sunnyvale assuming build-out under the General Plan.

Local Air Quality

On the local scale, the pollutant of greatest interest is carbon monoxide. Concentrations of this pollutant are related to the levels of traffic and congestion along streets and at intersections.

Population and employment growth within Sunnyvale would affect carbon monoxide concentrations, particularly at major intersections. The **CALINE-4** computer simulation model was applied to ten selected intersections to estimate future carbon monoxide levels in Sunnyvale.

The intersections modeled were selected based upon total volumes of vehicles in the p.m. peak hour and/or levels of congestion. The CALINE-4 program and the assumptions made in its use are described in Appendix B.

The results of the CALINE-4 modelling for the ten selected intersections are shown in Figure 6. Concentrations are shown for existing conditions and in the year 2010 with projected traffic growth under the General Plan. The 1-hour concentrations in Figure 6 are to be compared to the state ambient air quality standard of 20 Parts Per Million (PPM) and the federal standard of 35 PPM, while the 8-hour concentrations in Figure 6 are to be compared to the state and federal standard of 9 PPM.

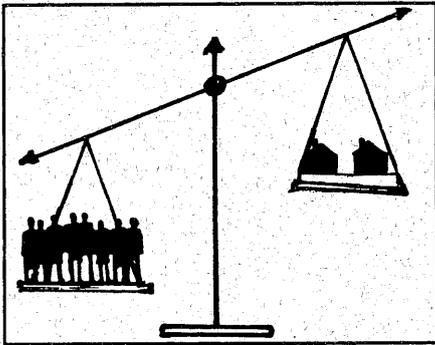
Existing concentrations are shown in Figure 6 to exceed the state and federal standards, a result that is reasonable given the nonattainment status of the area.

FIGURE 6
EXISTING AND YEAR 2010 CARBON MONOXIDE CONCENTRATIONS,
IN PPM

Intersection	Existing (1992)		General Plan Buildout (2010)	
	1-Hour	8-Hour	1-Hour	8-Hour
El Camino/Mary	17.1	11.2	10.9	6.5
Lawrence/Tasman	17.2	10.8	13.0	8.0
Lawrence/Homestead	21.1	13.5	14.1	8.7
Mathilda/Maude	19.7	12.6	11.8	7.1
Arques/Lawrence	19.4	12.2	13.4	8.3
Lawrence/Reed/ Monroe	21.1	13.6	13.9	8.6
Homestead/Saratoga- Sunnyvale	19.1	12.2	11.5	6.9
El Camino/Remington/ Fair Oaks	18.7	11.9	10.9	6.5
Old San Francisco/ Wolfe	17.5	11.0	11.1	6.6
Kifer/Wolfe	17.3	10.9	11.1	6.6

The applicable standards are 20 PPM for 1-hour and 9 PPM for 8-hours.

Year 2010 concentrations are predicted to be much lower than current levels due to state-mandated automobile emission standards for new vehicles. Year 2010 concentrations, even under worst case meteorological and traffic assumptions, are predicted to be below the applicable state and federal ambient standards. The above analysis is consistent with the Bay Area '91 Clean Air Plan, which predicts that, with current emissions controls on vehicles, such as catalytic converters, that carbon monoxide levels in the Bay Area would meet the carbon monoxide standard by the mid-1990's.



The Sunnyvale Futures Study examined the effects of revising the General Plan to provide for an improved jobs/housing balance by changing sites currently designated and developed with commercial and industrial uses to residential uses. The study examined four alternatives, each converting a different amount of industrial/commercial uses to residential uses. Carbon monoxide concentrations at seven major intersections were predicted in the year 2010 for all four alternatives and for buildout under the General Plan. Preliminary findings of the Sunnyvale Futures Study indicate that increased carbon monoxide concentrations will occur at certain intersections. However, no exceedances of the ambient air quality standards were predicted. This is primarily due to improvements in the job/housing balance which would provide Sunnyvale employees residing in other communities within the Bay Area and outlying areas with more local housing options. With more local housing options available, the likelihood is greater that commute lengths and vehicle miles traveled could be reduced.

Regional Air Quality

Future development within Sunnyvale would impact regional air quality. The effect of development would be

both direct and indirect. Direct impacts are those related to emissions released on-site from stationary sources. Indirect impacts are related to vehicle trips attracted to or generated by residential, commercial or employment-generating land uses.

