

City of El Paso

# Sustainability Report 2012



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# REPORT CARD SUMMARY

## Grade

### City-Wide Goals

- B Increase sustainability awareness to world-class levels by 2013
- A Embed sustainability into City processes and procedures by 2016
- A Train City staff in sustainability impacts and programs by 2012.

### Air Goals

- A Complete greenhouse gas inventory and establish the 1990 baseline.
- B Develop a plan to reduce greenhouse gas emissions.
- B Reach attainment of federal air quality standards by 2019.
- C Reduce the number of days with poor AQI by 25%.

### Community Goals

- B Increase civic pride by 30% by 2013.
- A Increase participation in sustainability programs by 25% by 2013.
- B Increase understanding of general sustainability principles by 20% by 2013.

### Development & Buildings Goals

- B Become one of the least car dependent cities in the southwest.
- A Establish green building practices as normal business case in El Paso.
- B Achieve international recognition for habitat preservation.
- D Complete a biodiversity inventory by 2011.
- B Identify and prioritize habitat that will be protected by 2012.

### Energy Goals

- B Reduce total City of El Paso energy consumption by 30% by 2014.
- B Implement 20 renewable energy projects by 2015.
- B Move 20% of City energy use to renewable sources by 2020.
- B Move 10% of Community energy use to renewable sources by 2020.
- B Create a clean energy core business sector in El Paso.

### Transportation Goals

- B Maximize fleet efficiency.
- C Become nationally recognized as an innovative leader in efficient fleet Services.

### Waste & Resources Goals

- C Achieve residential waste diversion rate of 25% by 2013.
- B Reduce waste produced by City departments 10% by 2011.
- B Increase environmentally friendly products purchased by 5% by 2011.

### B Overall Grade



*The cover photo highlights the Aztec Pavilion, a solar education project in downtown El Paso. For more details, see pages 16 and 39.*



# City-Wide Goals

We will **increase sustainability awareness** to world-class levels (defined as 80% of top two ratings on a five-point scale) by 2013.

Though a Customer Service Survey to measure this goal was not conducted in 2012, significant efforts to increase awareness continued in 2012.

The 2011 Customer Service Survey results indicated that El Pasoans have a real awareness of sustainability and environmental issues. In summary, the Customer Service Survey indicated that over 90% of survey respondents found

that topics such as saving energy, recycling, improving air quality, and climate change were important to them. Over 77% of the respondents also felt that it was important for the City to be involved in environmental policies that would reduce costs and improve the environment and create energy self-reliance.

In continued support of this goal, City staff conducted extensive educational outreach in 2012 on recycling, energy efficiency, sustainability concepts, gardening, conservation, habitat preservation, solar power potential and livability.



Figure 1: Children crowd around Vector Control's bug display at the City's Earth Day Celebration.

### Green Business Challenge Workshops

A series of workshops were offered for businesses interested in going green. Workshop topics included Sustainable Transportation, Energy Efficiency, Solar, Green Purchasing, Recycling and Waste Reduction, and Water Conservation



Figure 2: Green Business Challenge Logo

### Library Energy Savings Challenge Press Release and Celebrations

Each month, the library that reduced their energy usage the most for that month (comparative to their use last year) was recognized with a plaque and party for their staff. The announcement of the final winners and total energy savings was publicized with a press release.



Figure 3: Irving Schwartz Library won first place in the challenge and was recognized with a decorated cake, a bamboo plaque, and funds to use for library improvements.

### Aztec Pavilion Press Release and Celebration

The City held a well-attended media event to commemorate this beautiful new solar-powered art project, and educate the public about solar energy.

### Electric Vehicle Charging Stations Press Conference

With this press conference, the City informed the public that 32 charging stations for electric vehicles are available for public use. The hope is that electric vehicles are seen as a viable option for commuters in El Paso, which will encourage electric vehicle purchases and help improve our air quality.

### Vista del Valle Community Garden Launch Event and Workshops

Workshops were held at this community garden to encourage the public to start their own garden and to educate them about the challenges and possibilities with personal gardens. Workshop topics include composting, organic gardening, harvesting seeds, and winter gardening.



