Environmentally Friendly Practices, Programs and Projects City of Santa Clara Update Prepared December 2007

Capital Projects and Programs supporting Environmental Stewardship

Energy efficiency rebates and implementation programs for residents and businesses - The Electric Department/Silicon Valley Power (SVP) has many services to assist residents and businesses in becoming more energy efficient. Rebates are available for a variety of appliances, insulation, lighting, cooling and process efficiency changes. OPUS, or Optimal Power Use Services, is offered to SVP business customers and provides assistance in putting in energy efficient lights and other equipment. The in-depth analysis identifies problem areas, and facilitates simple adjustments that can be made in order to conserve energy and save money. The OPUS team, in addition to identifying cost-saving opportunities for Santa Clara utility customers, can prepare project technical specifications, obtain competitive bids from qualified contractors, monitor construction and perform post-installation inspections. All this helps business customers to conserve energy and save money.

Neighborhood Solar Program - The utility's Neighborhood Solar Program, funded through contributions from residential and business utility customers and matched dollar-for-dollar by SVP, is working to install solar electric systems at non-profit facilities in Santa Clara. Regular monthly contributions and one-time sponsorships by our large businesses have supported the installation of photovoltaic systems at Haman Elementary School and Valley Village Retirement Center. The third site, picked by a vote of the contributors, is going to be a facility of the Bill Wilson Center scheduled for sometime in early 2009.

Solar electric system permit advantages in Santa Clara – In November of 2007, the Council approved a rebate of residential Solar Electric System Permit Fees from the Public Benefits Fund, in an annual amount estimated to be \$10,000. Recent legislation, such as SB 1, establish aggressive goals for all utilities in California to increase installed capacity of solar electric systems in their service territories. In response to many of the legislative requirements, the municipal Electric Utility/SVP, recently increased its solar electric rebate levels, and also set a goal to have 30 MW of solar power installed in Santa Clara by 2017. The City's Permit Center already offers a reduced permit fee for customers installing solar electric systems. Santa Clara's permit fees depend on the valuation of a project. For purposes of permit valuation on solar installations, due to the disproportionately high cost of solar panels and related equipment, the City calculates the fee on labor only, excluding the equipment, and thereby reducing the valuation and thus the charge for the permits to about 40% of the total project cost. This is a tremendous benefit to the permit applicant. The rebate of the permit fee for residential solar electric system results in a "\$0 permit fee cost," and will hopefully encourage more installations of solar electric systems in Santa Clara.

Santa Clara Green Power – For a second year in a row, the City's Green Power program has won a Green Power Leadership Award—a highly competitive program organized by the U.S. Department of Energy, the U.S. Environmental Protection Agency and the Center for Resource Solutions. Last year, the City/SVP was honored in the New Green Power Program category; this recent award is for Green Power Supplier of the Year for SVP's 100 percent renewable energy option, Santa Clara Green Power.

SVP is one of only two companies receiving the elite award this year; four other companies took home a Green Power Leadership Award in two other categories, which recognize leading national green power suppliers for their commitment and contribution to the development of the nation's green power market. The program singled out SVP for its exemplary green power program based on program growth, customer participation, green power sales, and overall value to its customers.

Among Santa Clara Green Power's early participants were many residents and small businesses, and large business customers such as Cisco Systems, Agilent Technologies, Applied Materials, Santa Clara University, Yahoo!, Westfield Valley Fair shopping center, and City facilities such as the Central Park Library, the Senior Center, and City Hall. The City achieved 6% participation after two years, is currently at 8.5% participation and has set an ambitious goal to achieve 10% participation rate by December 31, 2007.

<u>Energy Innovator Award</u> - In order to recognize Santa Clara business customers who have produced exemplary results in energy efficiency and the application of renewable energy, and to spur on other customers by their example, this year Silicon Valley Power is preparing to launch the Silicon Valley Power Energy Innovator Awards.

All businesses and academic, governmental and non-profit organizations based in Santa Clara are eligible to apply in three award categories. Two awards will be granted in each of the three categories, one for large organizations (more than 100 Santa Clara employees) and one for small organizations (100 or fewer Santa Clara employees).

The three award categories are: the **Environmental Innovator** which rewards the organization for all-around efforts to support energy efficiency and renewable energy; the **Energy Efficiency Partner** (rebate design, number granted) which rewards the organization for its efforts in designing, implementing and granting rebates for energy-efficiency; and the **Green Power Champion** (renewable energy) which rewards the organization for innovative and successful green power purchases and implementation of other renewable energy programs.

The deadline for submission of application will be Friday, March 14, 2008. Winners will be announced in May 2008 and presented with their awards at the Silicon Valley Leadership Group Energy Forum on Friday, June 6, 2008

<u>Green House Gas (GHG) emissions inventories</u> – Both the utility and the City are undertaking the inventory of their respective GHG emissions due to operations. In addition, the City is working to model the GHG emission profile of the entire community

and region through a consortium of agencies, namely—Joint Venture Silicon Valley Network – Climate Protection Task Force, Sustainable Silicon Valley, International Council on Local Environmental Initiatives (ICLEI) and the Bay Area Air Quality Management District. In 2005, SVP began performing formal GHG inventories, including 3rd party certification, through the California Climate Action Registry. Inventories for Santa Clara city operations and community modeling are just beginning with results expected by mid 2008.

