Sustainability Plan Update

City of Las Cruces
Community Development
Interoffice Memorandum

To: City Council

From: Thomas Schuster, Sustainability Officer TS

Thru: David Weir, Community Development Director DW

Subject: Sustainability Action Plan

Date: 9/9/2010

Attached please find the draft Sustainability Action Plan. I will be presenting this plan for discussion at the September 13 Work Session (Item 3). Should you have any questions, please feel free to contact me at tschuster@las-cruces.org or x3069.

Attachments: Draft Sustainability Action Plan

SUSTAINABILITY program

City of Las Cruces

Sustainability Action Plan

Draft

8/12/2010

Table of Contents

Introduction

What is Sustainability?

The most common definition is that which "meets the needs of the present without compromising the ability of future generations to meet their own needs."[1] This may be a useful general definition, but what does it mean for our community? A few guiding principles are useful in determining whether a particular policy or decision is sustainable.

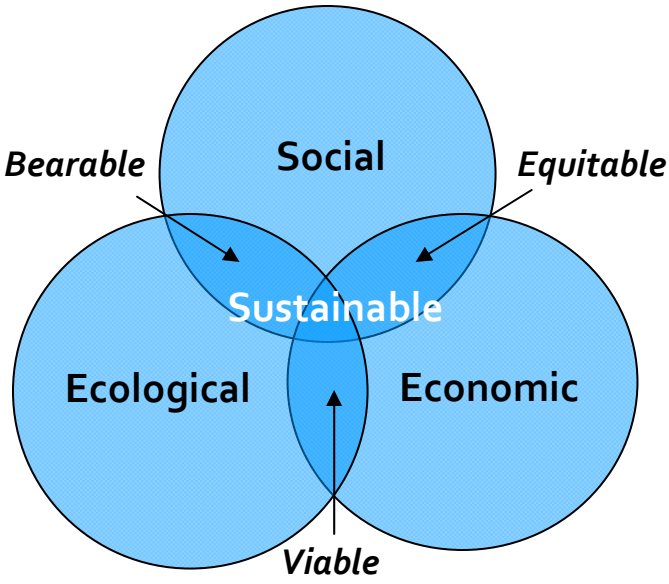
Wise Use of Natural Resources

Typically when we think of capital, we think of cash, equipment and machinery, or people with expertise – wealth that drives our economy. However, there are many forms of natural capital that are necessary to support our economy and even life itself. Examples of natural capital include water, soil, and the air we breathe. Just as a successful business would not squander capital that is necessary for its success, so should a community be careful how it uses natural capital that is critical to our physical and economic health. Many of these resources are renewable and can provide for us well into the future, provided that we care for them properly.

It is also important to minimize waste. This can help prevent pollution that could threaten the health of people and natural systems on which we depend. However, waste can be looked at as an opportunity, not just a threat. Waste represents a resource that is not being used efficiently, and with some creativity and investment, can be used as an input to a productive activity. This is called "closing the loop", and it's a great way to ensure plentiful resources into the future while cutting costs now.

Resilience and Stability

Resilience is the capacity of a community to survive, adapt, and grow in the face of change or disaster. Part of being sustainable is trying to anticipate changes or events beyond our control that may threaten our usual way of doing things. Some of these threats may be intermittent, like floods and droughts, while others may be chronic, like rising energy and food costs. If we are successful, we can lessen the hardships that result, and our payback can be a more stable community.



The Triple Bottom Line

[1] World Commission on Environment and Development. 1987. "Our Common Future." Oxford: Oxford University Press.

Many people find it useful to think of sustainability as the pursuit of a "Triple Bottom Line." The three objectives are economic wellbeing, environmental health, and social equity. Actions that advance all three objectives are preferred, while those that are directly at odds with one or more of the three objectives are suspect. This concept is about achieving balance – policies and actions may focus primarily on one of the three areas, but must consider and account for the impacts to the other two as well.

The Process of Sustainability

The definition of sustainability cited above refers to an end result, and it is a very difficult result to achieve. Trying to do it all at once would be very costly and potentially socially disruptive. It is sometimes even difficult to know WHAT to achieve, as products and activities thought to be benign often turn out to have negative consequences that were unforeseen (such as CFCs and carbon dioxide emissions). Therefore, it may be more useful to think about sustainability as an iterative process of continuously improving our actions to limit negative consequences now and in the future.

This plan takes that approach, by outlining a series of steps that can be taken in the short term to begin reducing waste, improving resilience and stability, and balancing environmental, economic, and social needs. We take action, measure results, compare to goals, and adjust our actions as necessary to continue progress. Goals may change over time as new technologies become available, and as our understanding of the consequences of our actions evolves. Therefore, this plan should be thought of as a living document.

Public and Stakeholder Involvement (as of August 2010 – will be updated throughout the process)

In January 2010, two public input meetings were held to solicit ideas for this plan. There were a total of 93 attendees, and over 100 written comments were submitted. Participants were asked to suggest goals and actions for the plan, identify possible obstacles to achieving these goals, and ways these obstacles could be overcome. These comments were evaluated for feasibility, and many of the concepts were incorporated into the draft plan in some form. Stakeholder meetings were held in Spring 2010 with the Greater Las Cruces Chamber of Commerce, Green Chamber of Commerce, Las Cruces Association of Realtors, and Building Industries Association to solicit additional input. Existing City plans and initiatives were reviewed and staffs from all City departments were consulted in developing the draft goals and actions.

Plan Purpose

The purpose of the plan is to provide guidance and direction to City staff, particularly the Sustainability Officer, related to sustainability policies and priorities. It will also communicate these policies to City residents. It will function similar to the City's 2010 Strategic Plan, and is intended to complement and expand upon that document. It includes a number of new initiatives, as well as some ongoing ones so that people interested in finding out about many of our green initiatives can consult a single document.

The primary focus of the plan is on internal goals and actions the City will take to "lead by example." A secondary component is a set of goals and policies that will help

the community at large become more sustainable. The reason for this internal focus is that it became clear through the public and stakeholder input process that the City must first do the things it is asking the public to do to demonstrate that they are possible and cost effective. Furthermore, many of the operational initiatives are expected to save money in the long run – savings that could be used to fund more community-oriented sustainability programs.

Document Structure

The document is divided into eight subject areas: energy efficiency, renewable energy, water supply, recycling and solid waste, pollution prevention, land use and transportation, habitat and ecosystems, and local food. These topics coincide with the issues raised most frequently during the public input process. In each chapter, some background information is presented regarding the importance of the topic, current conditions, and progress we have made to date in this area. Following that is a set of goals and action items to be taken over the next three years to support those goals. Finally, an implementation section outlines how we will track the success of these initiatives going forward.

Chapter 1: Energy Efficiency

Why We Care

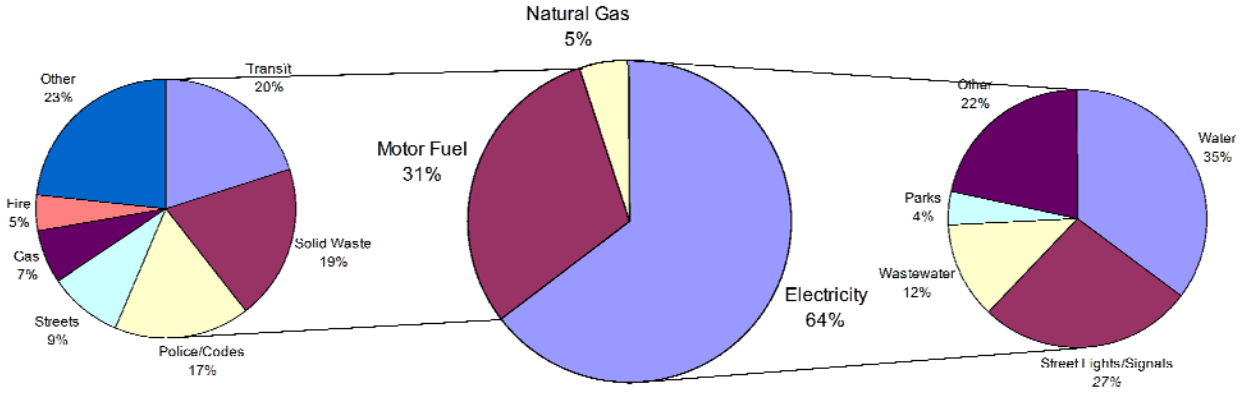
Energy efficiency is simply getting the same output with less energy input. It is generally the most cost effective way to reduce environmental impact. According to a recent EPA-sponsored study, energy efficiency efforts using available technology could reduce 2025 electricity consumption by 20% and natural gas consumption by 10% compared to taking no action, with a net savings potential of over $500 billion nationally.[2]

> According to a National Association of Home Builders survey, a majority of consumers will pay up to $11,000 more for their home if it lowers their annual energy costs by $1,000. And a Department of Energy analysis found that increasing an average home's efficiency by 30 percent would add $4,000 in initial cost — assuming a 30-year fixed mortgage at 7 percent, that's $211 in annual mortgage payments — but reduce energy costs by $723 a year.

In 2007, Governor Richardson announced a goal of reducing statewide per capita energy use by 20% by 2020. In addition to lowering energy bills, this action is intended to enhance energy security and reliability, reduce greenhouse gas emissions and air pollution, and improve business competitiveness in the face of rising energy costs.

Current Conditions

In fiscal year 2009, the City of Las Cruces spent over $7 million dollars on energy for its day-to-day operations. This translates into about $200 expended per household to cover this cost, in the form of taxes and utility rates.