Figure 4: Representative Cortney Niland recognizes the hard work of the team that designed the Aztec Pavilion.

### Zoo Educational Programs & Events

The Zoo held two events to help promote environmental conservation in their department: Party for the Planet and the Elephant Festival.

### New Urbanism Training and Conference

The City conducted a free in-depth training certification course designed to prepare employees and local professions for new urbanism accreditation

### Social Media Campaigns

Each new sustainability initiative is publicized through the use of social media and the Sustainability Newsletter. *Green Matters*, the Sustainability Newsletter, is electronically sent to over 240 community members. This newsletter is published regularly and is also available in PDF version on our website. *Green Matters* features stories about upcoming events and sustainability programs, and it also highlights the winners of our challenges and other green leaders in our community.

Also, using Facebook and Twitter has greatly increased awareness of sustainability programs. Likes and post-views have increased steadily, with our most popular post having **496 views**. Posts to Facebook and Twitter are made frequently and are used to publicize events, share our newsletter, show pictures from events, and ask community members about their opinion about the Office of Sustainability's programs. The Sustainability Facebook page currently has 56 likes and the Green Business Challenge Facebook page has 108 likes.



Figure 5: *Green Matters*, the Office of Sustainability's regular newsletter.



Figure 6: The most popular posts usually relate to cost-savings at the consumer and city level.

All City processes will employ **Triple Bottom Line (TBL)** concepts by 2016 and 50% of City procedures account for TBL concerns by 2016.



The City has made significant strides towards integrating sustainability into departmental processes and procedures. The text below showcases efforts by individual departments to integrate sustainability into their plans, procedures and projects for 2012.

The **Parks and Recreation Department** opened its first community garden in May 2012. The Vista del Valle Community Garden served two goals, to build a garden within an existing park and to implement a nutrition and garden curriculum within existing afterschool, summer camp, and daycare programs. The garden currently has approximately **70 active gardeners**, and a waiting list of people wanting a garden plot. The garden hosts various workshops and educational events through the year. The Parks and Recreation Department plans to install container gardens at **15 after school program** sites to expand and supplement nutrition/garden lessons and activities. In addition, the department has set a goal for FY2013 to build two more community gardens.

In support of improving sustainable public transportation, **Sun Metro** has completed the design phase for the first two of the four corridors of Sun Metro's "**BRIO**" **Rapid Transit System (RTS)** this year. The RTS will provide riders high-quality transit service with similar benefits of light rail, such as improved



Community Garden – growing friendships and local food

speed and reliability. Sun Metro is constructing a new LEED-Silver Certified Maintenance and Operations facility located on Montana Avenue which will include CNG fueling stations. The para-transit Lift Site on Fred Wilson will also include CNG fueling stations. The station at the Airport will be capable of dispensing CNG fuel to a fleet of 160 buses. Sun Metro **plans to expand the bus fleet up to 200 natural gas busses** within five years. In collaboration with the Texas Department of Transportation (TxDOT), Sun Metro is near completion for the design of the El Paso Streetcar Project, a unique project that aims to:

- Enhance mobility;
- Encourage economic development;
- Foster new urbanism and smart growth; and
- Pay tribute to the historical nature of the downtown district by using a streetcar modeled after the El Paso streetcar from the early 1900s.

The El Paso Streetcar Project will consist of a two-mile, double-tracked corridor, beginning in the area near the Downtown Shopping District and International Bridges, traveling north through downtown to the University of Texas at El Paso area, the Cincinnati Entertainment District and back.

The **El Paso Zoo** leads the City's sustainability efforts by considering environmentally-friendly ethics both with their employees and their visitors. The Zoo implemented an environmental policy known as the **Guided Green Values**. The Zoo adopted these green values for employees to follow during their workday to be energy efficient, conserve water, and minimize waste.