Renewable power content - Where we buy and how we generate electrical power for our municipal Electric Utility/Silicon Valley Power makes a difference in our City's air quality and in the regions where the City purchases power. Santa Clara's 2006 electric power mix of resources is 22% eligible renewable, compared to 5% eligible renewable utilized by the State of California (2005). Renewable resources we rely upon include geothermal, small hydroelectric, solar, and wind. When large hydroelectric resources are included, the power mix enjoyed by Santa Clara customers is 57% renewable, compared to 29% for the statewide mix. SVP's 2007 power mix is expected to reach over 30% with the addition of 105 MW of newly built wind power from the Pacific Northwest (Big Horn Wind Power Project). Santa Clara makes every effort to purchase electricity from the cleanest available and most cost-effective sources.

Breathe Easy Express (BEE) - The Electric Utility, under its Public Benefits Fund, and with the support of the Santa Clara Chamber of Commerce and local businesses, created and implemented the Breathe Easy Express (BEE) demonstration project, one of the first fleets of electric-hybrid transit buses in the United States. The buses provided free, cleaner-air, commuter transportation to major employment centers in parts of Santa Clara, augmenting existing transit opportunities. The successful demonstration project concluded in 2006.

<u>Large-scale photovoltaic system</u> - The municipal Electric Utility/SVP, will be installing a large-scale photovoltaic system (100kW) over an existing City-owned public parking area that will double as a sunscreen for parked cars at the Great America Train Station and renewable energy generation for the Santa Clara electric system. The project should begin construction in 2008, after obtaining approval from the California Public Utilities Commission to build this project in a PG&E right-of-way. Total project cost: Approx. \$1.5 million.

Solar energy systems - Santa Clara is committed to solar energy, taking a leading role in the development and promotion of the use of solar energy since 1975, when the City established one of the nation's first municipal solar utilities. Under current programs of the City's Water & Sewer Utility, the City supplies, installs and maintains solar water heating systems (solar pool heating and domestic hot water heating) for residents and businesses within Santa Clara. In addition, the Electric Utility has designed and installed solar electric systems on homes in Santa Clara. As one example, the Electric Utility designed and installed three solar electric systems for three Habitat for Humanity homes constructed on City-owned property and partially funded by the City, to make the already low residential utility rates for three new families even lower, and bringing them

satisfaction in knowing their energy is coming from a renewable resource. Six more of these homes are planned and will also have solar installations.

Electrical transmission line - A four-mile long electrical transmission line that will significantly increase area power capacity was completed and put into service in northern Santa Clara. In spring, 2003, the City Council selected a preferred environmental route for the 230kV transmission line. The route, which is primarily underground, circumvents areas of environmental concern and reduces environmental impacts by relocating sections of the line away from wetlands. The 230kV transmission line runs between the City Electric Utility/SVP's Northern Receiving Station in North Santa Clara to PG&E's Los Esteros Substation in North San Jose, and was placed into service in early 2005.

<u>Donald Von Raesfeld Power Plant</u> - The City's Electric Utility also completed a 147-megawatt gas fired power plant in 2005, providing approximately one third of the utility's requirements to serve its residents and businesses. The Donald Von Raesfeld Power Plant is situated in the industrial area of Santa Clara, producing power using two high efficiency combustion turbines with added recovery steam generators, and using recycled water in the processes. The plant underwent thorough and rigorous environmental review by the California Energy Commission to ensure the facility would not adversely impact public health or the environment.

Wildlife open space habitat in Coyote Valley - Forty acres of wildlife open space habitat in Coyote Valley have been purchased by the municipal Electric Utility and donated to The Land Trust of Santa Clara County to ensure permanent protection of the land and its resources. The parcel adds another block of land to a growing preserve for several endangered species including the Bay Checkerspot Butterfly. The donation is one of many environmental actions being taken by Silicon Valley Power as mitigation components of the Donald Von Raesfeld (DVR) Power Plant. The plant operates two high-efficiency combined cycle combustion turbines. Excess heat from the combustion turbines generates steam that, in turn, drives the steam turbine. The DVR Power Plant is designed to function as one of the cleanest power plants on record. (See previous item for more information.)

Solar Explorer - The City's Electric Utility has taken its energy conservation efforts on the road with the debut of the Solar Explorer, a miniature 'house on wheels' equipped with solar panels and energy efficient devices and displays. Funded by the utility's Public Benefits Fund, the Solar Explorer is designed to demonstrate how well energy efficient equipment and solar energy can fit into any home. The Solar Explorer has been popular at local schools, at the City's annual Arbor Day/Earth Day event, and at festivals and fairs.

