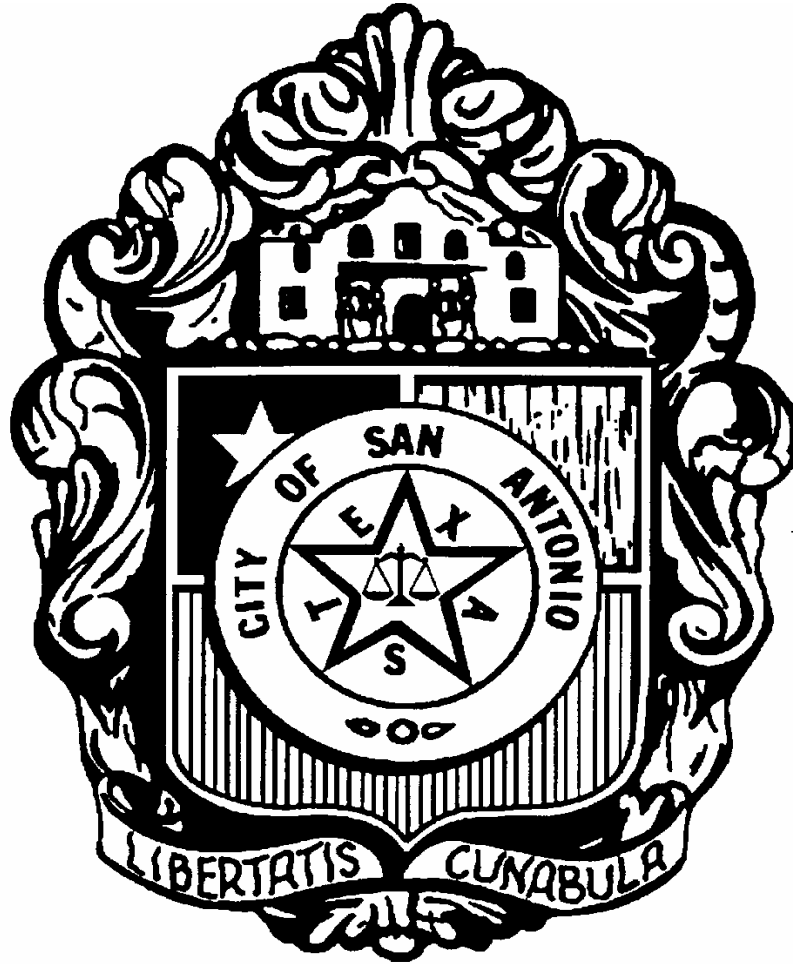


DEPARTMENT SUSTAINABILITY INITIATIVES
UPDATED JANUARY 2009



Compiled by

OFFICE OF ENVIRONMENTAL POLICY

City-Wide and Office of Environmental Policy	
	The following departments purchase environmental/recycled products: Human Resources, Library, Office of the City Clerk, Parks and Recreation, Communications and Public Affairs, Housing and Neighborhood Services, Solid Waste Management, Intergovernmental Relations, Office of the City Auditor, Fleet Maintenance and Operations, Purchasing and Contract Services, Information Technology, Public Works, Convention and Visitors' Bureau, City Council, City Attorney's Office, Aviation, Office of Cultural Affairs, Grants and Monitoring Administration, Planning and Community Development, Metropolitan Health District, Finance, Downtown Operations.
	San Antonio Greenhouse Gas inventory being finalized by AACOG
	City of San Antonio designated a 2008 Solar America City by the Department of Energy
	San Antonio is the host site of the annual conference of U. S. Solar City designees set for April 2009
	The Office of Environmental Policy (OEP) coordinates Solar City grant activities toward the creation of a San Antonio solar implementation plan.
	The Office of Environmental Policy has sponsored Leadership in Energy and Environmental Design (LEED) training for six city employees and has obtained a sponsor to pay the costs for two city employees to obtain LEED AP certification and provided one scholarship for a City employee to attend the national green building conference.
	In 2009, the OEP will sponsor seven (LEED) green building trainings and provide free or discounted registration for city employees
	OEP is coordinating with the Metropolitan Partnership for Energy, CPS Energy and San Antonio Water System to create San Antonio's first residential certification program for a "Net-Zero Solar Home". This program will be launched in Fall 2009.
	Parks and Recreation Department and OEP are co-sponsoring the 2009 "Solar Fest" on May 2, 2009.
	OEP will hold the First Annual "Green Leadership Awards" for outstanding efforts in the local green building industry.
	OEP, in partnership with various departments, is conducting lighting audits and retrofits at numerous city facilities
	OEP chairs the CPS Energy Green Ribbon Task Force, sits on the Board of Directors of Solar San Antonio, and represents the City in planning a comprehensive sustainability resource, education, and service center.
	OEP facilitated the Mayor's Task Force on Sustainable Building – energy and water code and incentive recommendations are completed and being prepared for City Council consideration
Aviation	
	Assistant Director will be using an electric "golf cart" for transiting to and from construction sites via the restricted area. This will replace the use of an automobile and also get one more vehicle off the ring road and out of our customers' way.
	Aviation has obtained two six-seater electric "golf" carts for transporting passengers from the far reaches of the long-term parking garage to the front of the terminals.
	Aviation's maintenance division mounted a solar panel on top of a golf cart to allow for mobile charging, thereby reducing electricity consumption.
	The Airport Police will apply for a grant to install 13 auxiliary power batteries in police cars. The batteries will store excess electricity during operation of the gasoline engine, and allow the operation of the battery systems when the engine is not running. This will reduce excess emissions caused by idling.
	The Aviation Department is researching the use of LED runway lights to reduce energy consumption.
	Aviation is pursuing alternative fueling options at a refueling station near the airport. The Aviation Department has received grant-funded technical advice, and plans to pursue grants in support of alternative fueling infrastructure.
	The Aviation Department is exploring the possibility of installing solar panels at the airport, with grant assistance from the Office of Environmental Policy Department.
	Recycling containers were installed throughout the airport concourses and offices.
	Airport architects attended a LEED technical review workshop hosted by USGB Council. Airport staff also toured silver-certified Zachry headquarters.
	Move maintenance crews closer to work areas to reduce driving.
	Aviation is participating with the Convention Center in the procurement of a performance contractor to reduce energy and water consumption at the airport.
	The Aviation Department has established a soil stockpiling site to encourage the reuse of airport soils and other construction materials, which also reduces the use of landfills.
	Initiated battery recycling.
	Pursuing LEED certification for Architects.
	Exploring use of Continuous Descent approach technique for reducing aircraft noise over Northwest