## Zoo's Guided Green Values

- Turn off lights and computer monitors when not in use
- Turn off water when not in use
- Water plants first thing in the morning or at night on timers
- Xeriscape grassy areas where grass is not needed
- Consider serious overhauls of how often we drop moats and or how often certain areas are hosed down/cleaned with water to minimize water waste
- Look at ways to reclaim water in moats for irrigation
- Store electronically rather than print when possible
- Use better energy efficient and lower emission impact lighting and power equipment where appropriate such as compact fluorescent or LED lamps or electric lawnmower and weed trimmer
- Properly dispose of fluorescents and all toxic wastes
- Use rechargeable batteries when possible
- Turn off engines when idling more than 10 seconds
- Walk instead of drive if possible
- Use reusable cups instead of one-time use cups
- Look for a greener way of doing all our activities



Figure 5:  
A solar-powered LED Light illuminates a central area of the Zoo.

The **El Paso Libraries Department** was the first department to participate in the **Energy Savings Challenge**. All twelve libraries competed in a six-month challenge to reduce their energy consumption. The challenge involved identifying ways to conserve energy, such as turning off unnecessary lights and setting computers and monitors to standby when not in use. These simple actions added up to **\$21,000 in savings** for the City. Irving Schwartz Library, the 1st place winner, **reduced their energy an average of 19%** compared to last year and José Cisneros Cielo Vista Library won second place with an 18% reduction.

The **Fire Department** supports the City's sustainability goals through the use of advanced equipment and efficient

“ We were all very surprised that with such little effort we were able to save so much energy. ”

-- Martha Herrera,  
Branch Manager for the  
Irving Schwartz Library

buildings. Fire Station #31 is the second EPFD building to implement the use of a state of the art geothermal heating and cooling system which has increased station comfort while lowering costs. The Fire Department continues to use compressed air foam systems which use 1/3 less water than a normal system, create less contaminated runoff, and allow for lighter equipment.



Figure 6: Library staff and patrons, with Representative Emma Acosta, celebrating their second place win in the Library Energy Challenge.

Plus, the EPFD is currently participating in the **2013 Energy Savings Challenge** which began March 1st. Each station submitted their own energy savings plan, which outlined their strategy to win the challenge. One notable plan mentioned that, “All members have **pledged** to do their part in **honoring** the energy saving plan. All members will **work together** to ensure energy consumption is being reduced.” Monthly energy-reduction winners will be recognized in the Fire Station Newsletter.

The **Municipal Clerk’s Office** began offering video arraignment options in August 2010 at the Mission Valley bond office. In February 2012, the Pebble Hills bond office and the Westside bond office also added the video arraignment capability. Video arraignments allow citizens to handle their citations at a location more convenient to where they live or work instead of having to drive to the Northeast location. **In 2012, 2,649 defendants used the system, reducing the required driving for those residents by over 96,000 miles.** Over 63% of tickets were heard via video arraignment. Since the system’s inception, 6,079 cases have been handled this way which has reduced required driving by residents by over 220,000 miles. This equates to over 102 tons of carbon dioxide emissions that were kept out of our atmosphere, meaning a cleaner and healthier environment. The Municipal Court has not received any complaints from the public about it, and use has been steadily increasing. This system has significantly reduced traffic congestion and has improved air quality while saving time and money.