IT practices for environmental stewardship - As part of the Capital Project desktop/ Personal Computer (PC) Replacement Program, the City's Information Technology (IT) Department ensures that all new desktops are now equipped with liquid crystal display (LCD) monitors (versus cathode ray tube/CRT monitors). LCD monitors require less electricity than CRT monitors and contain less harmful compounds than CRT monitors when it is time to retire them from service and dispose of them. Also associated with the PC Replacement Program, the "standard" desktop computer system purchased for use by City staff is Energy Star® compliant (Energy Star is a United States government program to promote energy efficient consumer products. Additionally, a wide variety of IT-related equipment (including computers, printers, other peripherals) are now built to consume less energy, and have options to automatically "power off" or otherwise further reduce power consumption ("standby/sleep mode") when not in active service. IT configures this equipment to take advantage of these power-saving options whenever possible.

Servers are computers/devices that provide information or services to other computers on a network, often under heavy workloads, unattended, for extended periods of time. Servers often have several special features that distinguish them from other computers. Features include faster processors, large amounts of memory, larger hard drives, and redundant power supplies. As part of the Server Consolidation and Upgrade Program, IT has implemented "server virtualization" technology. Virtualization allows one physical server to act as several servers, eliminating the need for several servers that require electricity, generate heat, and eventually need to be retired from service and disposed of. A research study quantifies that for every dollar spent on hardware purchases, an additional 50% to 60% is spent on electricity and cooling costs for the life of the equipment, so this savings can be significant. Through virtualization, IT intends to decrease the number of physical servers located in the City's computer Data Center, which houses the primary municipal computer systems and associated components, thereby saving on electricity to power the equipment itself, and saving on the electricity needed to power air conditioning systems keeping the Data Center cool and at the optimal temperature, as well as reducing the number of servers that eventually must be retired from service and disposed of.

As part of the Data Center Remodel project, the IT Department is exploring alternatives to the traditional Data Center infrastructure design. Many of these alternatives (specifically air conditioning design considerations) will leverage newer technologies or more efficient design practices that consume less power and thus reduce environmental impacts.

The IT Department is looking to replace the legacy Integrated Services Digital Network (ISDN) telephone system with a Voice-over-Internet Protocol (VoIP) solution. One of the benefits of this new technology is that it will reside on the same infrastructure as the City's data network, allowing the majority of equipment dedicated to the ISDN phone system to be taken out of service, thereby eliminating equipment that today actively consumes energy and battery packs.

The City's Helpdesk and Desktop Support groups within the IT Department, the information and assistance resource that troubleshoots problems with municipal computers and other related products, recently deployed technology to remotely access computers at locations throughout the City. By leveraging this technology, staff does not need to drive to other locations within the City to access and repair computer systems.

Obsolete computer systems are sent by the IT Department to auction by the City's Purchasing Division of the Finance Department. The resale of equipment for potential reuse, salvage or recycling, can eventually lessen the amount of electronic equipment making its way to landfills.

Saving energy one light bulb at a time – Since 1998, and as of December 14, 2007, the municipal Electric Utility/SVP, has given away more than 42,000 CFLs (compact fluorescent light bulbs) to City residents, saving as much as one million kilowatt-hours. The utility distributed and installed more than 400 of these bulbs at local senior housing facilities alone. If every American replaced just one bulb with a CFL, it could save \$8 billion in energy costs and provide the environmental equivalent of removing two million cars from the road.

Solid Waste Reduction, Reuse and Recycling

Residential recycling program - The City's residential recycling program provides residents with an easy and convenient opportunity to recycle using a single bin. In 2003, the program was expanded with even broader recycling categories, and now includes plastics #1 through #7, aluminum and tin cans, glass bottles and jars, mixed paper and cardboard, Styrofoam blocks, used motor oil, and more. (Recycling saves landfill space and conserves energy and natural resources.) Starting in 2006, residents can also set out batteries for convenient curbside pickup through the refuse disposal program, so that batteries can be correctly disposed of, rather than improperly impacting landfills.

<u>City Convention Center is model business recycler</u> - Santa Clara's business community is also engaged in creating a sustainable future. Leading the way is the Santa Clara Convention Center, which for four years has been honored by the California Integrated Waste Management Board's Waste Reduction Awards Program. Its recycling program annually keeps almost 90 tons of waste out of the landfill. The Convention Center also purchases recycled paper products and its caterer contributes surplus food to Second Harvest Food Bank.

<u>Battery drop-off at Fire Stations</u> – Residents can also bring batteries to any of the City's ten fire stations for recycling. Batteries are then disposed of properly through the City's recycling programs. This is convenient for those residents who do not have curbside garbage collection.

<u>Household hazardous waste drop off</u> - Household Hazardous Waste Drop Off Days allow residents to safely dispose of environmentally hazardous materials, including pesticides, oil-based paint products, batteries, pharmaceuticals, etc. The City has programs within City limits, but also participates in a County-wide program so that residents can make appointments to use drop-off days year round in nearby jurisdictions. Santa Clara also participates in a County-wide program for drop-off disposal of fluorescent lamps, and electronic wastes.

<u>Annual Clean-Up Campaign</u> – Since 1960, the City has held its award winning Annual Clean-Up Campaign for single-family residents and most multi-family complex residents.

Brush, branches, wood products, furniture, old appliances, and scrap metal can be left curbside for collection. Wood waste is collected and recycled. Metal appliances are collected separately and recycled for the scrap metals. Refrigerants (freon) are recovered from certain appliances and recycled. Salvage companies, neighbors and individuals take usable materials for sale or reuse.