FY2009 energy expenditures by energy type and end use.

Nearly half of all electricity consumption was from a combination of pumping drinking water and treating sewage. In fact, the largest single consumer of energy in the City is the Jacob Hands Wastewater Treatment Plant, which has an average monthly electric bill of over $28,000. The City also operates about 90 buildings, 6000 street lights and traffic signals, and numerous other energy consuming systems such as park

[2] National Action Plan for Energy Efficiency (2008). National Action Plan for Energy Efficiency Vision for 2025: A Framework for Change. <www.epa.gov/eeactionplan>

sprinklers and telemetry stations. In addition, the City operates a fleet of approximately 1300 vehicles including about 150 heavy duty vehicles.

In the past, little attention has been paid to energy consumption. In fact there has been no central tracking of energy data since the mid-1990's. Since then, costs for electricity, motor fuel, and natural gas has increased considerably, along with concern for the environmental impact of fossil fuel combustion. Given the size of the City's vehicle and facility fleet, the potential for savings and environmental benefits from energy efficiency investments should be significant.

City Hall is our first LEED building. LEED stands for Leadership in Energy and Environmental Design. It is the most widely recognized green building scoring system. Levels (certified, silver, gold, and platinum) are determined by points scored in the following categories: sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, and innovation.

Progress to Date

The City has taken some important steps recently to improve energy efficiency. In fall 2009, we completed a retrofit of all traffic and pedestrian signals with LED lamps. The retrofit was paid for by a state grant at no cost to the City, and the estimated annual electricity savings should be over $130,000 annually, compared to the old incandescent bulbs. As an added benefit, the LED bulbs last longer and shine brighter that those they replaced. The traffic engineering section is also conducting a pilot study of the performance of LED street lights.

The new City Hall is a LEED Silver building. Based on the limited data available since it opened, it consumes the same amount of electricity as the two buildings it replaced despite having 30,000 additional square feet and more employees and functions than the previous buildings combined. The new Convention Center is also designed to be LEED Silver, and consume 25% less energy than a standard convention center of its size.

Internal Goals and Actions

Goal 1.1: Continuously monitor energy consumption in City facilities, fleet, and other operations. If it isn't measured, it cannot be managed, so the first step to improving efficiency is to know how much is consumed and how consumption is impacted by various actions and conditions

Action 1.1a: Produce a quarterly report of energy consumption covering all City activities.

Lead Section: Sustainability
Begin: Immediate

Goal 1.2: Decrease overall energy consumption in City operations by an annual average of 2% per year.

Action 1.2a: Conduct energy audits on City facilities to identify and quantify opportunities for savings. This includes participation in El Paso Electric's new commercial efficiency program, which provides limited audits at no cost, as well as performance contracting, for which payment is a portion of the energy savings and upfront cost is minimal.

Lead section: Sustainability
Support sections: Building Services, User departments
Begin: Immediate
Indicators: Number of facilities audited, dollar value of potential savings identified, actual savings realized

Action 1.2b: Establish and capitalize an internal revolving loan fund to finance energy efficiency improvements. Money would be borrowed by user departments for retrofits, then paid back to the fund as financial savings are realized, thus making it available for future projects. Sources for seed money could include grants, federal and state appropriations, or the regular City budgeting process.

Lead sections: Sustainability, Budget
Support sections: Grants Administration, User Departments
Begin: 3Q 2011
Indicators: Number and value of projects funded

Action 1.2c: Establish policy for purchase of energy efficient equipment. This includes the use of Energy Star equipment when available. Purchases of large equipment should include energy efficiency criteria in the bid specifications. Minimum standards should be defined wherever possible.

Lead sections: Sustainability, Purchasing
Support sections: User Departments
Begin: 1Q 2012

Action 1.2d: Establish standards for fuel efficiency by vehicle class in fleet purchases. As funding and vehicle availability permit, hybrid cars, SUVs, light trucks, and heavy duty trucks will be purchased.

Lead sections: Fleet Services
Support sections: Sustainability, Purchasing
Begin: 2012
Indicators: Annual fleet-wide fuel economy, number of hybrid vehicles

Action 1.2e: Integrate energy efficiency considerations into preventative maintenance decisions. Maintenance dollars are generally scarce, but opportunities exist to address energy efficiency concerns while making necessary repairs or replacements. In some cases, treatments are available which can save

energy and prolong the life of the equipment or structure, such as white roof coatings, coolant additives for air conditioners, and better lubricants for vehicles.

Lead sections: Building Services, Fleet Services
Support section: Sustainability
Begin: Immediately
Indicators: Number of facilities and vehicles treated, actual savings realized

Action 1.2f: Monitor emerging energy efficiency technologies, and implement when they become cost effective. LED for street and area lighting is an example of a technology that is very close.

Lead section: Sustainability
Support sections: all departments
Begin: Ongoing

Action 1.2g: Institute a comprehensive set of policies and guidelines for employee behavior related to energy consumption, and hold regular training to reinforce.

Lead sections: Sustainability, Human Resources
Support sections: all departments
Begin: 2011

Action 1.2h: Design all new City buildings to attain LEED certification with a focus on maximizing points in the energy efficiency category.

Lead section: Project Management, User departments
Support section: Sustainability
Begin: 1Q 2011
Indicator: LEED level attained by project, energy savings from baseline of completed project

Action 1.2j: Select the most efficient replacement available when water pumps reach the end of their useful life.

Lead section: Water Resources
Begin: Ongoing
Indicator: Number and capacity of new pumps, production efficiency of the pump

Community Goals and Actions

Goal 1.3: Encourage and enable residents and businesses to reduce per capita energy consumption 20% by 2020.

Action 1.3a: Establish a revolving loan fund or similar mechanism to finance weatherization and energy efficiency retrofits to qualifying private homes and businesses. This fund would most likely be seeded with grant money, and would require additional staff to administer. Participating property owners would report savings over time.

Lead section: Sustainability
Support section: Grants Administration, Neighborhood Services
Possible partners: Community Action Agency of Southern New Mexico (CAASNM)
Begin: 2012
Indicator: Number of retrofits funded, actual energy savings

Action 1.3b: Hold training sessions on energy efficient behavior, appliances, and construction, in conjunction with private and outside agency partners.

Responsible section: Sustainability
Support section: Public Information Office
Possible partners: El Paso Electric, CAASNM, home energy raters
Begin: 2011

Action 1.3c: Adopt and enforce the 2009 International Energy Conservation Code or equivalent. This update is expected to increase the energy efficiency of new construction by 12-15% compared to the 2006 IECC, which the City has adopted. Trainings should be held to help builders and contractors adjust to the changes from the previous code.

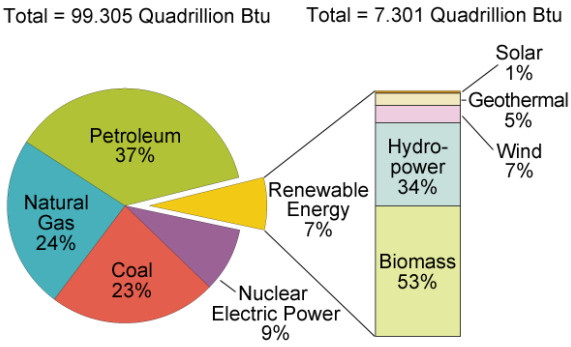
Lead section: Permitting & Inspections
Support section: Sustainability
Begin: 2011

Chapter 2: Renewable Energy

Why We Care

Energy powers the economy and nationwide about 84% of it comes from fossil fuels. Because these fuels are non-renewable, their price is certain to increase in the long term as the most accessible and highest quality sources are used first. Furthermore, fossil fuels take a huge toll on the environment. In addition to periodic disasters such as the oil spill in the Gulf of Mexico, combustion of fossil fuels for transportation and electricity generation are the primary sources of smog-forming air pollutants, as well as carbon dioxide emissions that are linked to climate change. Concerns have also arisen about the threats to national security posed by fossil fuel dependence, particularly the fact that some of the largest oil producing countries have hostile or unstable governments, which have in the past cut off supplies and may again do so.

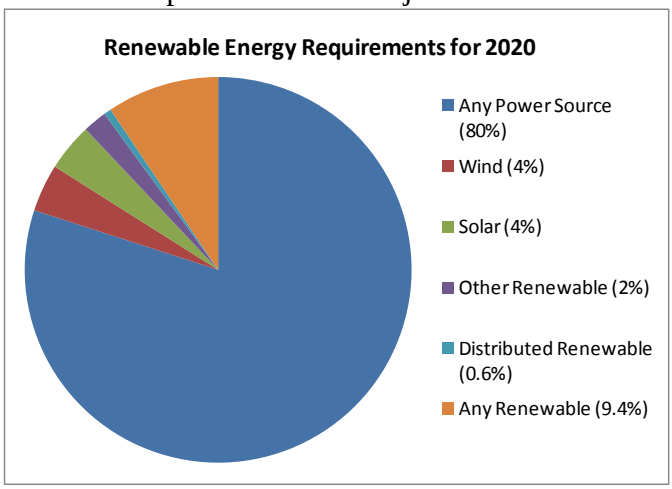
U.S. Energy Consumption by Energy Source, 2008



Note: Sum of components may not equal 100% due to independent rounding.

Source: EIA, *Renewable Energy Consumption and Electricity 2008 Statistics*, Table 1: U.S. Energy Consumption by Energy Source, 2004-2008 (July 2009).