The **Human Resources Department** has made sustainable procedural changes to

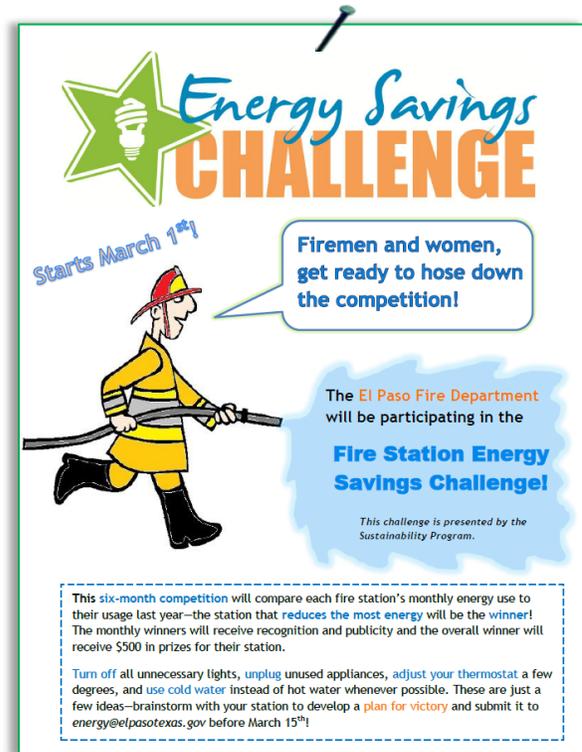


Figure 7: This flyer was given to all thirty-five fire stations to announce the beginning of the Fire Station Energy Savings Challenge.

the way they educate employees in the New Employee Orientation (NEO). Approximately 960 employees attend this course throughout the year, with each employee receiving a packet explaining City policies and benefits. By making **small changes to the format** of the paper handouts, such as **printing**

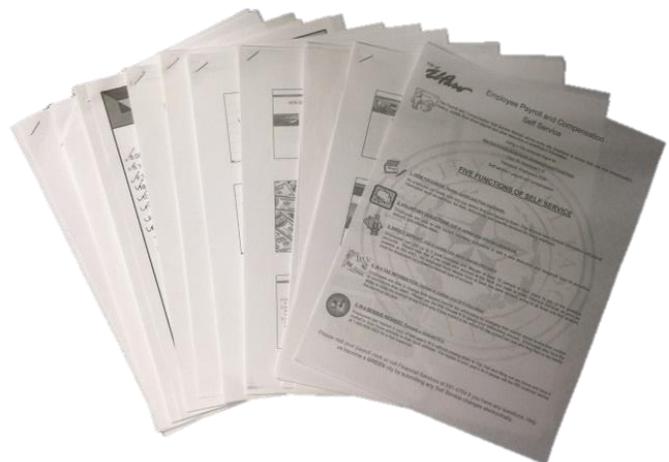




Figure 10: Electronic charging stations were installed around El Paso, including these two stations at the Airport.



Figure 11: Big Bellies placed along Scenic Drive have helped keep the area clean and reduce frequency of trash pick-ups, thereby reducing fuel costs.

**double-sided** and removing the date, these packets can be used over again. The staff has **reduced paper use and time spent making copies** by reusing the hard copies of the NEO educational slides and minimizing the amount of copies printed overall.

The **General Services Department (GSD)** is aggressively pursuing fleet and facility efficiency projects in support of the City’s Sustainability Plan goals. GSD has completed over **\$27 million in energy efficiency retrofits** to City buildings, indoor pools, traffic signals, and street lights in an effort to reduce the City’s energy consumption. As a result, the City saved over \$1.4 million in energy costs for 2012.

The department has also significantly reformed the City’s fleet. GSD added over 70 hybrid vehicles, 29 propane-fueled vans, one all electric vehicle and two natural gas powered trash trucks to the City’s vehicle fleet in the past three years. These alternative vehicles generated almost **\$42,000 in fuel savings** in 2012. The Department also managed the installation of **electric vehicle charging stations** in a city-wide partnership with UTEP, El Paso Community College, Sun Metro, the Housing Authority and the El Paso International Airport.

GSD also installed “Big Belly” **solar-powered trash cans** in City parks and along Scenic Drive to **reduce fuel usage and improve cleanliness**. These trash cans compact trash using solar power, allowing them to **hold five times as much material** as conventional trash cans. In addition, they send an electronic notification to General Services whenever they fill up, drastically reducing the

amount of pick-ups needed, resulting in fuel savings and emissions reductions.

In 2012, GSD added a **Bike Pool fleet** for short trips in the downtown area. Sixteen bikes are located at several different City buildings, including City Hall, Tillman, and Sun Metro. They are used daily and are very popular with staff.