	neighborhoods.
	Funding environmental master plan for FY09 to avoid “plop” projects and enhance project synergy.
	Installed temporary waiting lot (cell phone lot) to reduce traffic circling ring road while waiting for arriving passengers.
	Abundant natural light and visual transparency are achieved at the curb-front façade of the ticketing hall, with minimal heat gain, through a combination of low-e glass, exterior screening devices and a curb-front canopy. The glazing is the full height of the space and the screening devices (different for each terminal to address differing orientations) are designed to bounce reflected light into the ticketing hall while excluding all direct sunlight at all seasons until a few minutes before sunset. The translucent plastic canopy acts also as a sunscreen for the glazing closer to the ground plane. At night, light from the building, transmitted through the translucent material, will reduce the need for artificial lighting
	The recent decision to eliminate the administrative mezzanine from Terminal B will allow incorporation of a north-facing clerestory over the ticket counters. With no direct solar gain, this additional glazing will further reduce the need for artificial lighting in the ticketing hall.
	All entrance vestibules at both Arrivals and Departures levels will be pressurized, minimizing the amount of outside air admitted to the building.
	Chilled and hot water will be delivered to the new terminals by a variable speed pumping system, using less energy when the demand is lessened. The recent decision to install similar pumps in Terminal 1 will result in energy savings equivalent to the power required to drive a 20-horsepower pump continuously.
	The new cooling towers will cool 56.36 gallons of condensing water per minute for fan motor brake horsepower. The cooling towers they replace cool 38.125 gallons per minute.
	Air handling units are selected that will operate on the lowest horsepower possible to deliver air. A twelve-degree water temperature rise has been selected to minimize pump horsepower.
	Automatic lighting controls are included in the design, including daylight sensors to switch off selected fixtures when sufficient sunlight is available – a lot of the time in public areas.
	Lamp choices for all fixtures were made to achieve the highest levels of efficiency. Lamps are all fluorescent or metal halide; there are no incandescent or low voltage lamps.
	Lavatory faucets are sensor controlled and use 0.25 gallons per cycle, a rating that meets the most stringent LEED criteria.
	Fixtures requiring hot water which are isolated from concentrations of fixtures requiring hot water will use instantaneous hot water heaters.
Capital Improvement Management Services (CIMS)	
	City Architect’s Office targets to attain LEED Silver Level standard on all new buildings.
	New construction at Fire Station No. 51 will include a demonstration of a solar hot water heater system. This is paid for by a grant from the Department of Energy “Solar Cities Initiative” received as a result of the “Solar Designation” awarded in March 2008.
Convention Sports and Entertainment Facilities	
	<p><u>Past Accomplishments</u></p> <ul style="list-style-type: none"> • Recognized for Recycling Excellence Two Years in A Row • Recycled more than 138 tons of paper in 2006 and 2007. Cumulative resources conserved: <ul style="list-style-type: none"> ○ 2329 trees ○ 971,050 gallons of water ○ 8326 pounds of air pollution ○ 570,415 kilowatt hours of electricity ○ 458 cubic yards of landfill space
	<p><u>Current Practices</u></p> <ul style="list-style-type: none"> • Administration, all offices and employee breakrooms set up for recycling • Each workspace is equipped with a blue bin marked for paper. Break rooms are supplied with brown receptacles for aluminum, plastic and glass. <ul style="list-style-type: none"> ○ Office paper ○ Aluminum cans ○ Plastic (such as water and soft drink bottles labeled 1 or 2) ○ Glass (such as juice, water or soft drink bottles labeled 1 or 2) • Stringent energy conservation protocol. Lights, air conditioning, escalators are kept at reduced or off settings when not in use. • Began retrofit of exhibit hall lighting <ul style="list-style-type: none"> ○ Replaced (200) 400 watt HID fixtures/bulbs with 200 watt florescent bulbs ○ Replacement bulb to continue in halls A,C & D ○ Waterless urinals installed in limited areas for testing • Invested \$118,000.00 on new recycling containers to replace current brown and blue bins used in