Fortunately, renewable energy sources are becoming more affordable and available to mitigate these issues. New Mexico (and Las Cruces in particular) has one of the best solar resources in the country. Renewable energy largely eliminates the pollution associated with fossil fuels. Also, as one of the fastest growing industries both nationally and internationally, renewable energy has tremendous potential to create jobs. In the last decade, New Mexico saw job growth in the renewable energy sector increase by 152%, compared to overall job growth of 13%[3]



Current Conditions

The number of renewable energy installations in the Las Cruces area has grown dramatically in the last several years. In 2007, there were only 8 grid-connected photovoltaic systems in El Paso Electric service territory. Now, there are over 200, and new ones are being installed at a rate of about 90

[3] Headwaters Economics, "Clean Energy Leadership in the Rockies: Competitive Positioning in the Emerging Green Economy," June 2010, accessed at http://www.headwaterseconomics.org/greeneconomy/.

per year. This increase in activity can be attributed to falling system costs as well as incentives from state and federal government and El Paso Electric.

Despite this increase, these small systems represent a small fraction of El Paso Electric's total capacity. EPE is required by the state to generate 6% of its total electricity from renewable sources, which will increase to 10% in 2011 and 20% by 2020. Beginning in 2011, a diversity of renewable energy sources will be required. As part of a plan to meet this requirement, El Paso Electric has begun paying for every kilowatt-hour of electricity generated by renewable energy systems, in addition to the net-metering that was already in place (see sidebar on Incentives).

Given available state, federal, and utility incentives, a photovoltaic system with a 25+ year life may pay for itself in the first ten years or so, but the property owner still must find a way to finance the remaining upfront cost, and this can be a challenge to many. For the City, it is an even bigger challenge because the 40% combined state and federal income tax credit is of no use. Creative financing mechanisms will have to be explored in order to overcome these barriers.

2010 Incentives for Small-Scale Renewable Energy Systems

El Paso Electric Incentives

- *Net-metering:* Sell back excess electricity to the grid at retail value during the day, and draw from the grid at night.
- *Renewable Energy Credits:* Receive $0.12 per kWh for all energy produced. The REC for new systems may decrease from year to year, but can be locked in for 12 years at the time of interconnection.

Tax Incentives

- *Federal Income Tax Credit:* 30% of system installation cost can be claimed as a tax credit and carried over to the next year if necessary.
- *State Income Tax Credit:* 10% of system installation (up to $9000) can be claimed and carried over for up to 10 years.
- *Property Tax Exemption:* The value of a renewable energy system is not counted toward the property assessment for tax purposes.

Progress to Date

The City has deployed several renewable energy systems to date. The new City Hall features a field of geothermal wells beneath the east-side parking lot. Fluid is circulated through these wells, where the constant temperature of the earth cools it in the summer and heats it in the winter. The treated fluid then passes through a heat exchanger to pre-cool or pre-heat air that is used to condition the office space. At the Jacob Hands Wastewater Treatment Plant, a system is in place to capture methane and supply some of the energy required by the treatment operation. Also, a number of solar-powered lights have been installed in City parks where connection to the grid was cost prohibitive.

The City has Recovery Act funding in place to install two medium-sized photovoltaic arrays: one at the new Convention Center, and one at the Museum of Nature and Science to be located on Main Street. We are also working with Doña Ana County to bring Property Assessed Clean Energy (PACE) financing to the region, which could enable private property owners to voluntarily pay for a renewable energy system through a special tax assessment on their property.

Internal Goals and Actions

Goal 2.1: Supply 10% of the City's electricity needs from on-site from renewable sources by 2020.

Action 2.1a: Execute grants to install photovoltaic and small wind systems at Convention Center and Museum of Nature and Science. Funding is in place to install approximately 50kW of renewable energy each at the Convention Center and MoNaS.

Lead sections: Grants Administration, Project Management, Museums, Neighborhood Services
Support sections: Purchasing, Sustainability
Begin: In progress
Indicator: Number of kW installed capacity, annual kWh generation

Action 2.1b: Pursue third party power purchase agreements to finance installation of photovoltaic systems on City property. This financial arrangement allows a private party to install and operate a renewable energy system and sell the energy to the City. It allows the private party to take advantage of tax credits (for which the City is not eligible) to reduce the installation cost and achieve competitive electric rates.

Lead sections: Sustainability, Project Management
Support section: Purchasing
Begin: 2011
Indicator: Number of kW installed capacity, annual kWh generation

Action 2.1c: Investigate the feasibility of adding solar-powered lighting to bus shelters to enhance nighttime security.

Lead sections: Sustainability, Transit
Support section: Purchasing

Alternative Fuels and Sustainability

There is no transportation fuel that is inherently renewable in the strictest sense. The key to sustainable transportation fuel, whether liquid, gas, or electric, is the feedstock – how is it produced, and where does it come from.

For example, biofuels have often been touted as good alternatives to fossil fuels because they are renewable and carbon neutral (meaning the plants used to make the fuel absorb as much carbon dioxide as the fuel emits when burned. However, research has shown that this is not always the case. Often, land use changes from forest or grassland to farmland result in substantial greenhouse gas emissions, as do agricultural processes and transportation of the feedstock.

As the City begins to incorporate alternative fuels into its fleet, these broader impacts will be taken into account to the greatest extent possible.

Begin: 4Q 2012
Indicator: Number of shelters equipped

Goal 2.2: Displace 20% of fossil-based transportation fuel with renewable sources by 2020.

Action 2.2a: Utilize B20 (20% biodiesel), preferably locally produced using yellow grease (used vegetable oil) in all approved diesel engines. This is expected to be cost-competitive with petrodiesel.

Lead sections: Fleet Services
Support sections: Purchasing, Sustainability
Begin: 4Q 2010
Indicator: Gallons of petrodiesel displaced

Action 2.2b: Pursue funding for purchase and evaluation of electric and plug-in hybrid vehicles for trial and evaluation. Although these vehicles cost more to purchase, they will be cheaper to fuel, and could save money in terms of lifecycle costs for high-mileage applications.

Lead section: Fleet Services
Support sections: Grants Administration, Sustainability, Purchasing
Begin: 2013
Indicator: Gallons of gasoline displaced

Action 2.2c: Investigate the feasibility of incorporating electric vehicle charging stations with renewable energy installations. These must be metered if available for public use.

Lead section: Sustainability
Support sections: Fleet Services, Purchasing, Project Management
Begin: 1Q 2012
Indicator: Gallons of gasoline displaced, number of renewable kWh used for transportation

<u>Community Goals and Actions</u>

Goal 2.3: Help enable renewable energy installations on 20% of private buildings by 2020.

Action 2.3a: Give property owners the option of financing renewable energy installations through special property tax assessments. Several obstacles currently exist that are beyond local government control that could be addressed in the coming months to enable this type of financing.

Partner: Doña Ana County
Lead section: Sustainability
Support sections: Legal, Treasurer
Begin: 2011
Indicators: Number of participants, installed renewable energy capacity

Action 2.3b: Provide outreach on available financial incentives and expected return on investment for renewable energy installations. This will be in the form of presentations and online educational materials.

Possible partners: Energy Conservation & Management Division of EMNRD, renewable energy contractors
Lead section: Sustainability
Support sections: Public Information Office, Information Technology
Begin: 3Q 2011
Indicators: Number of sessions and participants, number of website hits

Action 2.3c: Ensure permitting and inspections of renewable energy installations are as inexpensive and streamlined as possible. Inspectors should be trained in the latest technology. Renewable energy inspections should receive priority scheduling. Waivers to permit fees should be evaluated.

Lead section: Permitting & Inspections
Support section: Sustainability
Begin: Immediately
Indicators: Number of permits processed, number and type of trainings attended and certifications received.

Goal 2.4: Attract renewable energy manufacturing and utility scale solar energy generation installations to provide green jobs in the area.

Action 2.4a: Market large developed parcels in West Mesa Industrial Park for manufacturer or assembly of renewable energy equipment. Due to the relatively higher value of this land, energy generation should be done elsewhere due to its lower long-term job creation rate compared to manufacture/assembly.

Possible Partner: MVEDA
Lead section: Economic Development
Support section: Sustainability
Begin: Ongoing
Indicators: Number of facilities, number of jobs created

Action 2.4b: Obtain pre-approval from Federal Aviation Administration to allow photovoltaic generation facilities on airport property. Any proceeds from the arrangement are required to be reinvested at the airport. Pre-approval would

remove a significant amount of regulatory uncertainty and delay and make the land much more attractive for solar developers.

Lead sections: Airport Management
Support sections: Sustainability, Economic Development
Begin: 2Q 2011

Action 2.4c: Identify City-owned lands that may be suitable for private development of utility-scale solar generation facilities. Summarize basic attributes to create a marketing pamphlet for developers.

Lead sections: Economic Development, Sustainability
Support section: Land Management
Begin: 1Q 2012

Action 2.4d: Establish a protocol for permitting and inspection of utility-scale renewable energy installations.

Lead sections: Permitting & Inspections
Support sections: Economic Development, Sustainability
Begin: 2Q 2011

Goal 2.5: Encourage the voluntary purchase of green energy credits for those who cannot install renewable energy on their property.

Action 2.5a: Co-promote participation in El Paso Electric's Voluntary Renewable Energy Program.

Partner: El Paso Electric
Lead Section: Sustainability
Begin: 1Q 2011
Indicators: Number of program participants

Action 2.5b: Investigate the feasibility of a partnership with a green credit broker that would generate some revenue for City green projects.