The **Planning and Economic Development Department** continued to provide and conducted a course for City employees, and to local private design professionals to learn the fundamentals of new urbanism and prepare for the Congress of the New Urbanism's accreditation exam. To date, approximately **186 professionals**, including department heads, senior staff, City Representatives, and design professionals, **have passed the CNU accreditation exam**. Of these 186 professionals, 78 are City employees.

The **El Paso International Airport (EPIA)** is the focus of Phase V of the City's energy efficient facility improvements. The improvement measures include four different elements:

- Lighting retrofits and energy controls at all eleven facilities
- The addition of window film to increase shade and provide energy savings
- Central plant and air handling unit upgrades
- The addition of Facility Management Systems at the Terminal Building, to optimize the monitoring and control of energy use

The improvements are expected to result in a reduction in total electric consumption of 34% and a guaranteed

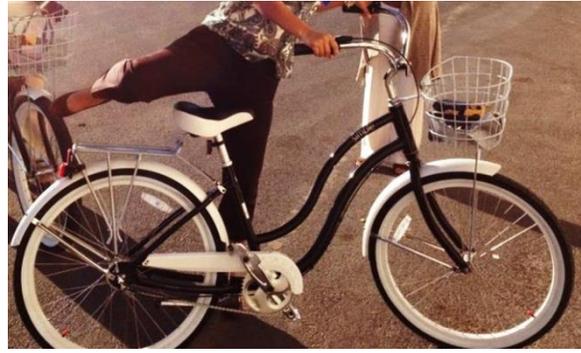


Figure 8: Employees get their bikes ready for a ride across downtown to their favorite lunch place.



Figure 13: Participants at the Congress for the New Urbanism conference listened attentively to presenters.



Figure 9: Solar-powered lights fill the EPIA overflow parking lot.

**savings of at least \$6,400,000 over a 10-year period.**

The EPIA has made many sustainable changes over the years and it has become the standard for Airport management to look for innovative, environmentally-conscious solutions. In addition to the **solar-powered lights** in the parking lots and the solar-powered bus stops, they also installed **solar-powered gates** and signs throughout most of the Airport. They **converted most of their diesel-powered generators**, which use about 13 gallons of fuel a day, to solar power.

To promote the use of reusable water bottles, Airport management decided to **replace their old water fountains** with Halsey Taylor Hyrdoboost water fountains, which keeps a tally that states, “Helped eliminate waste from \_\_\_ disposable plastic bottles.” They quickly fill bottles and are an attractive, fun, interactive way to reduce the amount of disposable plastic bottles people use. Airport management was pleasantly surprised by the high-level of interest in the fountains and the positive impact they are having on reusable water bottle use.

Through a great **repaving initiative** proposed by Airport management for a construction project, waste has been cut dramatically by recycling existing material (base course, concrete, asphalt) and processing it to create new recycled base course. Not only have they cut landfill wastes, but also trucking time, which reduces carbon emissions. Project managers estimated that about **35,000 to 40,000 tons of material were saved** from disposal in the landfill.

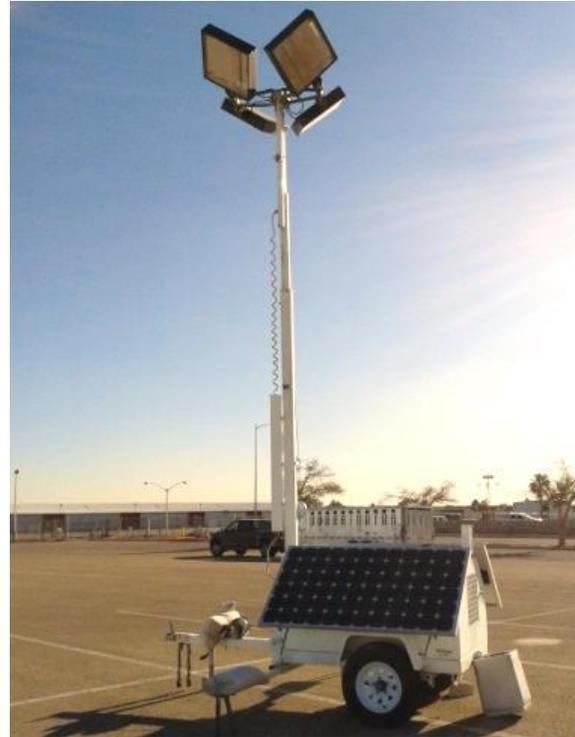


Figure 15: El Paso International Airport converted their generators from diesel to solar and now save about 13 gallons of fuel per generator per day.