Construction and demolition debris materials recycling requirement – Since 2003, all new building and/or demolition projects which exceed 5,000 sq. ft. in size, including municipal construction, are required to demonstrate, document and report that at least 50% of the materials generated for discard from the project get recycled. Contractors achieve this requirement by taking discards to one of the certified recycling resource processing facilities in the area. Reports are certified by the City's Solid Waste Superintendent. Since the inception of the construction and demolition debris materials recycling requirement, as of December, 2007, every qualifying project has diverted at least 50% of their discards from the landfill. Some have achieved outstanding diversion rates:

- □ Hallmark Construction, 4855 Stevens Creek Blvd., diverting 4,365 of the 4,404 tons generated (99%)
- □ Campanella Corporation, 500 El Camino Real, diverting 15,080 of 15,340 tons generated (98%)

<u>Recycle collection program at City facilities</u> - Mixed paper and other recyclables are recycled through a collection program at City facilities, with blue bins at workstations and central collection points in departments for weekly pickup by a contractor. In addition to mixed paper, plastics and glass, City departments currently recycle work-related items such as tires, scrap metal, waste oil, antifreeze, dry cell and automotive batteries, and all types of beverage containers.

<u>Recycle collection at waste transfer station</u> - Recovery of recyclable materials is also performed at the City contractor's waste transfer station.

<u>Recycled trees</u> - The City's Street Department recycles tree trimmings and citywide collected Christmas trees for energy usage (wood fuel) or soil amendments (mulch).

<u>Recycling incentives</u> - The City provides incentives to industrial area refuse haulers who collect in the City. In order to encourage recycling, the City reduces the franchise fee by 10% for those haulers who offer recycling services to customers, which effectively further reduces the waste stream.

<u>Recycling staff person</u> - The City has a designated staff person devoted to assisting residential and commercial businesses with recycling.

<u>Waste audits/reduction programs</u> - The City conducts waste audits for City firms, either by telephone or by on-site visits, in order to develop programs designed to reduce the volume of waste being landfilled. Firms are also referred to companies that can assist

them in setting up a waste reduction program. Telephone directories are recycled through curbside pickup or at convenient drop-off points located citywide.

<u>Landfill gas recovery for electric energy conversion</u> - Since 1986, Santa Clara has contracted the recovery and conversion of landfill gas from the City's closed landfill, into electric energy. This lease has resulted in more than \$2 million in revenue and the generation of over 174 million kilowatt-hours of electricity. Santa Clara is in the process of securing another company to extend this conversion process for another 20 years.

Street Tree Program

<u>Municipal Tree Program</u> - For more than forty years, the City of Santa Clara has invested in a Municipal Tree Program to enhance the beauty of residential neighborhoods and public places.

<u>Trees</u> - Trees are not just pretty – they purify the air, absorb sound, deflect wind, provide shade protection, control erosion, and help with energy conservation.

The City values its urban forests, and works vigorously to maintain a healthy tree canopy along residential streets and commercial thoroughfares and through the City's extensive park system. City street trees are planted and maintained by the City, including scheduled trimming.

<u>Tree City U.S.A.</u> - Since 1986, Santa Clara has been a Tree City U.S.A., so named by the National Arbor Foundation, recognizing the City's Street Tree Program that has placed and maintains thousands of trees throughout the community, and has received this recognition for 20 consecutive years. In 2003, the City began receiving a special annual recognition designation, "Tree City USA Growth Award" for its environmental improvement and higher levels of tree care in Tree City USA communities.

<u>Arbor Day/Earth Day</u> – Since 1986, Santa Clara has held an annual Arbor Day/Earth Day celebration inviting Santa Clara elementary schools to the grounds of the Triton Museum, across from City Hall, to participate and learn about the environmental benefits of trees. Santa Clara's award winning Arbor Day celebration now involves nine schools, more than 1,100 students, and multiple City departments and private companies. There are educational booths and Arbor Day/Earth Day program activities.

<u>Tree give away</u> - In celebration of the City's Sesquicentennial (1852-2002), the City distributed 1,852 trees for residential planting.

<u>Ultra Low/Zero Emission Vehicles</u>

<u>Electric-hybrid vehicles</u> - The City of Santa Clara has made a commitment to sound environmental policies by already having a significant number of ultra low and zero emission vehicles, primarily electric-hybrid vehicles. These low/zero emission vehicles

also greatly reduced fuel consumption. In 1998, the City first replaced some of its gasoline-powered fleet vehicles with electric vehicles.

Sustainable green fleet ahead of schedule - Adoption of a goal of having 50% of all City of Santa Clara non-public safety sedans be ultra low or zero emission vehicles is consistent with Santa Clara's commitment to the health of the environment. Council policy was established in 2002 to have 50% of fleet converted by FY 2006-07. The successful transition to ultra low or zero emission vehicles was so successful that a new goal was adopted to achieve a 75% level by FY 2007-08. That goal was surpassed and in November of 2007, it was reported to Council that 88% of the City's non-public safety vehicles are alternate fuel/hybrid vehicles. In addition, there were thirteen gasoline-powered staff cars that were replaced with electric-hybrid vehicles for use as part of the Fire Department and Police Department public safety vehicle fleets. There are a total of 70 hybrid vehicles and five all "Electric Thinks" vehicles (four in non-public safety use and one in public safety/Fire use) currently in service City-wide.