Lead Section: Sustainability
Begin: 1Q 2012
Indicators: Number of program participants

The City of Missoula, MT has begun an innovative public/private partnership that allows residents to purchase green power certificates from a third party. Most of the proceeds go toward financing renewable energy generation projects. About 20% goes to the City's sustainability program. The certificates are paid for as a premium on the utility bill. This is a way for residents who may not be able buy a private generating system to help advance the cause of renewable energy while at the same time providing a revenue source for local government programs.

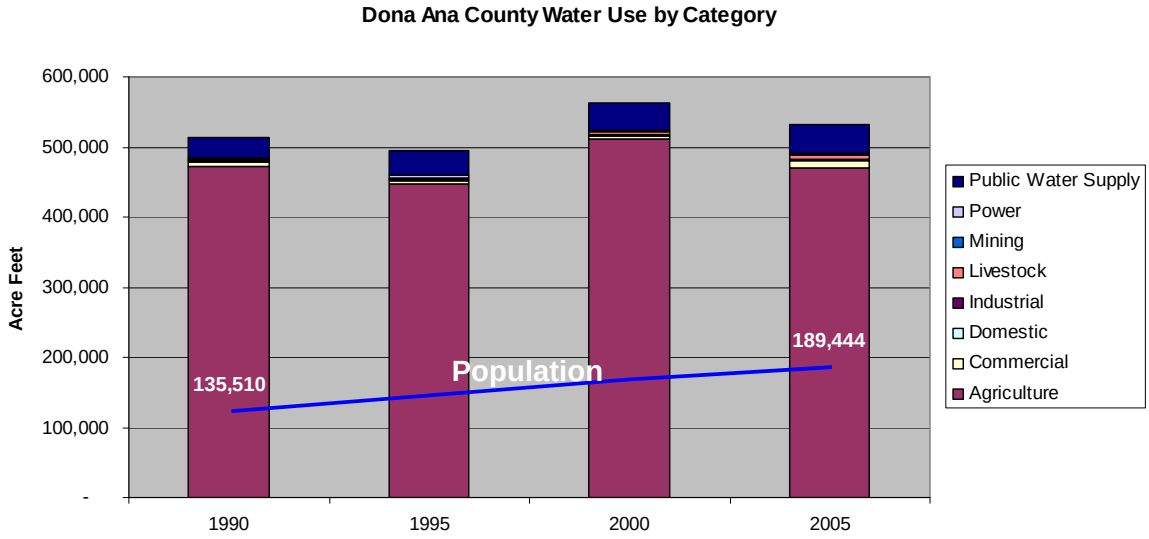
Chapter 3: Water Supply

Why We Care

It is no secret that water is a scarce commodity in the west, and as long as our population continues to grow, water supply will remain a contentious issue. Now a new factor is emerging, which is that climate change may very well reduce the amount of water available for consumption throughout much of the southwest, including southern New Mexico. A 2008 study[4] by researchers at NMSU and UNM found that water availability may be reduced up to 25%, and that the total economic losses that result could be as high as $300 million annually. Much of this impact will be felt in the agricultural sector, as water tends to be transferred from agricultural use to municipal and industrial use when demand exceeds supply. Therefore, efforts to conserve water in Las Cruces may help preserve agriculture in the Mesilla Valley as a way of life and an economic driver.

Current Conditions

Water use in the Lower Rio Grande Basin is strictly regulated and we are using all available water. Any new water use, such as a new subdivision or industrial development, must obtain existing water rights from another holder within the basin. Agriculture has always been the dominant end use for water, accounting for 88% in 2005. Although the public water supply grew from 6% to 8% of total use from 1990 to 2005, the county population grew by nearly 40% in the same time frame.[5]



The amount of water consumed in Las Cruces varies from year to year, but the average from 2001-2005 was 222 gallons per capita per day (GPCD), which translates

[4] Hurd, B.H. and J. Coonrod. 2008. Climate Change and Its Implications for New Mexico's Water Resources and Economic Opportunities, New Mexico State University, Agricultural Experiment Station, Technical Report 45, Las Cruces, NM. 28 p.

[5] Office of the State Engineer, http://www.ose.state.nm.us/publications_technical_reports_wateruse.html, Accessed 8/3/2010.

into total withdraws of around 20,000 acre feet per year.[6] The City maintains a 40-year Water Plan which outlines how it intends to provide water to a growing population through a combination of conservation and water rights acquisition. Conservation measures are expected to reduce water demand by 20% over the 40-year planning horizon, and should delay the need to develop costly unconventional solutions such as desalination.

Progress to Date

In 2000, the City adopted a Water Conservation Ordinance that places restrictions on outdoor water use, including:

- Even/odd watering days with no watering on Mondays
- No watering between 10am and 6pm from April 1 to September 30
- No wasting of water, which includes failing to fix leaks, allowing water to flow onto other properties or the street, and washing paved surfaces with a hose.

This ordinance has been considered a success mostly due to voluntary compliance, as total water consumption in the five years following adoption dropped steadily despite a growing population.

The City began Phase I of a Water Conservation Program in 2005, which was aimed at reducing water use among single family residential customers. This program includes xeriscaping public workshops, xeriscaping of City property, a school water conservation curriculum, detailed information included with water bills, and letters to top water users. The goal was to reduce single family household consumption by 5% per capita in 5 years. By 2009, that goal had been exceeded – system wide water use had decreased by 5% per capita, and use among single family households was down nearly 10%. The current rate of residential water use in the City is 153 GPCD, which is already below the 161 GPCD average for southwestern cities. Phase II of the program is now in development with hopes to build on this success.

The City operates multiple well permits, and is required under its base permit to return treated effluent to the Rio Grande during times of drought, so that it can be used downstream. This limits our ability to use reclaimed water throughout the City, but we have begun developing this capability on the east side. A new reclamation facility was recently dedicated on East Lohman with the capacity of treating one million gallons of wastewater per day, and delivering the reclaimed water to large irrigation end users, such as golf courses, parks, and schools. It is currently operating at 25% capacity, but as more development occurs, more reclaimed water will become available in that area.

[6] City of Las Cruces 40-year water plan, available at http://www.las-cruces.org/utilities/123.pdf

Internal Goals and Actions

Goal 3.1: Continuously monitor water consumption in City buildings, parks, and other operations. This will enable evaluation of the success of actions taken, as well as identify outliers for which repairs or retrofits might be necessary to save water.

Action 3.1a: Produce a quarterly report of water consumption covering all City activities.

Lead section: Sustainability
Support sections: Water Resources, Parks & Recreation, Information Technology
Begin: 2Q 2011

Goal 3.2: Reduce water consumption in City operations by 5% per square foot of managed space by 2015.

Action 3.2a: Ensure that all new fixtures installed use the least amount of water that is practical for the application.

Lead sections: Building Services, User departments
Support sections: Sustainability, Purchasing
Begin: Immediately
Indicator: number and type of installations, gallons of water consumed

Action 3.2b: Identify City properties with underutilized turf that can be replaced with xeriscaping or other water-wise cover.

Lead sections: Parks and Recreation, Water Resources
Support sections: Sustainability, Geographic Information Systems
Begin: 1Q 2012
Indicator: Number of acres identified and retrofitted, gallons of water saved

Goal 3.3: Reduce water losses in the distribution system from 13% to 9% of total diverted water by 2045.

Action 3.3a: Conduct audits of water distribution infrastructure to locate leaks and make repairs before they might otherwise be noticed.

Lead section: Water Resources, RES (Water Conservation)
Begin: 3Q 2011
Indicator: Number of repairs proactively located, flow rate of the leaks repaired, % of water losses

Community Goals and Actions

Goal 3.4: Reduce community-wide water consumption rate to 180 gallons/person/day by 2030. This reduction is a requirement of the Office of the State Engineer in order to maintain the City's well operation permits.

Action 3.4a: Develop a stand-alone water conservation plan which includes provisions for reducing water use during periods of extended drought.

Lead section: RES (Water Conservation)
Support section: Sustainability
Begin: Ongoing

Action 3.4b: Offer public workshops and multimedia educational materials to educate residents and business owners about water saving opportunities.

Possible partners: DACC, Extension Service
Lead section: RES (Water Conservation)
Support section: Sustainability
Begin: Ongoing
Indicators: Number of sessions hosted, number of participants, number and type of materials distributed

Action 3.4c: Offer free water audits to generate custom recommendations for property owners to save water, and follow-up with participants to track savings. Invite highest water users to participate in the program. For those who participate in this voluntary program, rebates could be offered if recommendations are implemented and water consumption declines. If water consumption increases, a surcharge may be added.

Lead section: RES (Water Conservation)
Support section: possibly Parks & Recreation
Begin: Summer 2011
Indicators: Number of audits conducted, number of retrofits performed, gallons of water saved

Goal 3.5: Improve awareness, compliance and enforcement of existing water conservation ordinance.

Action 3.5a: Implement a water waste reporting hotline.

Lead sections: RES (Water Conservation), Codes Enforcement
Begin: 3Q 2011
Indicators: Number of complaints, number of resulting responses

Action 3.5b: Initiate a progressive punishment system for the water conservation ordinance, including warnings and education for first offenders. This would require an ordinance amendment.

Lead sections: RES (Water Conservation), Codes Enforcement
Begin: 3Q 2011
Indicators: Number of complaints, number of resulting responses

Goal 3.6: Increase the use of non-traditional water sources throughout the community.