	<p>the public areas.</p> <ul style="list-style-type: none"> • Items being recycled: <ul style="list-style-type: none"> ○ Cardboard (A strict cardboard recycling policy is in effect for all decorators/contractors. Cardboard-specific dumpsters are easily accessed and clearly marked. Any vendor found placing cardboard in the trash is notified of the violation and asked to comply. Approximately 900 cubic yards are recycled per year) ○ Polyurethane foam (carpet foam) ○ Wooden pallets ○ Scrap metal ○ Paper ○ Glass (such as beverage bottles) ○ Plastic (such as beverage bottles) ○ Aluminum ○ Recycled paper products (hand towels) are being used on a trial basis; additional product testing to follow • Meeting planners can arrange to utilize composting bins. Requires partnership with catering (The RK Group) to ensure only food waste is placed in the proper location. • Meeting planners can provide specific biodegradable/organic/recyclable/eco-products for use at convention facilities during the event. For example: <ul style="list-style-type: none"> ○ Garbage bags. Garbage bags can be recycled plastic or bio-plastic bags if composting. ○ Toilet paper ○ Hand towels ○ Hand soap. Eco-soap has not yet been available to fit center dispensers, so planners have provided bottled soap to place on counters • The Department’s performance contracting initiative is in the final contract process. This initiative will utilize efficiency expert recommendations to realize savings in various areas such as energy and water consumption, materials and other products used in the day-to-day operations. • Researching solar panel options for installation on the roof of the convention center. • Reviewing wind-generated power options for the Convention Sports and Entertainment Department
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Economic Development	
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	<p>The Economic Development Department has added Environmental Technology (also known as Clean Technology or Green Technology) as a targeted industry in the Tax Phase-In Guidelines. This adds Environmental Technology to the other targeted industries such as Information Technology, Biomedical and Manufacturing. Targeted industries are eligible for City of San Antonio economic development incentives.</p> <ul style="list-style-type: none"> • <u>Environmental Technology</u> (also known as Green Technology and Clean Technology): Includes companies that create “Green Jobs” which are work force opportunities that improve environmental quality. This can involve conservation, remediation, and improvement of the natural environment, conservation and efficient use of resources. Includes, but not limited to, business activities in the research, development, services or manufacturing of products such as pollution control devices and systems, waste treatment processes and storage facilities, clean energy products and services, green building products and services, alternative transportation products and services, recycling, and site remediation technologies.
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	<p>The Economic Development Department has also added Windtricity and other renewable energy programs and LEED Certification as a means to attain a 100% abatement of real and personal property taxes in a 6-year tax phase-in area. This addition increases, by up to an additional 25%, the amount of property tax abated based on a commitment to use renewable energy resources and green building practices.</p>
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	<p>The Incentive Scorecard System:</p> <ul style="list-style-type: none"> • Provide incentives for LEED certified projects and Certified Build San Antonio Green projects through our Incentive Scorecard System (ISS). • The ISS is an online application. • The ISS offers a project certain fee waivers based on the score that the application receives. • The project must obtain a score of 60 points to qualify for any incentives. • If a project is certified green, the project automatically receives 30 points. • The ISS offers waivers for Street and Sidewalk closure permits, Plan Review and Building permit fees, and SAWS Sewer and Water Impact Fees (residential only).
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	<p>City South:</p> <ul style="list-style-type: none"> • Sustainable design principles and practices, promoting smart growth • Plan for greenways along roads by developing open space and a hike & bike trail network to buffer uses and provide access to recreation water amenities
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	<ul style="list-style-type: none"> • Transform highways into parkways and provide major east-west connections • Incorporate traditional building styles and design with nature • Limit leap frog development • Promote a job/housing balance, regional retail development and traditional neighborhood development • Create civic public spaces and attractive streets • Set aside as much as 25% of developable land for agricultural use and encourage compact development to maintain rural character • Promote higher density uses along loop 410 and decreasing density that transitions to agricultural and open space uses along the medina river
	<p>Industry Development:</p> <ul style="list-style-type: none"> • Through the Business Retention program staff has assisted large companies with VIA Bus Routes to help employees offset of fuel costs • EDD is encouraging mass transit when meeting with local companies to help alleviate congestion on the roadways
	<p>Westside Development Corporation:</p> <ul style="list-style-type: none"> • WDC staff has met with Aquifer Guardians in Urban Areas (AGUA) to learn about pilot programs and grants to assist businesses to go green. • Promoting sustainability by encouraging employers to locate closer to their pool of employees. • The WDC is also encouraging adaptive re-use (recycling) of buildings, and offering master planning assistance to those projects. • The WDC is seeing how energy conservation leads to affordability in small business
Fleet Maintenance & Operations	
	The Fleet Department implements a modified Inspection & Maintenance (I/M) Program using a four-gas emissions analyzer. All vehicles are tested by the I/M Program during the annual safety inspection. Any identified problems are corrected and the vehicle is re-tested.
	<p>City of San Antonio Fleet Profile:</p> <ul style="list-style-type: none"> • 4974 On and Off Road Vehicles <ul style="list-style-type: none"> ○ 124 Propane Vehicles ○ 586 Flex Fuel Sedans (includes 348 police cruisers) ○ 1912 Medium and Heavy-Duty Diesel Vehicles ○ 129 Hybrid Electric Sedans with 16 Hybrids sedans expected summer 2008
	<p>Annual Fuel Usage (2007):</p> <ul style="list-style-type: none"> • 3.3M Gallons Unleaded • 2.4M Gallons Diesel • 7,000 Gallons Propane • City of San Antonio has utilized propane since 1974
	City began using Ultra Low Sulfur Diesel 10 months before Texas Commission on Environmental Quality (TCEQ) mandate
	Stage I and II refueling systems have been used since the 1990's
	Stage II recovery systems remove 95% of Volatile Organic Compound (VOC) emissions resulting from refueling.
	Fleet submitted two applications to IRS for a reimbursement rebate of .50¢ per gallon of propane and received the reimbursement rebate for \$76,343.65 and \$26,435.
	COSA Fleet is purchasing 30 Compressed Natural Gas (CNG) refuse trucks and 13 of the 30 vehicles have been received.
	Construction for a CNG fueling facility has been completed and is in operation at the City's Northeast Service Center.
	On February 21, 2008, Fleet held an alternative fuel (propane) Showcase for large mowers.
	Submitted an \$864,000 Texas Emissions Reduction Program (TERP) proposal to TCEQ in coordination with Solid Waste for the incremental cost associated with the purchase of 30 refuse trucks.
	Fleet's truck centers recycle antifreeze.
	Used motor oil is recycled.
	Fleet reconditions its own brake rotors and drums. The metal scrapings are recycled.
	Fleet's old automotive batteries are picked up, by a contract vendor. Vendor strips the batteries of lead content and recondition them. The metals recovered from recycling lead-acid/automotive batteries are reused to produce more batteries, reducing the production of new metals. The plastic obtained from the batteries is also reused.
	Fleet uses recapped tires. Re-capping is safe, cost efficient and can extend the life of a tire. Re-capping