Future growth in Sunnyvale may include new stationary sources of pollutants. Any new stationary sources, however, would be subject to the "no net increase" requirements of the California Clean Air Act that require the BAAQMD to develop a permitting system that provides that new sources can only be approved if there is an offsetting decrease in emissions elsewhere in the air basin. As a result, any new stationary sources in Sunnyvale would be offset so that there would be no net impact on regional air quality.

Indirect automobile emissions associated with buildout under the General Plan have been estimated using the URBEMIS-3 computer program developed by the California Air Resources Board. The incremental daily emission associated with this growth is shown in Figure 7 below for four regional pollutants: the two precursors of ozone (ROG and NOx), PM-10 and Sulfur Oxides (SOx). A description of the URBEMIS-3 model, the assumptions made in its use and the program output are included in Appendix C.

For comparison, county-wide emissions of the four regional pollutants are shown in Figure 7. While emissions from future growth in Sunnyvale represent only a very small fraction of county-wide emissions, they would be occurring during a time when substantial reductions in regional emissions will be required if all state and federal air quality standards are to be met. Similar increases can be expected within other cities within the south bay and the greater Bay Area as the region grows in population and economic activity. If unmitigated, the emissions shown in Figure 7 would delay attainment of air quality standards in

the region, although it is not possible to estimate what this delay would be.

The Sunnyvale Futures Study examined the emission changes associated with four Land Use alternatives using the URBEMIS-3 program. Because each of these alternatives increases the potential population of Sunnyvale, each was found to generate a significant amount of new automobile emissions. It was noted in the study, however, that improvement of the jobs/housing balance in Sunnyvale would have an unquantifiable but real effect on emissions outside Sunnyvale. Since trip lengths for home-to-work trips originating within Sunnyvale are shorter than any community in the Bay Area with the exception of San Francisco¹⁰ and Sunnyvale has transit options and a network of commuter lanes not prevalent in many other Bay Area communities, residential development within Sunnyvale would have a lesser impact on regional air quality than in most Bay Area communities.

Reducing emissions from indirect sources is likely to be an important strategy in regional efforts to attain the state and federal ambient air quality standards in the Bay Area. Indirect source review, with the imposition of control strategies similar to those within this Air Quality Sub-Element, is likely to be imposed on a regional basis in the near future. The adoption and implementation of this Air Quality Sub-Element would be consistent with the goals and strategies of regional air quality planning agencies, and would mitigate the effects of the emission increases shown in Figure 7.

¹⁰ Metropolitan Transportation Commission, Congestion Management Program Databook #1: Regional Summary, March 1991.

FIGURE 7

**INDIRECT EMISSIONS ASSOCIATED WITH GENERAL PLAN BUILDOUT
AND COUNTY-WIDE PROJECTED EMISSIONS, IN POUNDS/DAY**

	ROG	NOx	PM-10	SOx
Sunnyvale General Plan Buildout	981	1475	135	159
Santa Clara County ¹¹	339,280	276,260	364,000	15,000
Percent of County Emissions	0.29	0.53	0.04	1.06

 ROG = Reactive Organic Gases
 NOx = Nitrogen Oxides
 PM-10 = Particulate Matter, 10 microns
 SOx = Sulfur Oxides

¹¹ County-wide emissions shown for ROG and NOx are for 1987; emissions for PM-10 and SOx are for 1983.

LOCAL AND REGIONAL AIR QUALITY ISSUES AND PROGRAMS

The federal government or federal courts will implement specific regulations regarding air quality if measures are not taken by state or local government agencies to clean up the air. There are many actions local governments can take to reduce congestion by identifying ways to reduce trips, increase transit options, and employ new technologies. Because of the familiarity with industries in their jurisdiction, local governments are able to work with those industries to develop strategies aimed at reducing air pollution.

The City of Sunnyvale has always been concerned with the quality of life of its citizens. Over the years, the City has taken numerous steps to improve air quality, both locally and regionally, through transportation improvements and land use planning and policies. Many of these actions have been directed at increasing the availability of commute alternatives and housing opportunities. Although there is no guarantee that people working in Sunnyvale will reside in Sunnyvale, or use commute alternatives, the likelihood is increased if the opportunities exist.