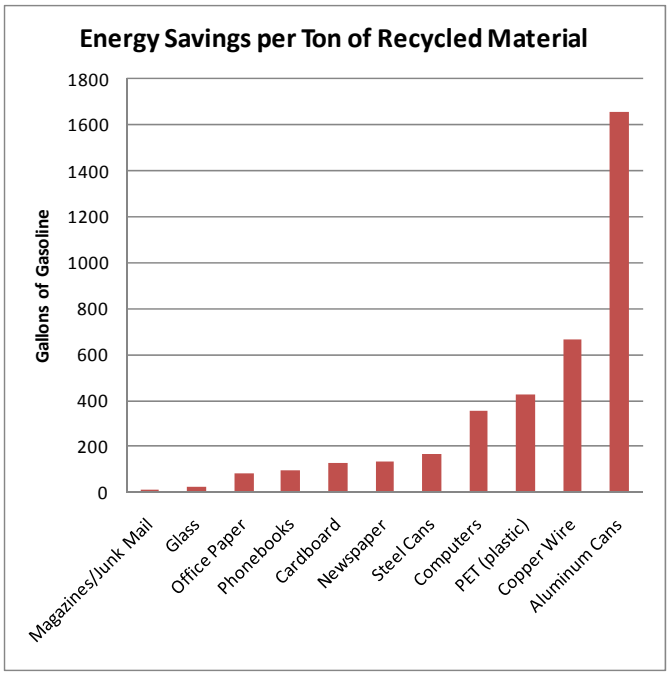
Action 3.6a: Investigate the feasibility of offering rebates to water customers for the purchase and proper installation of rainwater harvesting equipment.

Lead section: RES (Water Conservation)
Begin: 1Q 2012
Indicators: Number of installed systems, number of gallons captured each year.

Action 3.6b: Work with interested developers to extend purple pipe to new developments as additional reclaimed water becomes available.

Lead sections: Development Services, Utilities
Support section: Sustainability
Begin: Ongoing
Indicators: number of connections, annual gallons delivered

Chapter 4: Recycling and Solid Waste



Why We Care

Many communities are motivated to recycle by rising costs of solid waste disposal brought about by dwindling landfill capacity, and a lack of suitable land available to construct new landfills. That is not the case here. According to the South Central Solid Waste Authority (SCSWA), which operates the Corralitos Landfill west of the Las Cruces International Airport, there is well over 100 years of landfill capacity remaining onsite. When that is full, there is ample opportunity to obtain public land for waste disposal elsewhere in the County. This contributes to some of the lowest solid waste tipping fees in the nation.

As a result, our local concern about recycling is motivated less by cost savings and more about a concern for the energy and environmental impact of waste disposal. According to a 2005 EPA report,[7] the energy savings per ton of recycled material range from 9 gallons of gasoline for magazines and junk mail to over 1655 gallons for aluminum cans. There are also significant material savings, so less land is impacted by mining, drilling, or harvesting of timber.

Current Conditions

In 2008, Doña Ana County disposed of 189,764 tons of municipal solid waste, and recycled 10,443 tons, for a recycling rate of 5.5%, which is well below the state average rate of 11% and the national average rate of 32%.[8] Recyclable materials must be dropped off at one of 6 commercial collection points or 17 schools throughout the City. Used motor oil, fluorescent bulbs, electronic equipment, and packing Styrofoam can be recycled only at the recycling station on West Amador. Yard waste and other green material can be recycled at the Foothills Landfill on the east side of town. Yard waste is composted into mulch for use in landscaping, and is available to the public free of charge. The City also composts its biosolids from the Jacob Hands Wastewater treatment plant. This EPA certified Grade A compost is rich in iron (which is lacking in many area soils) and is also available free of charge.

[7] Choate, A. et al, 2005, Waste Management and Energy Savings: Benefits by the Numbers. Available at: http://epa.gov/climatechange/wycd/waste/downloads/Energy%20Savings.pdf, accessed 8/3/2010.
[8] New Mexico Environment Dept, Solid Waste Bureau, 2008 NM Solid Waste Annual Report.

Recyclable Materials (as of Summer 2010)

The following materials can be dropped off in any collection bin unless otherwise marked:

Office paper	Brown paper bags	Shredded paper (single cut only, bagged)
Newspapers	#1 and #2 plastic	Corrugated cardboard (except pizza boxes)
Magazines	Steel/tin cans	Chipboard (cereal boxes, tissue boxes, etc.)
Telephone books	Aluminum cans	Junk mail

The following are recyclable only at the specified location:

Yard Waste (Foothills Landfill)	Motor Oil (Amador)
Fluorescent and CFL bulbs (Amador)	Packing Styrofoam (Amador)
Electronic Equipment (Amador)	

Progress to Date

In an effort to increase recycling opportunities, in August 2009 the City transferred its recycling operation to SCSWA, which has spearheaded a regional approach to recycling. The SCSWA has ceased processing recyclables on site, and now transfers them to a plant in El Paso that separates and sells them to manufacturers. This arrangement was made feasible by the economies of scale created when the City of El Paso instituted a curbside recycling program in 2008. It also allowed SCSWA to begin a program of single stream recycling in early 2010, which means that people no longer have to separate their materials by type. This convenient single stream program, along with the recent acceptance of additional types of paper and plastic, have contributed to a doubling of the recycling rate in Doña Ana County since February 2010. Curbside recycling is now under consideration by both the Utilities Board and the SCSWA Board, and has the support of City Council. The current proposal would include bi-weekly collection, would cost $2.59/household in additional waste collection fees, and is expected to again double the recycling rate in the community.

Internal Goals and Actions

Goal 4.1: Increase the recycling rate at City operated facilities to 35% by 2015.

Action 4.1a: Determine the baseline recycling rate at City operated facilities.

Partner: SCSWA
Lead section: Sustainability
Support section: Solid Waste
Begin: 1Q 2011

Action 4.1b: Increase employee awareness of recycling, including benefits and accepted materials. This can be done by utilizing the employee newsletter and e-mail system.

Partner: SCRaP
Lead section: Sustainability
Begin: Spring 2011

Indicators: Number of educational messages delivered

Action 4.1c: Establish convenient drop off points and collection schedules for recyclable materials throughout City work spaces.

Partner: SCSWA
Lead sections: Sustainability, Building Services
Begin: Spring 2011
Indicators: Number of participating facilities, number of collection points by type for each facility

Action 4.1d: Expand composting operations at City facilities that have kitchens.

Possible Partner: Fairlight Community Garden
Lead section: Senior Programs
Begin: Ongoing
Indicators: Number of gallons of material diverted

Community Goals and Actions

Goal 4.2: Achieve a 30% total recycling rate for Doña Ana County as a region by 2020.

Action 4.2a: Implement curbside recycling for single-family residences throughout City.

Partner: SCSWA
Support sections: Solid Waste, Sustainability
Begin: 1Q 2011
Indicators: household participation rate, tons of material collected and diverted

Action 4.2b: Encourage increased awareness of and participation in the commercial recycling program, which includes multi-family residences.

Possible Partners: Chambers of Commerce, SCRaP
Lead section: Sustainability
Begin: 1Q 2012
Indicators: Number of participating locations, tons of material collected and diverted

Action 4.2c: Support efforts at recycling education with school children and the community as a whole. Include recycling messages on CLC TV, and Community Connections, as well as in-person education at special events.

Partners: SCRaP, Las Cruces Public Schools
Lead section: Keep Las Cruces Beautiful

Support section: Sustainability
Begin: Ongoing
Indicators: Number of events and published messages

Action 4.2d: Provide convenient recycling containers for public use at City parks and outdoor events, such as the Farmer's Market and sporting events.

Possible partner: SCSWA
Lead section: Parks & Recreation
Support section: Sustainability, Economic Development
Begin: 2Q 2011
Indicators: Number and location of containers, amount of material collected

Action 4.2e: Relocate several existing recycling drop-off containers from the city center to the edges of the city and beyond. This is contingent upon successful implementation of curbside recycling and growth in commercial recycling participation. When these are accomplished, some drop off points likely will be underutilized and could be used to make recycling more convenient for rural residents.

Partner: SCSWA
Support section: Sustainability
Begin: 2013
Indicators: Number and location of containers, amount of material collected

Action 4.2f: Investigate ways to enable the collection of glass, including finding a local beneficial reuse or encouraging the startup of a glass recycling business in the area.

Partner: SCSWA, SCRaP
Support sections: Sustainability, Economic Development
Begin: Ongoing

Action 4.2g: Investigate the feasibility of implementing a "pay as you throw" system that would reward recycling by charging a variable rate for trash pickup that is dependent on the amount thrown away.

Partner: SCSWA, SCRaP
Support sections: Sustainability, Solid Waste
Begin: 3Q 2013

Goal 4.4: Increase the amount of municipal compost utilized throughout the community.

Action 4.4a: Promote compost availability in print, online, and on CLC channel 20.