	lowers cost per mile, cost per hour and it reduces the amount of tires disposed of in landfills thereby limiting the cost of disposal.
	Submitted an \$85,000 grant to the Railroad Commission for 10 propane medium-duty trucks. Grant to be submitted for Council approval.
	Developing a grant application to the Department of Energy for funding to purchase 8 compressed natural gas sedans and conversion of 24 light-duty trucks to Propane.
	Partnering with CPS Energy to convert two hybrid-electric vehicles to operate as “plug-in” hybrid vehicles
	Coordinating with Texas A&M Transportation Institute to test compressed natural gas heavy-duty truck emissions with Diesel heavy-duty truck emissions
Housing and Neighborhood Services	
	The Housing and Neighborhood Services Department Housing Rehabilitation Program includes an Energy Star Program that certifies homes renovated through the program.
	All new homes receiving City funding support are built to Build San Antonio Green standards.
Information Technology Services	
	<p>ITSD has been reducing the number of servers and using new technology called server virtualization to reduce the power consumption and cooling requirements for the data center. Additionally, they are reconfiguring the data center equipment layout to use the concept of “hot aisle” and “cold aisle” to optimize the use of energy, ventilation, and air conditioning in the data center.</p> <ul style="list-style-type: none"> ○ 382 physical servers reduced to 316 physical servers ○ 64 existing applications moved from physical servers to virtual servers ○ 28 new applications deployed without requiring new server hardware ○ Servers have been repositioned for more efficient cooling, 50% complete ○ Standard light switches replaced with keyed switches and kept off when no workers are present ○ Datacenter power utilization reduced from 140kVA to 129kVA ○ In summary, we’re doing 7.3% more work using 9.2% less power than one year ago <p>Planned Activities in 2009:</p> <ul style="list-style-type: none"> ○ Complete server repositioning to optimize cooling airflow ○ Replace solid ceiling tiles over hot rows with vented tiles ○ Replace solid ceiling tiles over hot air returns with vented tiles ○ Reduce physical server count by 25% while increasing application count (work) by 10% and decreasing power utilization by an additional 10%
Library	
	All San Antonio Public Branch Libraries are transitioning from U.S. mail to phone and email notification to library customers for materials on hold and overdue materials. With an average of 174,000 notices a year, this will be a huge savings in terms of paper that will not have to be disposed of, as well as fuel, ink, and staff time. This is an innovative way to save of tax dollars sets a great example for the community.
	The newest facility, John Igo Library, includes a water fountain powered primarily by wind.
	A recent renovation project at the Cody Branch included a roof replacement with an energy star roof. Roof also included a CPS rebate. The Project included a new energy efficient HVAC system.
Metro Health District	
	Continued surveillance, and recommendations pertaining to community acquired methicillin resistant staphylococcus aureus (MRSA).
	Surveillance for Legionnaire's Disease; at times linked to contaminated water sources
	Conducting Mirasol community environmental assessments and health assessments with San Antonio Housing Authority.
	Public Health investigation and recommendations related to the Mulch/Brush fire and environmental impact in Helotes. (Though this was in the County, it had potential impact in areas of the City.)
	<p><u>PCEH—Air Monitoring</u></p> <ul style="list-style-type: none"> • Over six years working successful partnership with TCEQ Region 13 and TCEQ headquarters in Austin. This partnership has provided more than 1.2 million dollars of funding to establish an air monitoring program operated and maintained by the Public Center for Environmental Health (PCEH). • PCEH maintains eight air quality stations with twenty-four air quality equipment units in operation collecting more than 200,000 hours of continuous air quality data per year. • Budget Improvement for FY10 process to be submitted for PCEH to include small air source inspections and licensing program. It is estimated by AACOG these small air sources contribute tons of ozone precursors daily to the air of San Antonio.
	<p><u>Air Point-Source Inspections</u></p> <ul style="list-style-type: none"> • Over 130 licensed air pollution point sources • Attempting to expand scope of inspections and licensing capabilities to decrease overall emissions in San Antonio