Figure 16: Employees enjoy the cold, quick water dispenser that tracks how many plastic bottles are saved.

The **El Paso Museums and Cultural Affairs Department** completed the City's first Renewable Energy Education Art Project in September which acts as a "gateway" to the Downtown Arts District. Named the Aztec Pavilion, it is a permanent installation commissioned by the City of El Paso, Texas in September of 2012 which dually serves as a functional and aesthetically pleasing public and performance space, and a **renewable-energy education tool** for the community. A diagonal street cut through the area where the Pavilion now sits. As a newly-created green space, the Pavilion features sidewalks, native plants, and a solar-powered public art piece. The domed-shaped public art piece is made of a combination of COR-TON steel

(weathering steel), concrete, solar panels, and crystal prisms, which showcase an intricately-cut steel ceiling that provides shade and pays homage to a local historic Aztec calendar. Nine custom clad solar panels rim the outside of the ceiling,



Figure 17: The view looking up at the Aztec Pavilion.



Figure 18: The Aztec Pavilion is an educational public art piece that provides a new greenspace and free energy for the public.

powering the 110V AC outlets and the irrigation system, and providing nighttime illumination. These **four solar-powered outlets are free for the public** to use to charge electronic devices. Additionally, the pavilion feeds unused solar energy back into the City's power grid and displays these metrics to the public. Nearby are two educational signs describing the flow of energy through the pavilion and providing a brief overview of how solar power works. Overall, the Aztec Pavilion is not only a gateway to the Downtown Arts District, but also a gateway to more public solar energy installations in El Paso.

The **Environmental Services Department** purchased their second CNG trash truck and is working with the Engineering Department to **build a CNG fueling station** at the Municipal Service Center on Lafayette. In an effort to divert more material from the landfill, ESD started grinding brush waste at the landfill and **offers mulch for free** at all Citizen Collection Stations. The Department is also working on a partnership for their **compost project**. Environmental Services plans to **replace seven diesel-powered trucks** a year with natural gas powered vehicles (for a total of 21 vehicles after three years).

Additionally, ESD partnered with local waste hauler, El Paso Disposal, in a Waste Exchange agreement in April 2012. This allows the City trucks to dispose of up to 15,000 tons of waste from west and central routes at the Camino Real Landfill, which is much closer than the Greater El Paso Municipal Landfill to those particular areas. In return, El Paso Disposal can dispose of up to 15,000 tons at the El Paso Municipal Landfill from the routes they serve on the eastside. This



Figure 19: Environmental Services utilize their new Compressed Natural Gas trucks.



Figure 20: Free mulch is offered to residential customers.

saves both time and fuel and reduces the greenhouse gas emissions from traveling the extra distance for both the City and El Paso Disposal.

The City of El Paso is expected to benefit from this agreement by reducing the vehicle miles traveled by over 400,000 miles. This translates to a **savings of over \$1.1 million** in fuel and maintenance costs for the year.

All City workforce will be trained in sustainability impacts and programs by 2012.

The City is progressing towards accomplishing this goal. Specifically, in 2012 the City **trained an additional 960 City employees on the City's Sustainability Plan**, conservation efforts and programs and goals. To date over 2,500 employees have been trained as part of the City's new employee orientation program.

A smart growth, new urbanism training course was created to ensure that City staff are aligned with City Council's goals to transform El Paso into a more livable community. To date, approximately 78 employees, including department heads and senior staff, have completed the course, and prepared for and passed the Congress of the New Urbanism accreditation exam.