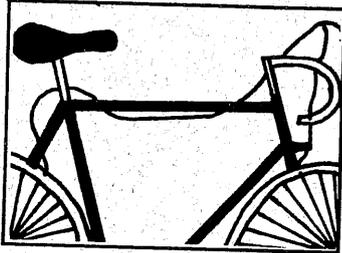
The City is cognizant of the interrelationship and effect traffic congestion and land use planning have on air quality. In attempts to improve air quality, the City has developed various programs, policies, and ordinances. Below is a brief description of local and regional efforts.

Local

The City of Sunnyvale has implemented a variety of local programs and ordinances aimed at or contributing to a reduction of air pollutant emissions or conserving air quality. Current and future programs and ordinances are summarized below.

Bicycle Plan/Bicycle Advisory Committee

The goal of the Sunnyvale Bicycle Plan is to encourage bicycling at the local, sub-regional, and regional levels. Safe and accessible bicycle and shared roadway facilities promote cycling which helps clean up the air. Sunnyvale currently has 1.7 miles of bike paths, 4.6 miles of bicycle routes and 15 miles of bicycle lanes.



Although not technically part of the General Plan, the Sunnyvale Bicycle Plan is consistent with and implements policies and action statements of the Transportation Element which calls for preparation of a formal Bicycle Plan. The Sunnyvale Bicycle Plan includes a Statement of Purpose which says:

"Sunnyvale shall encourage the use of bicycles for transportation and recreation, to minimize air pollution, energy consumption and traffic congestion".

Sunnyvale's Bicycle Plan also includes numerous goals and policies that directly address the need to: facilitate bicycling through the transportation planning process, improve linkages among different transportation modes, maintain a safe and effective system of bikeways and shared roadway facilities suitable for bicycles, and make provisions for education about the rights and responsibilities of cyclists and motorists. As part of the approval of the updated Bicycle Plan, the City Council also approved the formation of the Bicycle Advisory Committee (BAC). The BAC will be responsible for reviewing capital improvement projects involving bicycle facilities as well as educational programs that the City may wish to implement.

Bicycle Facilities

In the last ten years, several factors have contributed to an increased use of bicycles for commuting and recreation activity, both locally and regionally: increasing traffic congestion, increasing awareness of air quality issues, and increasing emphasis on health and physical exercise.

The Santa Clara County Congestion Management Agency (CMA) has developed requirements for bicycle facilities that are intended to meet community needs and promote regional consistency.

The City of Sunnyvale is evaluating the feasibility of requiring bicycle parking/storage facilities in all new and existing multi-family residential developments, when possible, and parking/storage, shower and clothing locker facilities in new and existing commercial and industrial developments, when possible.

City Sidewalks

The City of Sunnyvale requires the installation of sidewalks within the public right-of-way in connection with all new development. A previous City policy relating to industrial areas, which only required sidewalks along a few major streets, has been modified to require installation of sidewalks along all frontages on public streets. This requirement is triggered, not only by new developments, but also by major expansions of existing buildings.

Preferential Parking

The Zoning Ordinance requires that preferential parking be provided for pool vehicles whenever traffic mitigation measures are imposed in connection with a discretionary approval and whenever new construction occurs in an industrial zoning district. The Zoning Ordinance specifies



that ten percent of the parking spaces be permanently reserved for pool vehicles and that these spaces be the closest ones to the principal building on the premises. In connection with discretionary approvals, more restrictive conditions are imposed which would require one carpool vehicle space per 5 total parking spaces, one vanpool space per 100 parking spaces, and one lockable, covered bicycle space per 30 parking spaces.

Water Pollution Control Plant Gas Control/Recovery System

Methane gas is created within a water pollution control plant by the action of bacteria on the waste. Rather than releasing this organic gas into the atmosphere, the City has installed a system whereby this gas is captured. A portion of this gas is burned to produce a portion of the energy requirements of the Water Pollution Control Plant, the remainder is burned in a flare.



Tree Planting Program and Tree Preservation Ordinance

Trees perform a beneficial function for air quality, capturing and removing airborne dust and particulates, removing carbon monoxide and carbon dioxide from the atmosphere, and creating oxygen. The City's tree planting program and tree preservations ordinance are efforts with secondary air quality benefits.

Traffic Signal Improvement and Synchronization

The City is constantly updating its traffic signals utilizing new technological equipment. Approximately half of the signals in Sunnyvale are on an interconnect system, which allows traffic to move more freely on major thoroughfares and decreases the idling time at intersections. Since vehicles generate less air pollutant emissions at higher speeds, congestion management has air quality benefits.