	<ul style="list-style-type: none"> • Planning to revise existing city air quality inspection ordinance <p>Budget Improvement submitted for FY10 Budget process to combine the air monitoring and small air source inspection and licensing programs of the Health District. It is estimated by AACOG these small air sources contribute tons of ozone precursors daily to the air of San Antonio.</p>
	<p><u>PCEH—DoD</u></p> <ul style="list-style-type: none"> • Assisting EPA with Vapor Intrusion Study in the Residential Community located near the former Kelly Air Force Base. EPA will be conducting additional vapor intrusion testing in the Kelly area in early February 2009. • Conducting a sediment study of Leon Creek and other watersheds in conjunction with USGS, SARA, and TCEQ. Final report due in FY10. • Environmental Health and Dietary Survey of Bexar County – A collaborative project with Texas A&M University. A final report and community meeting is expected during the first quarter of 2009.
	<p><u>Environmental Health and Wellness Center</u></p> <ul style="list-style-type: none"> • Increasing lead testing of children to include those who have never been tested before. Lead screening equipment has been purchased in 2008 to expand lead testing in high risk areas. • Starting the Healthy Homes Initiative doing home assessments to prevent diseases and injuries that result from housing-related hazards and deficiencies. The focus is to identify health, safety, and quality-of-life issues in the home environment and to act systematically to eliminate or mitigate problems. • Exploring options for a lead exposure reduction and reporting ordinance. • New CDC funding available in FY2008 will provide for assessing environmental health concerns near the former Kelly Air Force Base for a period of one year. A health education program in the Kelly community will focus on risk reduction, healthy lifestyles, and prevention and management of chronic disease.
	<p>The Health Department received a large grant from the Texas Department of State Health Services (DSHS) for a new Comprehensive Tobacco Prevention and Control Program. Although the funding is initially for 2 years, we are hopeful that the funding will continue for several years.</p> <ul style="list-style-type: none"> • The program will target adult and youth audiences, and work across multiple settings (community, work, school, etc.). • The program will focus on a spectrum of issues including the prevention of tobacco use initiation, tobacco cessation, tobacco law enforcement, secondhand smoke exposure, community policies, and tobacco-related health disparities in our population. • Part of the grant program includes the development of a community-based coalition that will create a data-driven program using evidence-based practices that are culturally relevant to our community. • Coalition members and community organizations are currently conducting a community assessment to inform the program strategic plan, which was completed in 2008. The strategic plan will be re-evaluated and updated as needed. A review by the State of the strategic plan was conducted and they gave final approval. <p>The San Antonio Tobacco Prevention & Control Coalition (SA-TPCC) announced its official kick-off of the coalition at the Missions game on August 22, 2008. There are regular meetings with the steering committee. <u>In the spring of 2009 we plan on opening the coalition beyond the steering committee.</u></p>
	<p>Recently modified the food code to promote the sale of whole, uncut produce. This has already sparked a farmer's market site at Main Plaza.</p> <p><u>Silver Ventures will begin having farmer's markets at Pearl beginning in 2009.</u></p>
	<p>Promoting healthy eating, exercise, and health lifestyles through our STEPS Program and partnership with the Parks Department.</p> <p>In an effort to implement sustainable initiatives that promote healthy eating, exercise, and healthy lifestyles, Metro Health will work with public and private partner organizations on the following policy and environmental change efforts:</p> <ul style="list-style-type: none"> • Develop agreements to expand the shared use of schools and other public facilities for after-hours use for physical activity. • Implement complete streets that are designed and operated to enable the safe and convenient travel of all users of the roadway including pedestrians, bicyclists, users of public transit, motorists, children, the elderly, and people with disabilities. • Encourage restaurants to provide healthy foods and beverages by reformulating existing menu items, adding healthier menu items (e.g., fruits, vegetables, and whole grains), offering affordable and reasonably sized portions, providing healthier combinations for meals, and making healthier items the standard for children's meals. • Conduct neighborhood level nutritional assessments of physical location and saturation of food retailers and restaurants to identify neighborhood access to healthy foods.

Miscellaneous City Departments

Air Quality

- The City adheres to an *Air Quality Health Alert Plan* (AQHAP) to establish guidelines and procedures for reducing emissions of ozone-forming compounds into the atmosphere, both on “Alert” days as well as throughout the ozone season. City Departments, through voluntary compliance with the AQHAP, will modify certain activities on AQHA days.
- To encourage employee bus ridership, the City has implemented the VIA EZ rider program. City employees with the EZ rider sticker on their city IDs can ride the bus for free.
- Hybrid Taxi Cab Program offers additional taxicab permits based on the implementation of hybrid vehicles for taxicab fleets. The City of San Antonio has released 26 Hybrid Taxi Permits to date (50% of total annual hybrid permit allotment)
- Personal hybrid vehicles displaying an authorized vehicle placard are allowed to park free at any downtown parking meter.
 - To date 354 permits have been distributed
- The City has been an active partner and funding supporter to two energy efficiency non-profits the Metropolitan Partnership for Energy (www.buildsagreen.org) and Solar San Antonio (www.solarsanantonio.org)

Green Building

- City Council adopted a new chapter to the city code setting out procedures for the disposition of city property. These ordinance guidelines establish the procedures by which the City of San Antonio will dispose of surplus real property that is developable according to the provisions of the Unified Development Code (UDC) in an effort to increase the amount of single-family affordable home ownership available in the community. Developable City-owned surplus real property deemed appropriate for single-family affordable housing shall be offered to the Affordable Housing Providers through a Request for Proposal (RFP) conducted by the Housing and Neighborhood Services Department (HNSD) for the provision of Affordable Housing. Affordable Housing Providers are to submit Assurance that the home(s) shall meet or exceed the current minimum Metropolitan Partnership for Energy’s Build San Antonio Green program guidelines.
- City buildings with green building components
 - Northeast Service Center (District 10)
 - One Stop Business Center (District 1)
 - Semmes Library (District 10)
 - Igo Library (District 8)
 - Maverick Library (District 6)
 - Guerra Library (District 6)

Energy Efficiency

- On January 11, 2007, Council approved an ordinance to adopt amendments to the city’s energy conservation code. The amendments include energy controls for heated pools and outdoor lighting. The ordinance also mandated that all illuminated exit signs not exceed 5 watts per side. New energy efficiency improvements are being brought forward in Spring 2009.