<u>Total fleet fuel usage commitment</u> – In May 2007, the City joined Sustainable Silicon Valley. The City's commitments include increasing the fuel efficiency of the Santa Clara City vehicle fleet, with the goal not to increase total fleet fuel usage going forward.

Reduction in fleet diesel particulate matter emissions – The California Air Resources Board (CARB) approved a regulation to reduce toxic diesel particulate matter emissions from diesel fueled public agency and utility fleet vehicles beginning in 2007. To meet this requirement, all non-public safety diesel powered vehicles will either be replaced or retrofitted with CARB-approved diesel emission filters, over a period of five years.

Recycled Water Program

<u>Recycled water transmission and delivery system</u> - In 1989, the City of Santa Clara completed the first significant recycled water transmission and delivery system in the South Bay. The system utilized treated water from the jointly owned San Jose/Santa Clara Water Pollution Control Plant to irrigate the Santa Clara Golf & Tennis Club and for many other non-potable applications within the City of Santa Clara.

American City & County Award of Merit - The San Francisco Bay Regional Water Quality Control Board granted Santa Clara early permission to utilize recycled water for many purposes. The uses included landscape irrigation at the City's then new Santa Clara Golf & Tennis Club and at a nearby City park, for street median landscaping, dust control for construction projects, sewer cleaning and street cleaning. The project was nationally recognized as the 1989 winner of the American City & County Award of Merit in the water supply category.

Recycled water helps during a drought - As the recycled water transmission and delivery system was being completed in 1989, the Santa Clara Valley began to experience several years of drought. Santa Clara's recycled water project was the envy of the region, allowing the City's golf course to stay green, and saving enough potable water to serve

the equivalent of an average of 1,400 homes a year at that time. Since then the program has experienced enormous growth.

San Jose/Santa Clara Water Pollution Control Plant - Santa Clara's initial municipal use of treated water from the jointly owned San Jose/Santa Clara Water Pollution Control Plant grew regionally in the 1990s. The South Bay Water Recycling Program was initiated to reduce the discharge of treated water flowing from the San Jose/Santa Clara Water Pollution Control Plant into San Francisco Bay. During this period the plant operated under a discharge limit of 120 million gallons a day during the summer to help maintain the salt marsh habitat of the South Bay. The discharge of the Plant's highly treated water into the Bay was believed to be endangering the salt marsh habitat of two endangered species, converting the saltwater marsh to fresh water and (brackish water) marsh. To help preserve this habitat, rather than discharging the treated water into the Bay, the recycled water system helped to divert this water to other uses, and kept the discharge under the established flow limit.

Recycled water distribution system - In 2003 the 120 million gallon per day discharge limit was removed from the permit for the San Jose/Santa Clara Water Pollution Control Plant. However, the advantage of recycled water as a drought proof water supply had been proven and the recycled water distribution system continued to expand. As of 2006, one hundred miles of recycled water pipelines in the South Bay Water Recycling distribution system are delivering recycled water for landscaping, playing fields, golf course, cemeteries, industrial processing, dual plumbing, agriculture and other non-drinking water purposes. Program participants and partners with Santa Clara include the cities of San Jose and Milpitas, County Sanitation Districts 2 & 3, West Valley Sanitation District, Burbank and Sunol Sanitary Districts, Cupertino Sanitary District, Santa Clara Valley Water District, San Jose Water Company, and the Great Oaks Water Company.

Non-potable uses for recycled water - In addition to Santa Clara's use of recycled water at our golf course, landscaping at Fire Station 6 and at other municipal facilities, local parks, and in some landscape medians, businesses in Santa Clara utilizing recycled water for non-potable uses include the San Francisco 49ers training facility, Intel, Sun Microsystems, California Paperboard, Great America Theme Park, and many more. Recycled water is available for non-potable uses by businesses, industries, parks, and schools along pipeline routes in the area north of Central Expressway and along Lafayette Street, along Saratoga Avenue in Santa Clara, and in the Rivermark community. The Donald Von Raesfeld Power Plant is a major consumer of recycled water. City parks currently served include Lick Mill Park, Thamien Park and Live Oak Park, and service is being expanded south to include portions of Central Park and landscape areas around the Central Park Library.

Great Workplace for Commuters

<u>Santa Clara named Best Workplace for Commuters</u> - In 2002, Santa Clara was named one of the best workplaces for commuters in the Bay Area. The recognition was due to Santa Clara's commitment to improving quality of life for harried commuters while also

reducing traffic and air pollution. Santa Clara was named a 'best workplace for commuters' by the Bay Area's Best Workplaces for Commuters Coalition, and the U.S. Environmental Protection Agency. Santa Clara provides transit subsidies to employees, guaranteed rides home, commuter vehicles from transit hubs, bike facilities, and other programs.