Sunnyvale's Futures Study

The Futures Study is a comprehensive review of the land use patterns in the City. The Study began in 1988 as the result of earlier Golden Triangle Task Force findings that traffic congestion and the jobs/housing imbalance were two of the biggest problems facing Santa Clara Valley. The Sunnyvale City Council initiated the Futures Study as part of an effort to improve the quality of life by: reducing traffic congestion, improving the ratio of housing units to jobs, and increasing the opportunities for public transit use. In addition, the economic vitality of the commercial and industrial sectors would be enhanced by including opportunities to off-set potential job loss and to provide opportunities for different kinds of industrial, office and retail development along major transportation corridors than is currently permitted.

Providing housing near jobs may result in localized air quality concerns; however, the effect regionally is improved air quality as commute distances are shortened. Although there is no guarantee that residents working in Sunnyvale will live in Sunnyvale, the likelihood is greater if the opportunities exist. The Study evaluates a wide range of opportunities to guide the future development of the City in a balanced and efficient manner.

Fleet Management and Alternative Fuels Program

The City is studying a proposed 10-year master plan for the introduction of alternative fuels and improving the overall efficiency of the City's fleet of vehicles. The master plan proposes several methods of reducing fuel use (and air pollutant emissions) and provides recommendations regarding the introduction of Compressed Natural Gas (CNG) vehicles into the vehicle fleet.

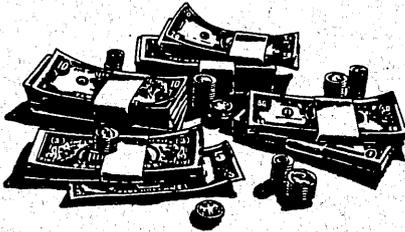
Ten Year Capitol Improvements Plan

The Ten-Year Plan incorporates a wide variety of capital improvement and special projects. The capital improvement projects require a major initial investment, a continuing financial commitment and/or the eventual replacement of the City's infrastructure and major operating equipment. A component of the Ten-Year Plan includes street maintenance and improvements and a variety of transportation projects to support bicyclists and pedestrians.

The city staff also seeks state and federal funding to implement both designated Ten-Year Plan capital improvement projects and new or expanded projects to support the General Plan and Air Quality goals, policies, and actions. Examples of Federal and State funding sources include Inter-modal Surface Transportation Efficiency Act (ISTEA), Transportation Enhancement Activities (TEA), and the Transportation Development Act, Article 3 (TDA, Article 3). Recent candidate projects have included sidewalk, curb and gutter projects, a variety of bicycle support facilities including the purchase of bicycle lockers and racks to be placed at transit stations and community centers, and additional resources for the bicycle safety education program.

Regional

The City of Sunnyvale is involved in various regional projects and has implemented a variety of regional programs and ordinances aimed at or contributing to a reduction of air pollutant emissions or conserving air quality. These current and future projects, programs, and ordinances are summarized below.



Measure A (1984)

In 1984, county voters approved a one-half-cent sales tax, Measure A, to raise \$1 billion for improvements on three regional roadways--Highways 101 and 85 and Route 237. Since then, high occupancy lanes have been added to these roadways and have greatly expanded their capacity. As a result, congestion has decreased considerably.

Measure A (1992)

In November, 1992, Santa Clara County voters agreed to continue the half-cent sales tax for transportation improvements. The expenditure plan consists of three transportation elements: rail transit, express bus transit, and highways. Specific projects were selected for their ability to improve air quality, alleviate traffic congestion, and attract regional, state and federal funds to maximize the buying power of local dollars. Each project in the plan is beneficial on its own merits, but is further enhanced as a portion of the overall system of transit and transportation improvements to improve air quality and keep Santa Clara County residents and workforce moving. Some of the projects identified in the plan would have an effect on Sunnyvale. They include:

- Tasman Light Rail Extension
- Increase in Caltrain Service
- Sunnyvale-Cupertino rail extension
- "Super Express" Commuter Bus Service
- Transit Service for Disabled Seniors and Transit Dependent

- Interchanges on 237 at Maude and Middlefield Roads
- Signal Synchronization on Lawrence and Central Expressways

Lawrence Expressway High Occupancy Vehicle (HOV) Project

The Lawrence Expressway HOV project includes the construction of two additional lanes, one in each direction, on Lawrence Expressway between State Route 237 to the North and Interstate 280 to the South. The two additional lanes will be HOV lanes bringing the total number of lanes on Lawrence Expressway to eight. The City of Sunnyvale along with the City of Santa Clara and the Santa Clara County Road fund are providing the local matching portion of funding for this project. The completion date for this project is expected to be late 1997.