Planning and Development Services

- Form Based Zoning District Code provides incentives when incorporating sustainable components within the development
- Tree and Landscape ordinances are structured to incentivize preserving contiguous areas of native trees and plants to meet requirements. Landscape ordinance requires a minimum of 25% shading in parking areas. Storm water management areas can be designed to obtain landscape credit.
- Internal agency/business operational policies from purchasing vehicles and office supplies to grounds maintenance methods and supplies
- Provide Development and Building seminars
- Second Tree Canopy Analysis: set the trend from the original one in 2002 which compared 1985 and 2001 determine the monetary value of ecological services from the current tree canopy and the loss of those services due to loss of tree canopy and determine a tree canopy goal for the city and its ETJ
- PDSO enforced the 2000/2001 International Energy Conservation Code on all permit applications.
- PDSO enforced the requirement that all new Plans Examiner II's, Senior Plans Examiners and Plans Examiner Supervisors must pass the International Code Council Commercial Energy Plans Examiner examination module as a job requirement.
- PDSO participated in both the Advisory Committee and the Executive Committee for the Mayor's Task Force on Sustainable Buildings.
- Since 2001 the Unified Development Code has been amended by PDSO to promote more

	<p>sustainable development.</p> <ul style="list-style-type: none"> • Alternative development patterns authorized by the code include: <ul style="list-style-type: none"> ○ Conservation subdivision ○ Traditional neighborhood development ○ Commercial retrofit ○ Infill development zone ○ Transit oriented development ○ Form based development zone • PDSB enforced additional development standards in the code that promote sustainability to include: <ul style="list-style-type: none"> ○ Maximum parking standards ○ Street standards to promote connectivity, reduce block lengths and limit prevalence of cul-de-sacs to reduce vehicular miles traveled ○ Bicycle and sidewalk facilities requirements ○ Strengthened tree preservation and landscaping requirements (2003 amendments) ○ Floodplain preservation
Police	
	IN PROCESS: In partnership with Purchasing and General Services Department, lighting retrofit of six police substations and police academy.
Public Works	
	Recycling aluminum sign plates – The Sign Shop within the Traffic Operations Division has been recycling aluminum sign plates for years. As signs are exchanged in the field due to fading or vandalism, staff re-sheets the signs and reuses them.
	Light Emitting Diodes (LEDs) - Completed installation of red and green LEDs throughout the City in 2005. Replacing the incandescent light bulbs with LEDs has resulted in significantly reduced energy costs and increased visibility of the signals. As part of the 2008 Annual Signal Upgrade Program, funding was set aside to fund the replacement of the amber incandescent light bulbs in the Central Business District with LEDs. Replacement of the LEDs in 2010 is expected to be made possible from the energy cost savings.
	Recycled Asphalt Product (RAP) – currently street maintenance provided by contract labor is permitted to use 20% - 30% Recycled Asphalt Product (RAP) on the 2008/2009 street maintenance contract projects.
	Warm-Mix Asphalt - Warm-mix asphalt is generally produced in the temperature range of 105° to 135°C (220° to 275°F) compared to hot-mix asphalt which is typically produced in the range of 140° to 170°C (284° to 338°F). By reducing the temperature at which the asphalt is produced, it is proposed that several benefits can be realized including reduced fumes and emissions, reduced energy consumption, as well as better compaction, prospects for paving in cold weather, and even less binder aging and possibly better cracking resistance. The lower temperatures are viable due to the inclusion of a chemical admixture. Four (4) individual street pilot projects in District 2 were completed by City Forces in 2007. These projects will be tracked for performance against hot-mix asphalt over the next few years with respect to cracking, raveling, and rutting. Pavement Engineering intends to test the warm-mix with contract projects in 2009.
	Hot Paver Laid Micro Surface - This application is generally recommended for streets that have a pavement condition rating (PCR) between 50 and 85. The application involves the placement of a thin layer of new asphalt concrete on top of the existing surface. Similar to the recycle application, this application is best suited for streets that do not have real severe horizontal alignments. This application uses a gap-graded aggregate which includes “trap” rock. Trap rock is an igneous rock that has a very hard surface and good fractured face properties. Due to these properties, this application yields a good skid resistance to the finished street surface. Also, the open grading of the aggregates produces less wheel splatter in the rain. The environmental benefits of the use of this application include the use of less material (thinner layers) and a longer life. Currently, there are 100 contract projects scheduled for an application of hot paver laid micro surface during 2008-2009.
	Traffic Signal System Modernization/Synchronization Program (TSSM) - The \$33 million City-wide TSSM program approved during the FY 2008 budget includes the implementation of a new comprehensive communications network, an advanced traffic control system and the traffic signal coordination for all 1200 traffic signals in San Antonio over a 4 to 5 year period. The TSSM will maximize traffic flow, reduce traffic delay, reduce fuel consumption and emissions and reduce the number of accidents.
	Quiet Zone Implementation - The City has a process in place to assist neighborhoods and businesses that would like to support the establishment of a railroad quiet zone, in accordance with federal regulations. This will result in the reduction of noise associated with the routine use of train horns. Currently, there are plans for two quiet zones totaling 14 RR crossings where train horns will no longer be routinely used. We expect to have both zones implemented by the end of 2008. Staff continues to look for opportunities to establish quiet zones and two additional projects may be possible if funding and engineering details can be worked out.
	Bicycle and Pedestrian Program - Part of the Traffic Engineering Division, the program is dedicated to