Partner: SCSWA, SCRaP
Lead Section: Sustainability
Support sections: PIO, Solid Waste, Water Resources
Begin: 3Q 2011
Indicators: Number of promotional pieces, number of website hits, volume of compost collected

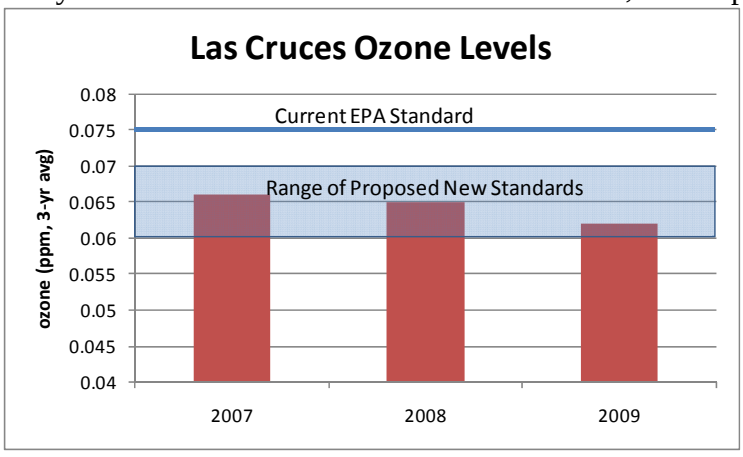
Chapter 5: Pollution Prevention

Why We Care

Clean air and water are essential to public health, and so pollution prevention may be the most fundamental aspect of sustainability. Because of this, there are efforts already in place at the federal, state, and local level to protect these resources from contamination. Due partly to our relatively small population and distance from larger cities, we are fortunate to have relatively low levels of pollution, but we should not take this for granted, especially since we continue to grow as a community.

Current Conditions

The US Environmental Protection Agency regulates six air pollutants: lead, sulfur dioxide, nitrogen oxides, carbon monoxide, course and fine particulate matter, and ground-level ozone (or smog). Of these, the Las Cruces area is in compliance with regulations for all but course particulate matter, or PM10. The main source of PM10 in our area is not related to vehicle emissions, but rather to wind-blown dust. Much of this dust originates in undeveloped desert during the spring windy season and some is carried great distances, and is thus beyond our control, but some originates from developing land that has exposed soils due to vegetation removal. As a result of this "fugitive dust" a 2008 EPA report ranked Las Cruces the 8th worst city in the nation in terms of the number of days (11) where the Air Quality Index (AQI) exceeded the "unhealthy" level. However, these were all our windiest days, and our air quality on the other 354 days was likely much better than the other cities on the list, whose pollution problems are more the result of automobiles and power plants. Currently, the EPA is considering lowering the standard for ground level ozone, and depending on the final standard, all of Doña Ana County, including Las Cruces, may be out of compliance despite the fact that our ozone levels are actually declining.



Las Cruces administers two water pollution prevention programs in accordance with the Clean Water Act's National Pollutant Discharge Elimination System (NPDES). The first is the Stormwater Pollution Prevention Program. This program is housed in the Engineering Services Section of Public Works and focuses on reducing water pollution at the watershed level. It is responsible for implementing the Stormwater Management Plan[9], which includes six control measures:

[9] Available online at: http://www.las-cruces.org/public_works/engineering_services/pdfs/Final%20Revised%20SWMP%2004-16-09.pdf

- Public Education and Outreach on Storm Water Impacts
- Public Involvement/Participation
- Illicit Discharge Detection and Elimination (IDDE)
- Construction Site Storm Water Runoff Control
- Post-Construction Storm Water Management in New Development and Redevelopment
- Pollution Prevention/Good Housekeeping for Municipal Operations

The second program is the Industrial Pollution Prevention Program, housed in the Regulatory and Environmental Services section of the Utilities Department. This program attempts to control pollution entering both the city's water distribution system and sewage treatment system, as both must meet Clean Water Act standards. Program components include:

- Annual effluent sampling on local industrial sites
- Fats, Oils, and Grease (FOG) program to ensure that restaurants maintain functioning grease interceptors
- Backflow prevention at commercial sites to ensure water in the distribution system flows only in one direction and does not become contaminated

Progress to Date

In general, pollution problems in Las Cruces have been kept at bay. The number of "unhealthy" days due to PM10 according to the AQI was lower in 2008 (11) than in 1998 (14). The 3-year running average ground-level ozone readings have declined by 6% since 2007. The industrial pollution prevent program has been able to keep pollutant levels in check to the point that the treated effluent from the Jacob Hands plant on Amador that is discharged into the Rio Grande is cleaner than the water already in the river by almost any measure.

That said, we continue to have localized problems with wind and water erosion of soils, particularly at construction sites, resulting in dust and sediment issues. And as the population of our city and region grows, so do the number of tailpipes, industrial sites, and other sources of air and water pollutants. It is essential that we continue and improve upon proactive measures to prevent contamination of our critical resources to protect our most vulnerable residents. Failure to do so may result in costly regulatory burdens after the problems have already become entrenched.

Internal Goals and Actions

Goal 5.1: Reduce emissions from City vehicles.

Action 5.1a: Achieve better compliance with vehicle anti-idling policy through improved education and progressive enforcement.

Lead section: Fleet Services, all departments
Support sections: Sustainability, Human Resources
Begin: 4Q 2010

Indicators: Fuel efficiency of individual vehicles, number of complaints received

Action 5.1b: Retrofit diesel engines with emission control devices as funding permits and pursue grant funding to expedite the retrofitting process.

Lead Section: Fleet Services
Support sections: Sustainability, Grants Administration Office
Begin: 4Q 2010

Action 5.1c: Conduct regular emissions testing of all City vehicles. Include a 5-gas exhaust analyzer test in each gasoline vehicle's annual inspection. Every diesel vehicle is to have an opacity meter test administered twice a year by Fleet Services to determine diesel emissions.

Lead Section: Fleet Services
Begin: 4Q 2010
Indicators: Number of repairs made and emission reductions resulting from testing

Goal 5.2: Minimize soil and water pollution resulting from maintenance of City facilities.

Action 5.2a: Create a system for tracking and reporting the amount and location of fertilizer, pesticide and herbicide application.

Lead section: Engineering Services (SWPP)
Support sections: Parks & Recreation, Street Systems, Sustainability
Begin: Ongoing

Action 5.2b: Document and expand a program of Integrated Pest Management (IPM), which controls unwanted weeds and insects with less use of potentially dangerous chemicals.

Lead section: Parks & Recreation
Support section: Sustainability
Begin: Ongoing
Indicators: Type and quantity of pesticides applied

Goal 5.3: Improve capacity to identify and mitigate non-point source water pollution.

Action 5.3a: Participate in the regional Paso del Norte Watershed Council, which will increase competitiveness for grants, potentially allow access to additional testing facilities, and tap into regional expertise.

Lead section: Engineering Services

Begin: Ongoing

Action 5.3b: Establish a comprehensive geodatabase of all stormwater infrastructure, including location of outfalls, ties to EBID, and invert and slope of all facilities. This would require additional staff to complete data collection in a timely manner.

Possible Partner: NMSU Geography Department
Lead sections: Engineering Services, Regulatory & Environmental Services
Support section: Geographic Information Systems
Begin: 3Q 2011

Community Goals and Actions

Goal 5.4: Reduce the number of air quality violations due to particulates, and retain attainment status for other air pollutants.

Action 5.4a: Amend dust control ordinance to reduce the contribution of construction sites and other developed areas to fugitive dust, and improve compliance through better education and enforcement.

Lead Section: Permitting & Inspections
Support Sections: Engineering Services, Codes Enforcement
Begin: Ongoing
Indicators: Number of complaints and citations, number of PM10 violations

Action 5.4b: Deploy Intelligent Transportation Systems (ITS) to help improve signal timing and reduce roadway congestion and its resulting emissions.

Lead Sections: Traffic Engineering, Metropolitan Planning Organization
Begin: Ongoing
Indicators: change in traffic delay at treated locations

Goal 5.5: Increase public knowledge of the important contributors to water pollution.

Action 5.5a: Produce an informational piece on Channel 20 regarding major contributors to non-point source water pollution and actions the public can take to avoid them.

Responsible sections: Engineering Services (SWPP), Regulatory and Environmental Services
Support sections: Public Information Office, Sustainability
Begin: 3Q 2011
Indicators: Number of airings, estimated number of viewers

Action 5.5b: Utilize Community Connections and the City website to increase awareness of non-point source pollution prevention.

Lead Sections: Sustainability, Engineering Services, Regulatory and Environmental Services
Begin: 1Q 2011
Indicators: number of website hits, number of newsletter deliveries

Action 5.5c: Host educational booths at special events and visit schools to educate about pollution prevention.

Lead sections: Regulatory and Environmental Services, Engineering Services
Support section: Sustainability
Begin: Ongoing
Indicators: Number of events, number of visitors

Chapter 6: Land Use and Transportation

Why We Care

The built environment has an impact on nearly all aspects of sustainability. And because development and redevelopment occur slowly, and the results exist for decades or even centuries, the impacts are lasting. The way buildings are built determines the amount of energy they consume. The design and construction of the site impact hydrology, water quality, and the amount of sunlight that gets converted to heat. The location and density of these buildings and sites, coupled with the design of public rights-of-way affect what transportation options are viable for people. These transportation choices in turn have a large impact on overall energy consumption and pollution levels. There are also social equity implications of transportation choice (or lack thereof) as private automobiles are an expensive (and for some, unaffordable) mode of transportation compared to walking, cycling, or taking transit.

Land use and transportation planning have been a key concern of the City for decades. In recent years, these efforts have begun to explicitly deal with issues of sustainability. There are many ongoing efforts at transportation and land use planning and implementation already underway that will get into much more detail than this chapter. Therefore, this chapter not intended to be comprehensive, but rather to offer several measureable goals and actions that complement other efforts.