Transportation Demand Management (TDM)/Trip Reduction Rule

Transportation Demand Management (TDM)

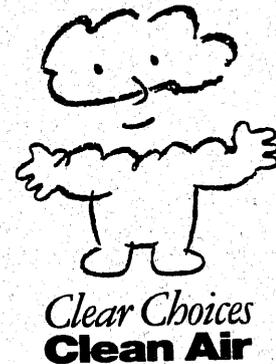
In 1990, the City passed a TDM ordinance. The goal of the ordinance is to have employers achieve average vehicle ridership goals by implementing a TDM program. The ordinance requires employers with 100 or more employees to: designate a manager to oversee the TDM program, appoint a commute coordinator who must complete an approved training course, submit a work site designation form, file a baseline TDM report for each work site, and submit an annual TDM report.

Trip Reduction Rule

In December, 1992, the Bay Area Air Quality management District (BAAQMD) passed Regulation 13, Rule 1 - Trip Reduction Requirements for large employers. The purpose is to decrease air pollutant emissions from motor vehicles by reducing their use in traveling to and from work sites. The rule will apply to all public and private employers with work sites of 100 or more employees. If an employer has multiple work sites, only those sites with 100 or more employees are subject to the rule. Employers which have 100 or more employees in total, but no single work site with 100 or more employees, are not subject to the rule. The rule provides exemptions for the following:

- work sites of 100 or more employees where less than 50 employees start work during the peak period (6 am through 10 am),
- construction sites;
- work sites where the 1999 performance objectives are achieved;
- work sites located in a jurisdiction where implementation of the rule has been delegated to a local implementing agency. (At this time, delegation acceptance has not been determined by cities within Santa Clara County).

Employers which are subject to the rule are required to comply with the following requirements: employee notification; appointment of an Employee Transportation Coordinator and an Employee Program Manager; registration of all work sites subject to the rule; an annual employee transportation survey; and development and implementation of an Employer Trip Reduction Program. The rule defines geographic zones and annual



performance objectives that apply in each zone. Work sites that do not demonstrate achievement of the applicable ridership performance objective via the employee transportation survey are required to submit an Employer Trip Reduction Plan to the BAAQMD (or delegated local jurisdiction) for review and approval. Disapproval of an Employer Trip Reduction Plan may be appealed to an Employer Trip Reduction Appeals Committee.

Requirements for employment centers (multi-tenant complexes) are not included in this rule. They will be addressed in a separate rule (Regulation 13, Rule 2) to be developed subsequent to the adoption of Rule 1. If Santa Clara County cities decide not to accept delegation, the trip reduction rule will be implemented by the BAAQMD.

Toxic Gas Ordinance

The City's Toxic Gas Ordinance regulates air pollutants which are dangerous at very low concentrations. The ordinance, which was applicable to existing as well as future facilities that use such materials, places engineering and administrative controls designed to protect the public from acute exposure to an accidental release of a toxic gas. The ordinance divides regulated materials into three hazard classes, with more stringent controls applied to the more hazardous classes of materials.

Landfill Gas Recovery System

Sanitary landfills are a source of organic gases created by the breakdown of materials in the landfill. Even after closure, these gases continue to be created and may gradually escape to the atmosphere, where they are ozone precursors. In response to BAAQMD regulations, the City has installed a gas recovery system at the City's landfill site.

The landfill gas, whose primary constituent is methane, is flammable and is burned, creating carbon dioxide and water.

Sunnyvale Materials and Recovery Transfer (SMaRT) Station

The SMaRT station is located at 301 Carl Road at the Borregas Avenue intersection. It will operate under a permit from the BAAQMD. Transfer stations/recycling facilities are sources of particulate emissions and minor amounts of organic gases. The emission controls in place at this facility include overall limits on the amounts of materials handled by the transfer station and wood waste operations, a wet suppression system, enclosures and a baghouse to remove particulate matter.