	improving and enhancing bicycling and walking as a safe and viable transportation option. This is achieved through planning, engineering and policy development, as well as educating the community and agencies about bicycle transportation through coordination by the City's Bicycle & Pedestrian Coordinator. Currently, the Coordinator is heavily involved with ATD bike facility projects, the conversion of street maintenance projects to include bike facilities (restriping/retrofitting) and the annual "Walk & Roll to Work" and "Walk & Roll Festival" in conjunction with "National Bike to Work Day". The Coordinator represents the City as a member of the San Antonio Bexar County Bicycle Mobility Advisory and Pedestrian Mobility Advisory Committees. The coordinator position is moved to the Office of Environmental Policy.
	Thermoplastic pavement paint – Thermoplastic material is used as part of the Marking Program due to its increased longevity. An added benefit is that it facilitates the creation of a maintenance schedule. For example, school crosswalks are on a three year maintenance cycle. The life expectancy of thermoplastic lane lines and crosswalks is 3 to 5 years and 2 to 3 years, as opposed to water based paint with a life expectancy of 18 to 24 months and 3 to 6 months, respectively.
	Natural Creekway clearing (UTSA Technical Field Guide: Management Practices for Natural Waterways) – This document provides guidelines for creek maintenance which provide for promotion of native plant growth and helps protect ecosystem in creeks.
	Storm Water Education Program - Educates adults and children on how runoff water gets from streets to creeks and more specifically how trash and debris in the streets flows into creeks.
	Flood Plain Regulation - Storm Water Engineering regulates, through various plans review, the floodplain to prevent unwanted materials flowing into creeks or waterways and to prevent runoff pollution.
	Public Works is pursuing the following environmentally preferable purchases/programs.
	Replacement Vehicles - The Street Maintenance Division has applied for an Emission Reduction Incentive grant from the Texas Commission on Environmental Quality to replace three heavy-duty diesel vehicles with three propane heavy-duty vehicles. By replacing the older vehicles with propane, it is expected that the emissions of nitrogen oxides (NOx), a by-product of combustion engines, will be reduced compared to the amounts produced by diesel engines.
	Rubberized Asphalt - Rubberized asphalt consists of regular asphalt paving mixed with "crumb rubber"—ground, used tires that would otherwise be discarded or placed in landfills. Approximately 1,500 tires are used for every lane-mile of rubberized paving. Rubberized asphalt has the benefit of being smoother and quieter and generally reduces tire noise by an average of 4 decibels. In addition, the number of tires that end up in landfills or stored (a potential fire hazard) can be reduced. According to the Asphalt Rubber Technology Service, the following are additional benefits that can be realized by use of rubberized asphalt: reduced reflective cracking in asphalt overlays; reduced maintenance costs; improved resistance to cracking in new pavements; improved resistance to rutting in new pavements; an increased pavement life; and improved skid resistance. Higher initial costs are expected, but according to the Asphalt Rubber Technology Service, the life-cycle costs are less. More research will take place by Pavement Engineering staff in this area with the intention of carrying out a few pilot projects with rubberized asphalt in 2009.
	Hot-in-Place Recycling - Hot-in-place recycling involves the following basic steps: Heat the existing pavement surface to a depth of 2" to 2.5"; mill the heated material (230° F); add a rejuvenating agent and other pavement materials if required; completely mix the milled material; spread the recycled material to desired grades; compact to required density with conventional equipment. Some of the benefits of hot-in-place recycling include: cost savings (up to 50% less than conventional paving); one step processing to achieve 100% recycled pavements; is environmentally friendly (less dust, reduced emissions); reduced construction time; salvaging and utilizing existing pavement materials; decreased demand on natural resources; and, eliminate the need for disposal of old pavement material. Staff is currently researching this option for possible pilot program.
	<ul style="list-style-type: none"> • Segway Lease Pilot Program - The Disability Access Office is interested in pursuing a pilot program to lease 2 Segway devices as an alternative to cars and to fill in the gap between walking and driving. Segways are perfect for short range (2-10 miles) inter-office trips or site visits in the downtown area. Segways can be leased for \$200 per month and a refundable deposit. The purchase price for one device is \$4800.00. Segway devices have the following advantages: <ul style="list-style-type: none"> • Highly efficient • Quiet and noise reducing vehicles • No emissions, totally green • Free parking where ever you take a segway • Fit through all standard size doors inside and out (28" wide) • No marking durable air inflated tires • Great on all kinds of municipal terrain (not gravel) • Comfortable and long range • 25 mile range lithium ion batteries • Speeds up to 12 miles an hour, (from the Alamo to el Mercado in 7 minutes flat; from the Alamo

	<p>dome to utsa downtown campus in 15 minutes flat)</p> <ul style="list-style-type: none"> • Stable vehicle, intuitive steering, ergonomic, economic, maintenance free just plug in • Will help reduce staff car usage under 5-10 miles or single staff person use of staff cars • Can even be used by a people with disabilities or those who may not be able to ride a bike • Easy to store: can be kept in office • Easy to administer and manage: can be assigned to motor pool, or departments for checkout
	<p>Since 1996, the Public Works has converted or upgraded over 856 school flashing signs from incandescent to solar. In 2007, 18 signs have been upgraded thus eliminating 1080 kilowatt hours per year.</p>
Purchasing and General Services	
	<p>COMPLETE: Lighting Retrofits (ballasts and lamps) @ City Hall (All Floors)</p>
	<p>IN PROGRESS: Lighting Retrofits (ballasts and lamps) @ Municipal Plaza Building (All Floors)</p>
	<p>IN PROGRESS: HVAC Assessment and Equipment Replacement for Energy Efficiencies at City Hall and Municipal Plaza</p>
	<p>IN PROGRESS: Energy Plan Campaign with PIO to target Energy Conservation by City staff</p>
	<p>IMPLEMENTED: Streamline Recycling Methods at City Hall, MPB, and Development Services</p>
	<p>IMPLEMENTED: Use of Micro Fiber Mops to Conserve Water and Chemicals at all facilities</p>
	<p>IMPLEMENTED: Installation of Water Conserving Flush Valves at City Hall and Municipal Plaza</p>
	<p>COMPLETED: HVAC Equipment Replacement for Energy Efficiencies at Frank Wing Bldg</p>
	<p>IN PROGRESS: Consultant Hired to Prepare Drawings to Replace Elect. Dist. Equip. at Municipal Plaza Building</p>
	<p>In an effort to promote Environmentally Preferable Purchasing the Department of Purchasing and Contract Services will be using recycled paper for all orders from the print shop. This is a big step in supporting the use of green products and keeping waste out landfills.</p>
	<p>The Purchasing Department implemented a streamlined procurement process for City facilities to implement high efficiency lighting retrofits using a preferred vendor through the State of Texas Buy Board program. Thus facility managers requiring a lighting retrofit can expedite the project implementation and will no longer need to go through the process of obtaining bids from vendors. Facility Solutions Group (FSG), the State approved vendor, is a one-stop full service lighting contractor who will provide lighting audits, design and installation as well as the administrative services to complete the application for projects to obtain the CPS Energy cash rebate.</p>
Solid Waste	
	<p>Automated Garbage and Recycling Conversion</p> <ul style="list-style-type: none"> • By the end of FY09, 80% of the city will be converted to automated garbage and recyclable collection. • The department is currently in year 3 of a 3½-year conversion process. • In a survey conducted, 85% of residents responded that they are satisfied with the new system. • Over 88% of residents who were surveyed indicated that they would recommend the automated system to other citizens.
	<p>Household recycling has increased 232% over the past 3 years, from 126 pounds in FY06 to a projected 418 pounds in FY09.</p> <ul style="list-style-type: none"> • The monthly recycling materials collected have increased as a result of the expanded materials accepted, the start up of the two cart automated collection system, and the availability of single stream recycling processing.
	<p>Average tons of waste collected has decreased 13% from 1.17 tons in FY03 to a projected 1.02 tons per household in FY09.</p>
	<p>SWMD recycled over 50,000 tons in FY08 and projects 72,000 tons will be recycled in FY09.</p>
	<p>80% of all household hazardous waste taken to the HHW drop off center is recycled and/or is used for graffiti abatement. Over 616,704 pounds of HHW material was dropped-off in FY07.</p>
	<p>Has established a departmental volunteer "Green Team" to promote green behaviors at SWMD workplaces. Team will look to implement "best practices" for green issues.</p>
	<p>Expanded Household Hazardous Waste Program by holding quarterly citywide HHW events in different quadrants of the City to facilitate public participation. The permanent facility is located at 7030 Culebra and is open Fridays and Saturdays.</p>
	<p>Current Activities</p> <ul style="list-style-type: none"> • Recycles 236 tons of tires per year. • Recycles 122 tons of metals from appliances. • Recovers and recycles 1,050 pounds of Freon from appliances collected through the Brush and Bulky