<u>Bicycle Committee</u> - An active and involved Bicycle Committee makes recommendations to the City Council to encourage recreational and commuter bicycling by promoting safe, convenient, well designed facilities, and by evaluating local bicycle and pedestrian related projects and making recommendations to City staff. A bicycle map has been published and is updated regularly.

Extension of the San Tomas Aquino/Saratoga Creek Trail - In May of 2004, the City celebrated the completion of construction of Reach 1 of the San Tomas Aquino/Saratoga Creek Trail between the Bay Trail (near State Highway 237) and Agnew Road. The project included construction of underpasses at Hwy. 237, Old Mountain View/Alviso Road, Great America Parkway, and Tasman Drive, and the completion of construction of a paved path connecting the Bay Trail to Agnew Road. The project has been funded through a combination of City Redevelopment Agency funding, funding from the Santa Clara County Open Space Authority, the Santa Clara Valley Transportation Authority, the Santa Clara Valley Water District, and a number of other agencies as well as grant funding.

In May 2006, the City completed the construction of Reach 2, from Agnew Road to Scott Boulevard, including underpasses at Mission College Boulevard, Highway 101, and Scott Boulevard. Reach 3, from Scott Boulevard to Monroe Street, is currently under construction and is expected to open in spring, 2009. A parking lot for trail users at the southwest corner of San Tomas Expressway at Monroe Street has also been completed. This lot provides 29 parking spaces for users to park their vehicles and ride their bicycles or walk on the trail.

Reach 4 from Monroe to Cabrillo is under design. When completed in all the involved cities, the San Tomas Aquino/Saratoga Creek Trail will extend 12 miles from the San Francisco Bay Trail near Highway 237 in Santa Clara to Prospect Road in San Jose. It will traverse approximately 5 miles of Creek corridors and seven miles of local streets, and will connect with parks, open space facilities, employment centers, transit systems and residential areas. The City Redevelopment Agency's FY 2006-07 budget includes an additional \$1.4 million for Reach 3 construction.

Park and ride lot for commuters – A parking lot was constructed in 2001-02 at the Great America Railroad Station at the southern end of Stars & Stripes Drive in north Santa Clara. Project costs for the 200 parking spaces were shared by VTA (\$300,000) and the City of Santa Clara, for a total cost of \$663,000, with the City owning the lot and also providing the landscaping and irrigation, and all ongoing maintenance and control of the site. VTA pays the City \$16,000 annually as a contribution toward the maintenance and utilities. The parking lot permits transit passengers including those from VTA, ACE and

the Capitol Corridor services to use the parking lot for overnight and weekend use. It is a shuttle stop for the above agencies, and heavily utilized by commuters, helping to lessen the number of vehicles on the highways.

Other City of Santa Clara Environmentally Friendly Efforts

Green Building strategy – One of Council's adopted 2007-09 Principles and Priorities is to "affirm Commitment to Reduction of green house gases and development of Sustainable Renewable Energy & Green Power Resources." As part of this positive environmental posture, Council indicated they would like to establish a policy specifically addressing green building efforts. Climate protection and sustainability are key initiatives in the City's General Plan update (2010-2025) process currently underway, wherein policies and programs addressing the breadth of "green" actions will be incorporated. However, since the adoption of the new General Plan policies is not anticipated until June 2009 or so, an interim policy that advances green building objectives was deemed appropriate.

In December 2007, Council adopted three near-term Green Building Policy Recommendations promoted by the Santa Clara County Cities Association, including:

- □ Recognizing and adopting the U.S. Green Buildings Council's Leadership in Energy and Environmental Design (LEED) Rating System, and Build It Green's GreenPoint Rated System (residential)
- As part of a planning application, require the submittal of a completed LEED or GreenPoint Rated checklist; this does not require an applicant to adopt green building practices, but does require that a checklist for their project be completed to encourage recognition of green building methodologies.
- □ Achieving LEED Silver Certification or better for new City construction and renovation projects over 5,000 sq. ft.

Working with the County Cities Association and incorporating their initial suggestions will be useful to those working across jurisdictions, and will help communities to work toward common goals.

Solar Decathlon Project – In September, 2006 the City's Electric Utility/SVP, became the first financial donor of Santa Clara University's Solar Decathlon Project, and has encouraged its major customers and other California municipal utilities to support SCU's participation in this international competition sponsored by the U.S. Department of Energy Office of Energy Efficiency and Renewable Energy, in partnership with the national Renewable Energy Laboratory. The objective is to design, build and operate the most attractive and energy-efficient solar-power home. SCU's solar home entry was be built on campus and then trucked to the National Mall in Washington D.C. for the competition and display in October 2007. Out of 160 applicants, SCU was one of only 20 schools from around the world chosen to participate in this competition, and was the only team on the West Coast to qualify. Santa Clara's first-time entry outdistanced other schools including Cornell, the Massachusetts Institute of Technology (MIT), and two-time decathlon winner, University of Colorado, Boulder. The sponsorship of the team by

the City's Electric Utility is one of many efforts of the utility and the City with SCU, to encourage and support the implementation of energy efficiency, renewable energy and green building projects.