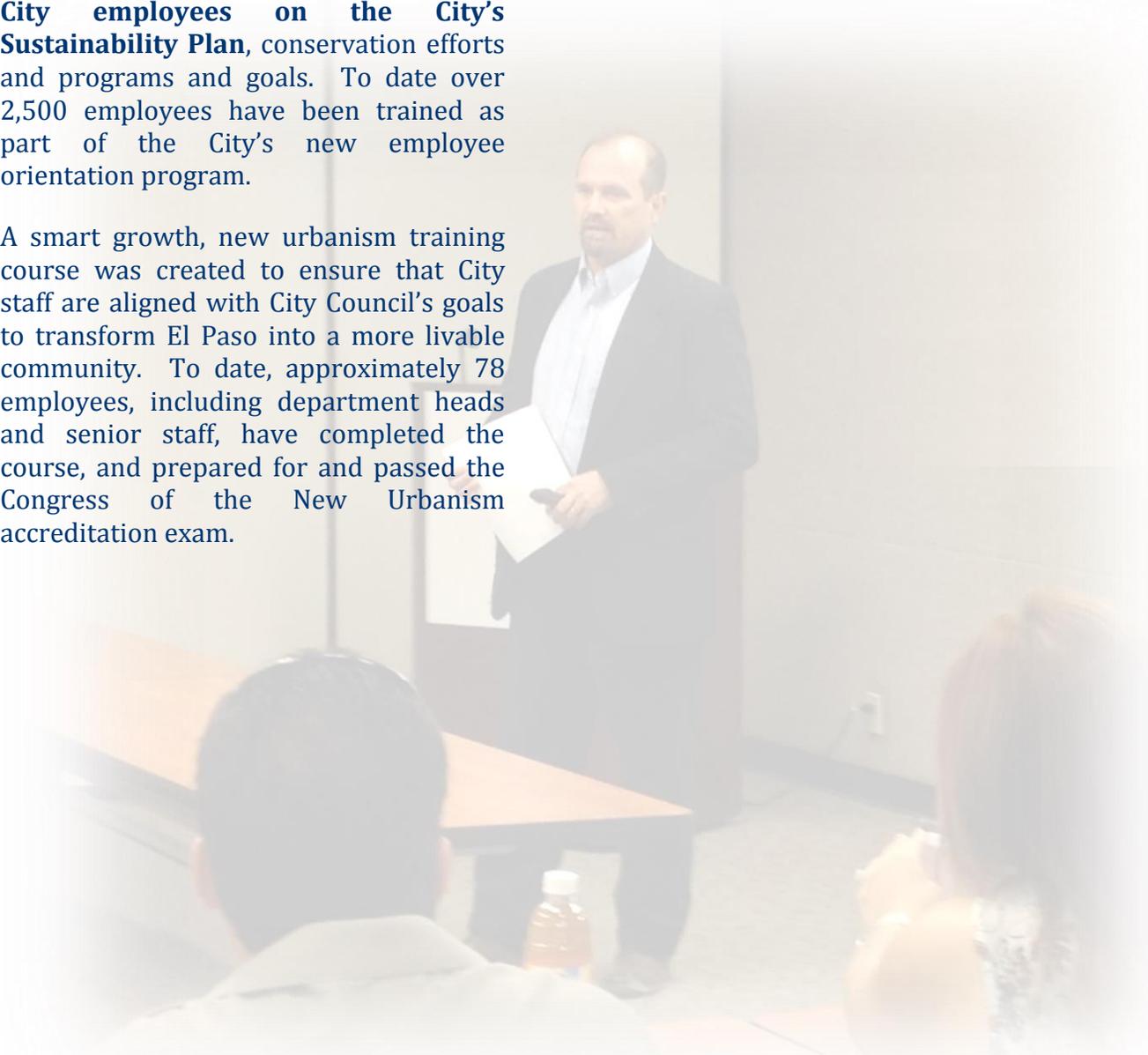


Figure 21: Director of Economic Development and Sustainability, Marty Howell, teaches new employees about the Triple Bottom Line.