	<p>Item program.</p> <ul style="list-style-type: none"> • 14,000 tons of brush is recycled at the Bitters Brush Recycling Facility per year. • Expanding the paper recycling collection at City facilities to include plastic bottles, aluminum cans, and glass containers. • Has been conducting a six-month pilot program for downtown multi-family recycling collection.
	<p>Planned Activities</p> <ul style="list-style-type: none"> • Increasing recycling participation at City facilities. The City currently recycles in approximately 2/3 of its facilities and has a program to implement the remaining facilities within 90 days. • Increasing recycling participation citywide. The department has formulated a 90-day, nine month, and three-year action plan to increase recycling participation among our residents. • The immediate plan includes: <ul style="list-style-type: none"> ○ Implementing more aggressive promotion – for example: brand recycling message on entire fleet of automated trucks; introduction of a new 2-cart mascot; an enhanced website; and a renewed outreach focus to a broader community audience. ○ The nine-month action plan involves: the submission by the department of a 10-year comprehensive plan; moving forward on the next phase of recycling; and conducting a waste characterization study that will identify and quantify the types of materials in the waste stream that can and cannot be recycled. ○ The longer range plan will: evaluate the implementation of a prohibition to mixing commodities for residential and possibly multi-family and commercial sectors; develop and institute an enhanced yard waste recycling program.
	The department enhanced its web page to further promote recycling.
	The Christmas tree recycling program staff collects and mulches (recycles) about 300 tons per year of Christmas trees placed at the curb by residents.
	In FY 2007, the department was the lead for establishing the City's Green Building Resolution, and changes to the City's Energy Code.
	Purchases "green" office supplies from Office Depot's "Green Book".
	Orders business cards printed on recycled paper.
	Recycles computer printer ink cartridges.
	Orders recycled content computer paper.
	Practices office paper, cardboard and commingled recycling in the offices and kitchens.
	Uses CFL's for office lamps.
	SWMD turns the thermostats to 80 degrees after hours during the summer and 60 degrees during the winter and 74 degrees during the day.
	NW Svc Ctr has piloted a preferential employee parking lot for motorcycles to encourage emission reductions (used recycled asphalt and paint in project).
	SWMD recycles 236 tons of tires per year.
	SWMD recycles 122 tons of metals from appliances.
	SWMD recovers and recycles 1,050 pounds of Freon from appliances collected on the Brush and Bulky Item program.
	Uses 96 and 48 gallon carts, and 7 gallon bins, with 20-30% recycled content material.
	Recycles 14,000 tons of brush at Bitters.
	Holds "Compost Bin" sales and "Blade Trade" events to reduce green waste placed at curb by up to 30%.
	Encourages residential "grass-cycling" program to reduce waste taken to the landfills and to reduce yard water consumption by up to 30%.
	Orders promotional items for outreach events made with recycled content materials to "close the loop" in recycling; also leveraged grant funding for order.
	In FY 2008 the department was awarded \$340K from AACOG for education outreach programs to promote recycling, waste reduction and material reuse.
	Changed paper towels in bathrooms from individual sheets to cabinet dispenser (with rolls) to reduce paper use and waste.
	Changes on HR reporting forms to electronic to reduce paper use.
	Constructed Southside Drop-off location (near Camargo Park) with recycled PW millings.
	Educated the public on the benefits of recycling and increased demand for the 18 gallon recycling bins by 15%.
	Cell phone collection at HHW site.
	SC Service Center piloted a "staple-less" stapler.

	Collaborates with the non-profits: SA Corporate Recycling Council, USGBC, MPE, Sierra Club, KSAB, etc. to expand residential and business recycling.
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