<u>Traffic signal retrofitting</u> - In 2001, the City completed an extensive retrofitting of traffic signals, replacing incandescent bulbs with LED lenses. This reduced the overall electricity consumption of the signals by more than 90%. LED lenses use about 10 to 15 watts each, compared to incandescent lights, which use about 160 to 170 watts each. LED lenses are also rated at a much longer life of 80,000 hours in comparison to incandescent lenses, which have a lifespan of 8,000 to 10,000 hours. While the cost of LED lights is greater initially, the savings in electricity and operating/maintenance costs due to less frequent change-outs more than offset the cost.

<u>Ulistac Natural Area</u> - Rather than move forward with a high-density rental housing project on a closed public golf course, the City set aside this prime 40 acres of open space that showcases seven distinctive natural habitats - including grasslands, woodlands, wetlands, and savannah – and it is called Ulistac Natural Area. This open space park opened in Santa Clara in 2001 after months of volunteer efforts to restore California native vegetation and preserve wildlife habitat. Ulistac Natural Area is now an attractive place for walking, jogging, studying and enjoying nature. It provides access to the nearby Guadalupe Creek Trail, is one focus of the newly formed Environmental Studies Institute at Santa Clara University and is also the subject of a special Ulistac website which has been created and is being maintained by students at Wilcox High School in Santa Clara to record sightings of birds, animals, and insects in the park. Approximately 5 acres of the park were used for the creation of wetlands, which are enjoyed by the wildlife as well as the bird watchers who frequent this distinctive City park facility.

<u>Energy efficient lighting</u> – Many City buildings have been retrofit with energy efficient lighting, and those buildings that are newly constructed or remodeled meet or better industry standards. Santa Clara's new Senior Center, as one example, has energy efficient lighting and equipment in most areas. The expanded Community Recreation Center, Teen Center, and Youth Soccer Park building are other examples.

<u>Solar for Habitat Homes</u> – Santa Clara partnered with Habitat for Humanity for the construction of three homes on City owned property, now occupied by qualified families who helped to build the homes. The municipal Electric Utility/SVP, provided photovoltaic electric systems for all three homes. Since Santa Clara is a public power community, the already inexpensive electric bills paid by these homeowners will be even lower. Six more homes are under construction, and another project is in the planning stage, all with photovoltaic electric systems.

<u>Solar at fire stations</u> – The municipal Electric Utility/SVP, provided photovoltaic electric systems for the replacement Fire Station 3, and is also providing the system for Fire Station 4, which is currently under construction and scheduled to open in spring of 2008.

On-going training method lessens vehicle trips – The Fire Department utilizes a closed circuit television broadcast system to televised required, on-going training activities from the Fire Department's Training Center to all fire stations. The system allows fire crews to remain in their fire stations, making them available for continued emergency response. An added benefit of this remote training is that it lessens the need for fire engines and other fire vehicles to travel to the Training Center, reducing vehicle trips and their related emissions.

Greenprint Map – A City Greenprint map, showcasing numerous recreational parks and open space opportunities throughout the City of Santa Clara, was developed as part of the Santa Clara Council Vision and Goals for 2001-2003. The City Greenprint map, found on the City's website at http://santaclaraca.gov/Modules/ShowDocument.aspx?documentid=2011, indicates the approximate size and location of parks, schools, rivers, colleges, landscaped medians and interchanges, parcels and other "green" sites in the community. Some facilities, such as school sites, have large areas of open space as well as buildings. The areas marked on the Greenprint Map designate the open space areas only, not the building areas. As of March 2007, the City has 32 municipal parks (covering 242 acres), and 10 special park facilities (covering 41 acres). In addition, the Santa Clara Golf & Tennis Club has 155 acres, and the City cemeteries include 26.5 acres. Total acres of open space are approximately 464.5 acres. Based on a population of 110,771, the ratio of open space acreage per 1,000 residents is 4.19 acres per 1,000 residents.

<u>City endorses Greenhouse Gas Reduction Principles</u> - In 2006, the Santa Clara City Council endorsed a set of Greenhouse Gas Reduction Principles for its municipally owned Electric Utility, Silicon Valley Power. The principles address the critical need to reduce greenhouse gases while maintaining high power reliability and low, stable rates. Scientists fear that an increase in the greenhouse gases that naturally cover the Earth and warm the atmosphere will result in negative changes in nature such as more severe floods and droughts, increases in the prevalence of insets, rising sea levels, and a redistribution of Earth's precipitation.

The Greenhouse Gas Reduction Principles were jointly developed by member utilities of the California Municipal Utilities Association, a statewide association of local governments providing water, gas and electricity to California consumers, and include the commitment to:

- Proactively implement state law that requires the acquisition of all available energy
 efficiency and demand reduction resources that are cost-effective, reliable and feasible
 in its procurement of energy
- Aggressively pursue its renewable energy supplies
- Quantify the financial risk of GHG-producing resources in planning and procurement
- Measure and verify programs that reduce GHG emissions
- Support standardized, mandatory GHG reporting
- Consider environmental justice issues in its GHG reduction policies
- Educate customers on ways to reduce GHG emissions.