Current Conditions

The City has a low density of development, due largely to the relatively low cost of land. In 2009, the City contained about 19,700 acres of developed land, and about 43,900 housing units, which represents a housing density of just over 2.3 units per acre on average. This is well below the 7 units/acre that is generally considered the minimum density to be conducive to a robust transit system, since lower densities mean buses have to travel farther to pick up and deliver passengers. As a result, most bus riders currently are transit dependent, meaning they only ride because they have no other options. Lower density also makes it harder for residents to live within walking distance of businesses, schools, and recreational opportunities. The average Walk Score[10] for Las Cruces is 49 (on a scale of 0-100), which is on the upper end of the "car dependent" range. While higher density could improve transportation choice and sustainability, it should be noted that regulations that force higher density in other parts of the country have often had a negative impact on housing affordability, so it is not a simple problem to solve.

Progress to Date

A number of recent planning efforts have encouraged redevelopment of existing areas where infrastructure, a mix of uses, and transportation options already exist. The infill policy was revised in 2009 to streamline the approval of redevelopment of underutilized property within the core of the city, in addition to development of vacant property that was already encouraged. The University District plan and zoning overlay

[10] Walk Score is a comparative index calculated based on proximity to a variety of destinations, based on Google Maps. See www.walkscore.com

were updated in 2010 to allow more density and diversity of land uses to encourage development of more pedestrian accessible destinations in that area. The downtown plan, adopted in 2005, continues to be implemented with Tax-Increment Financing now in place to fund improvements to public spaces and encourage private redevelopment.

In terms of transportation, the City adopted a Complete Streets resolution in 2009, which states that all transportation users and modes of transportation must be considered and integrated when designing public rights of way, in an effort to make walking, cycling, and accessing transit safer and more convenient. In the last decade, the City has increased the number of miles of bicycle lanes more than 5-fold, from 10.7 in 2000 to 53 in 2010. The bus transit service was redesigned in 2008 to provide more convenient two-way service, and to be able to accommodate increased frequency on select routes as funding becomes available, while still maintaining transfer options.

Internal Goals and Actions

Goal 6.1: Increase convenience and public access to transit as a way to decrease transportation-related energy consumption, increase transportation system capacity, and lower household transportation costs.

Action 6.1a: Proactively up-zone properties in close proximity to current and planned transit corridors to allow greater density, more affordable housing, and greater transportation choice to residents.

Lead Sections: Planning & MPO, Development Services, Neighborhood Services
Begin: 1Q 2012
Indicators: change in allowable density by area, number of units developed within walking distance of transit

Action 6.1b: Create a system of pre-paid transit passes for NMSU and DACC students and faculty, so that they can get unlimited rides by showing their ID card.

Partners: NMSU, DACC
Lead section: Transit
Support section: MPO
Begin: 3Q 2012
Indicators: number of riders from NMSU and DACC

Action 6.1c: Complete Intermodal Center design and construction.

Lead sections: Transit, Project Management
Begin: Ongoing

Action 6.1d: Enable transmission of real-time bus arrival information at bus stops and via cell phones.

Lead sections: Transit
Support sections: MPO, Information Technology
Begin: 1Q 2013
Indicators: number of information outlets

Goal 6.2: Achieve Bicycle Friendly Community designation from the League of American Bicyclists.

Action 6.2a: Review upcoming roadway maintenance and reconstruction projects for opportunities to improve cyclist safety at low or no additional cost. Of particular interest is the utilization of road diets on 4-lane roads operating under capacity.

Lead sections: Traffic Engineering, Street Systems, Project Development
Support section: MPO
Begin: Ongoing
Indicators: number and location of upgraded bicycle facilities

Action 6.2b: Examine existing roadways with limited right-of-way for use of "sharrows," a newly recognized pavement marking that communicates to cyclists and motorists the safest way to share the road.

Lead sections: Traffic Engineering, MPO
Begin: 3Q 2011
Indicators: number of applications, number of recorded incidents at affected locations

Action 6.2c: Increase education and outreach activities related to bicycle safety and rules of the road.

Partners: Las Cruces Public Schools, Mesilla Valley Bicycle Coalition, Bicycle Friendly Community Task Force
Lead sections: MPO, Codes Enforcement
Support section: Public Information Office
Begin: Ongoing
Indicators: number of print, television and internet outreach activities, number of events and participants

Community Goals and Actions

Goal 6.3: Complete and implement plans in the core of the City that encourage revitalization and reinvestment in existing neighborhoods and commercial areas.

Action 6.3a: Complete improvements to public right of way in downtown area to create a more vibrant pedestrian streetscape and encourage private redevelopment, including pursuit of additional funding sources.

Partner: Las Cruces Downtown Partnership
Lead sections: Economic Development, Project Development
Support section: Grants Administration, Contracts Administration, Traffic Engineering, MPO
Begin: Ongoing
Indicators: Number of completed projects, additional funding pursued and secured

Action 6.3b: Identify and pursue funding for redesign of University Avenue right of way as a more multi-modal, pedestrian friendly facility in accordance with recently adopted University District Plan.

Partner: NMSU
Lead sections: Planning & MPO, Project Development
Support sections: Grants Administration, Contracts Administration, Traffic Engineering
Begin: 1Q 2013

Action 6.3c: Complete Picturing El Paseo planning and public involvement project.

Partners: US EPA, US DOT, HUD, various local partners
Lead section: Planning & MPO
Support sections: Sustainability, Neighborhood Services, Economic Development, Project Development, Traffic Engineering
Begin: Ongoing
Indicators: Number of events, number of participants, delivery of vision document for El Paseo Corridor

Goal 6.4: Encourage the development of green neighborhoods and homes throughout the community.

Action 6.4a: Create a streamlined development process similar to the infill process that expedites approval for developments that meet certain green building criteria, such as LEED for Neighborhood Development, LEED for Homes, or Build Green New Mexico.

Possible Partners: Building Industries Association of Southern New Mexico, Institute for Community Engagement
Lead sections: Planning, Development Services
Support sections: Sustainability
Begin: 3Q 2011
Indicators: number of certified subdivisions or construction projects

Action 6.4b: Adopt a locally-calibrated version of the SmartCode that can be voluntarily substituted for standard development codes for master-planned developments or planned-unit developments and that facilitates development of compact, walkable, mixed-use neighborhoods.

Lead sections: Planning, Development Services
Support sections: Sustainability
Begin: 1Q 2011
Indicators: number of projects utilizing the Smart Code

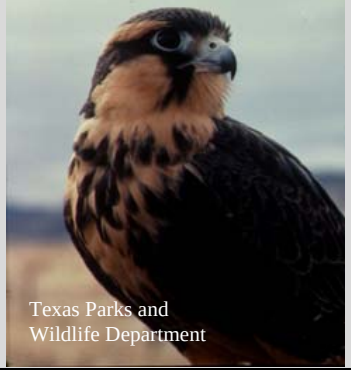
Chapter 7: Habitat and Ecosystem Conservation

Why We Care

Many area visitors and new residents of Las Cruces are attracted to the area because of its striking natural beauty and recreational opportunities. In fact a recent conference was held in Las Cruces to highlight the economic benefits of our open spaces. But as we grow, some of these qualities may be impacted by overuse, so sound planning and management are necessary. Healthy open space can provide a number of ecosystem services, which are expensive and often impossible for humans to mimic after they are disturbed. These services are highly varied, and include stormwater infiltration by undisturbed soil, which limits flooding and recharges aquifers, pollination of crops and fruit trees by bees and other insects, and control of insect pests by birds and bats.

Current Conditions

As much as 97% of the biodiversity in the southwestern desert region is found in riparian areas due to the available water. However, our own major riparian area, the Rio Grande is ecologically impaired by the fact that all its water is allocated for agriculture. This means that outside the growing season, there is very little water present to sustain vegetation and wildlife (the main source locally is effluent from our sewage treatment plant). In 2004, the City completed a plan for the Rio Grande Corridor[11], which helped lead to the creation of the new Rio Grande Bosque Park near Mesilla, in collaboration with the Southwest Environmental Center, Bureau of Reclamation, and Elephant Butte Irrigation District. This is the first of several potential wetland sites planned along the river that can provide critical habitat for native species and migratory birds.



Texas Parks and Wildlife Department

In early 2010, an endangered Northern Aplomado Falcon was spotted in the new Mesilla Valley Bosque Park. Not only does this represent a success story in the effort to re-establish habitat for falcon, it also showcased the potential economic boost provided by nature, as birdwatchers from as far away as California traveled to the park specifically to catch a glimpse of the rare bird.

Several federal efforts are currently underway to manage and protect land in Doña Ana County. The Organ Mountains –Desert Peaks Wilderness Act would designate 259,000 acres in throughout the county as wilderness, and another 100,000 acres (mostly east of Las Cruces) as Natural Conservation Area, which is less strict than wilderness but still protects land from development. This bill is currently under consideration in the US Senate. Another federal effort is the Bureau of Land Management's Tri-County Resource Management Plan. This document is currently in draft form, and outlines BLM policy regarding which lands are available for disposal, and how lands that are retained will be managed to balance grazing, recreational use, and natural resource conservation. The City is a

[11] Available at http://www.las-cruces.org/PDFs/RioGrande.pdf

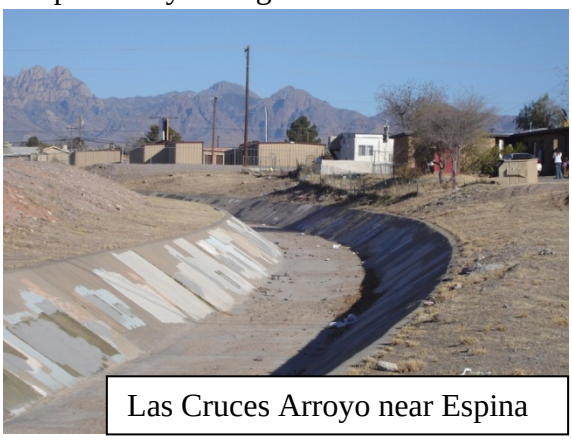
designated "cooperating agency" in this effort, and has provided input regarding expected growth rates and land needs to accommodate growth. Nearly all of this federal land is outside the City limits and beyond our direct control. However, there are still many opportunities to incorporate conservation practices as we manage our own land and plan for new growth.

Progress to Date

In August 2010, the City will co-host a conference called Green Infrastructure in the Southwest: Challenges and Opportunities. This event will bring in about 30 regional experts and national experts to explore ways to incorporate natural processes into the management of stormwater and runoff from developed sites, while in the process cleaning the water and often providing habitat and recreational opportunities. This event will inform evolving City policies regarding this issue.

The City signed a memorandum of understanding in Spring 2010 with researchers at NMSU to relocate burrowing owl nests from City-owned flood control properties with high levels of maintenance activity. Artificial burrows are being constructed at less impacted locations on site, and so far relocation efforts have been quite successful. The Public Works department is seeking to build on this success by developing a set of maintenance protocols that will allow certain lands behind the Las Cruces Flood Control Dam serve as habitat for birds and other wildlife while maintaining the dam's core function of flood protection.

Upon annexation of 4200 acres of undeveloped land on the east side of town in 2007, the City secured easements for the 100-year floodplain around all the major arroyos in this property from the State Land Office. This will allow for the preservation of these arroyos in close to their natural state as new development occurs in the area. This has been the preferred approach to new development around arroyos in recent years, compared to years ago when concrete channelization was the typical course of action.



Las Cruces Arroyo near Espina

Las Cruces Arroyo, North Fork, East of Sonoma Ranch Blvd

Internal Goals and Actions

Goal 7.1: Foster a network of wildlife habitat areas and corridors on City owned or maintained property.

Action 7.1a: Complete a maintenance plan and set of protocols for the Las Cruces Flood Control Dam that recognize public safety and regulatory compliance as the

first priorities, but otherwise minimize unnecessary damage to vegetation and other features that provide ecosystem services.

Lead sections: Engineering Services, Street Systems
Support section: Sustainability
Begin: Ongoing

Action 7.1b: Participate in the US Army Corps of Engineers ecosystem restoration project on the Las Cruces Flood Control Dam property.

Lead sections: Engineering Services, Project Development
Support section: Sustainability
Begin: Ongoing

Action 7.1c: Amend design standards to allow and encourage appropriate green infrastructure applications.

Lead sections: Engineering Services, Planning, Development Services, Permitting & Inspections
Support section: Sustainability
Begin: 2Q 2011

Action 7.1d: Establish a formal urban forestry program for City parks and rights of way.

Responsible sections: Parks & Recreation
Support section: Sustainability, Street Systems
Begin: 1Q 2013

Action 7.1e: Complete Arroyo Preservation Plan and associated design standards.

Responsible Sections: Engineering Services, Planning
Begin: Ongoing

Community Goals and Actions

Goal 7.2: Support further implementation of the 2004 Rio Grande Riparian Conservation Plan.

Action 7.2a: Evaluate the feasibility of voluntary contributions on water bills to fund ecosystem restoration projects along the river.

Possible Partners: Southwest Environmental Center, EBID, International Boundary Water Commission, City of El Paso
Lead sections: Water Resources, Sustainability
Begin: 3Q 2011

Chapter 8: Local Food

Why We Care

Food has traditionally not been a focus of local government interest in Las Cruces, but was brought up repeatedly during public input sessions. There is growing interest in the concept of community food security, which is concerned with how susceptible the food supply is to disruption by uncontrollable outside forces. These could range from contamination, to fuel-driven price increases, to disaster-induced shortages. Local food is generally considered more secure because the supply chain is shorter and less complex so there are fewer possible failure points. It may also be more sustainable by virtue of having traveled fewer miles from farm to plate. Agriculture is and has always been a cornerstone of the local economy, generating $372 million in sales in 2006, so the opportunity is certainly there to consume more local food.

Current Conditions

There is little data on local food consumption within Dona Ana County, but at the state level, the numbers are fairly low. New Mexico imports about 95% of the food we eat from other states or countries, and exports about 95% of what we grow[12]. There are many economic reasons for this that are beyond the control of local government, but there are some things we can do to increase community access to locally sourced food.

For example, the City operates a Farmer's & Crafts market on Wednesday and Saturday mornings throughout the year. Saturday markets have more vendors (about 200 on average) and larger crowds (around 2000 typically, increasing to around 5,000 on the busiest holiday weekends. However, the majority of vendors are selling crafts rather than food. There are currently 39 active vendors of local, raw food, which includes produce, meat, and honey.

Progress to Date

The Farmer's Market is helping to provide low-income residents access to high-quality, healthy produce, which is typically a problem for people living near or below the poverty line. Among the 58 farmer's markets operating in the State, the Las Cruces market is responsible for fully 15% of all WIC redemptions, which is the federally-funded health and nutrition program for women, infants, and children.

There are two working community gardens in Las Cruces: the Fairlight Community Garden at the Community of Hope campus on 999 Amador, and another in the Mesquite neighborhood at the corner of Tornillo and Spruce. There is also an effort underway to provide community support to establish and maintain community gardens on the grounds of four area schools.

Internal Goals and Actions

Goal 8.1: Increase the amount of local food purchased by the City.

[12] Dr. Mark Uchanski, NMSU Asst. Professor, in an April 2010 presentation, "Sustainable Food and Agriculture: Choices for the Future"

Action 8.1a: Support efforts to buy local food for the Las Cruces Convention Center.

Possible Partners: Global Spectrum, NMSU Extension Service
Lead section: Sustainability
Begin: ongoing
Indicators: Local food purchased by weight and category, number of meals served with local food

Action 8.1b: Develop local menu options for the Sage Café.

Lead section: Senior Programs
Support Section: Purchasing
Begin: 4Q 2011
Indicators: Local food purchased by weight and category, number of meals served with local food

Action 8.1c: Explore fiscal impacts of local food purchasing for Munson Center and eventually the new Central Kitchen.

Lead section: Senior Programs
Support Section: Purchasing
Begin: 3Q 2012
Indicators: Local food purchased by weight and category, number of meals served with local food

Community Goals and Actions

Goal 8.2: Expand the amount and diversity of local food sold at the Farmers' and Crafts Market.

Action 8.2a: Enable acceptance of Supplementary Nutrition Assistance Program (SNAP) benefits at the market. This will require a method of accepting EBT card payments, either directly at each vendor station, or at a central location that distributes tokens for transactions with vendors.

Lead section: Economic Development
Begin: 4Q 2011
Indicators: Number and value of EBT transactions

Action 8.2b: Change vendor rules to specifically allow produce from community gardens to be sold at the market.

Lead section: Economic Development

Begin: 1Q 2011

Action 8.2c: Create a promotional relationship with other regional farmers' markets.

Lead section: Economic Development
Begin: 1Q 2012
Indicators: Number and type of outreach activities

Action 8.2d: Hold regular cooking and food preparation demonstrations, including recipe sharing to encourage experimentation with a variety of local foods.

Possible Partner: NMSU Extension Service
Lead section: Economic Development
Begin: 3Q 2012
Indicators: number of events

Goal 8.3: Increase the number of community gardens within the City.

Action 8.3a: Support efforts to create community gardens on school property and create an agreement to allow conditional public use of these gardens.

Possible Partners: Las Cruces Public Schools, Extension Office, Master Gardener Program
Lead sections: Sustainability, Water Conservation
Begin: 1Q 2011
Indicators: Number of active gardens

Action 8.3b: Identify and map available land that may be suitable for locating community gardens, particularly in areas with higher concentrations of multi-family housing.

Possible Partners: NMSU Geography Dept.
Lead section: Sustainability
Support sections: GIS
Begin: 1Q 2013
Indicators: number of suitable parcels, number of resulting gardens

Goal 8.4: Increase the amount of food produced on small private lots within the City.

Action 8.4a: Co-promote events and classes sponsored by the Master Gardener program to increase local knowledge about growing food.

Possible Partners: NMSU Extension Service
Lead section: Sustainability
Begin: 1Q 2011

Indicators: number of events, number of participants

Action 8.4b: Identify and remove zoning and other restrictions on urban agriculture, provided that potential nuisances can be mitigated.

Lead section: Development Services
Support sections: Sustainability, Codes Enforcement
Begin: Ongoing

Summary and Implementation

The preceding goals and action steps outline a diverse set of new and ongoing initiatives that will move the City of Las Cruces forward on a path toward sustainability over the next three years. But they will not get us there entirely, as the ultimate goal of sustainability is a long term one. This plan should be continuously updated as new information comes to light and tasks are completed, and the City's commitment to the plan should be renewed on a regular basis.

To ensure implementation of the plan, an annual reporting process is proposed. The Sustainability Officer will be responsible for compiling information on the progress toward each of the action items and presenting an annual report to City Council at the beginning of each calendar year beginning in 2012. This report will also include recommendations for amendments to the plan, based on experience gained in the previous year. The action items in this plan will also be integrated into the City's overall Strategic Plan and tracked online. This process of continuous and transparent tracking should help ensure that the plan remains a useful and relevant tool to both guide City actions and communicate those actions to the public.