Santa Clara supports National Plan for Energy Efficiency - The City of Santa Clara and its Electric Utility, Silicon Valley Power, support the National Action Plan for Energy Efficiency, a collaboration of electric utilities, utility regulators and partner organizations committed to creating a sustainable, aggressive approach to energy efficiency to meet the nation's energy needs. By pledging support in 2006, Silicon Valley Power promises to: 1) designate energy efficiency as a high-priority resource option; 2) adopt targets for energy efficiency; 3) pursue energy efficiency resources under a long-term resource planning and procurement framework; 4) institute a regulatory framework that encourages utility investment in energy efficiency; and 5) share California's successes with others interested in energy efficiency. If the national plan is fully implemented, it could help defer the need for 40 new 500-megawatt power plants in the U.S., avoid greenhouse gas emissions equivalent to those given off by 35 million vehicles, lower the costs of air pollution controls, and reduce the price of natural gas.

Wildlife refuge in Southern Alameda County – The City donated a small parcel of property to the Don Edwards San Francisco Bay National Wildlife Refuge, which is owned and administered by the U.S. Department of the Interior, U.S. Fish and Wildlife Service. The land, located along Coyote Creek near the historic town of Drawbridge, was gifted to the City by Evalyne Y. Bentzien, longtime City of Santa Clara resident, who passed away in November of 1997, and whose husband, Forrest Bentzien, used the property as a duck blind. The property has been added to the wildlife refuse, and is used by waterfowl, shorebirds, rails, egrets and herons, and the vegetation on the parcel is important for filtering pollutants and maintaining water quality in the Bay. The parcel is at the center of the South Bay Salt Pond Restoration Project, the largest tidal wetland restoration project on the West Coast of the United States, and while the parcel donated was small, was acknowledged as being a help to improving wildlife habitat, wildlife oriented recreation (such as bird watching) and flood control.

<u>Wind energy is 'bird friendly'</u> – The Altamont Pass wind companies that the City's Electric Utility/Silicon Valley Power contract with are, on a voluntary basis, in compliance with current standards to reduce bird deaths and are considered 'bird friendly' wind companies.

Global warming workshops – To help Santa Clara residents explore the issue of global warming, the municipal Electric Utility/Silicon Valley Power, hosted John Allen, a trained "Climate Change Messenger," for a slide show presentation that was the basis for Al Gore's "An Inconvenient Truth" documentary, on two days in 2007 at Central Park Library. The presentations were part of the Climate Project, a movement to education and challenge citizens and governments to take steps toward making a difference on global warming. The presentation was followed by a question and answer period, and breakout sessions for public discussion at the library. The Central Park Library is a member of the Santa Clara Green Power program, and is also an EPA Green Power Partner.

Reducing carbon dioxide emissions and promoting alternative energy – In early 2007, the City agreed to join Sustainable Silicon Valley, a collaboration of businesses,

governments and non-governmental organizations working towards reducing regional carbon dioxide emissions 20% below 1990 levels by 2010. In addition, the City has made a commitment to help stop global warming by signing the U.S. Mayor's Climate Protection Agreement through the Cool Cities Across America program. To cap off these efforts, the City also signed the Novellus Action Pledge to reduce dependency on oil and to promote alternative energy technologies.

<u>Urban runoff pollution prevention management plan</u> – Since 1990, Santa Clara has participated in the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPP). This program is an association of thirteen cities and towns in Santa Clara Valley, the County of Santa Clara, and the Santa Clara Valley Water District, that share a common permit to discharge stormwater to South San Francisco Bay. The program incorporates regulatory, monitoring and outreach measures aimed at reducing pollution in urban runoff to the "maximum extent practicable" to improve the water quality of South San Francisco Bay and the streams of Santa Clara Valley. The City of Santa Clara has implemented an urban runoff management plan which meets or exceeds the SCVURPP program's model performance standards to prevent and control pollution and runoff. These performance standards include regular street sweeping, storm drain cleaning, best management construction practices and inspection, illicit connection and illegal dumping elimination activities, industrial/commercial discharger control, integrated pest management practices, and planning procedures and requirements for new development and development projects.

<u>Green Business certification and recognition program</u> – Since 2005, the City of Santa Clara has participated in a countywide Green Business program which provides technical assistance and education to businesses on recycling and waste reduction, water and energy conservation and pollution prevention through a certification process. Certified businesses are recognized and publicized, and may use the Green Business certification as a business publicity tool.

The City of Santa Clara has a history of environmental sensitivity, and a commitment to environmentally friendly programs, policies and services, including hiking and biking trails, a 40 acre open space park, street tree program, approving higher density housing adjacent to mass transit and transit hubs, a solar utility since 1975, a Solar Explorer (educational house on wheels to demonstrate energy efficient devices and displays), and more.

Some of the above efforts are not unique to the City of Santa Clara. Safeguarding our environmental is an international issue, but we can each focus on minimizing our own carbon footprint by driving less or more efficiently, and carefully considering our electricity and natural gas use. Water conservation and recycling are also important, and we can take many other important steps such as conserving water, consuming less of things, recycling, walking or biking instead of driving, buying local, to help protect and preserve earth's finite resources.