# Air Quality Goals



Complete **greenhouse gas inventory** and establish the 1990 baseline for the entire City by 2011.

The City's Carbon Footprint Report was completed in 2011 using activities from 2009 as the baseline, or beginning measurement. The City will be updating the inventory with 2013 data to assess the impacts of the City's recent energy efficiency and recycling efforts.

The City is also collecting data for use in compiling a community-wide inventory that would reflect emissions from activities throughout the region.

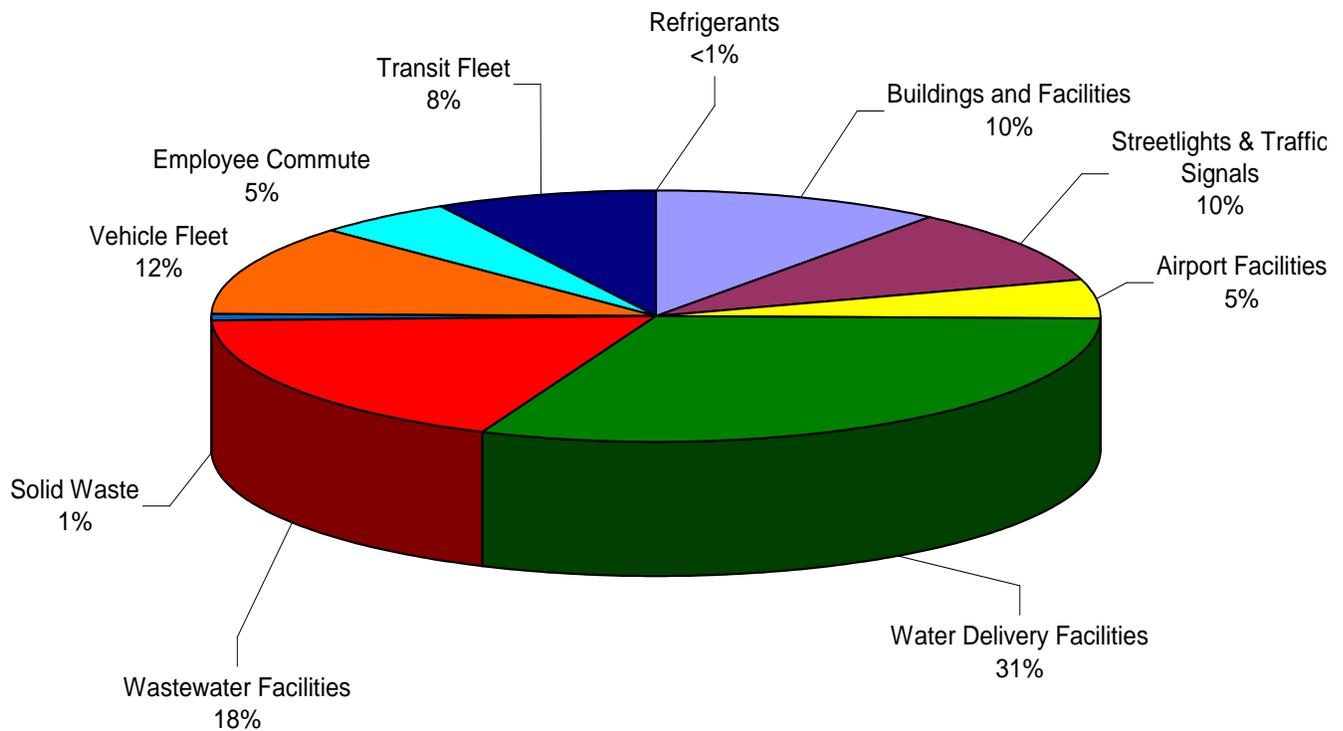


Figure 22: City of El Paso Greenhouse Gas Emissions.

Develop a plan to **reduce greenhouse gas emissions** to meet Kyoto protocol guidelines by 2011.

While the City has not adopted a formal, strategic climate action plan, the City is engaged in a diverse set of programs and projects to both reduce carbon emissions and mitigate the impacts of changing climate.

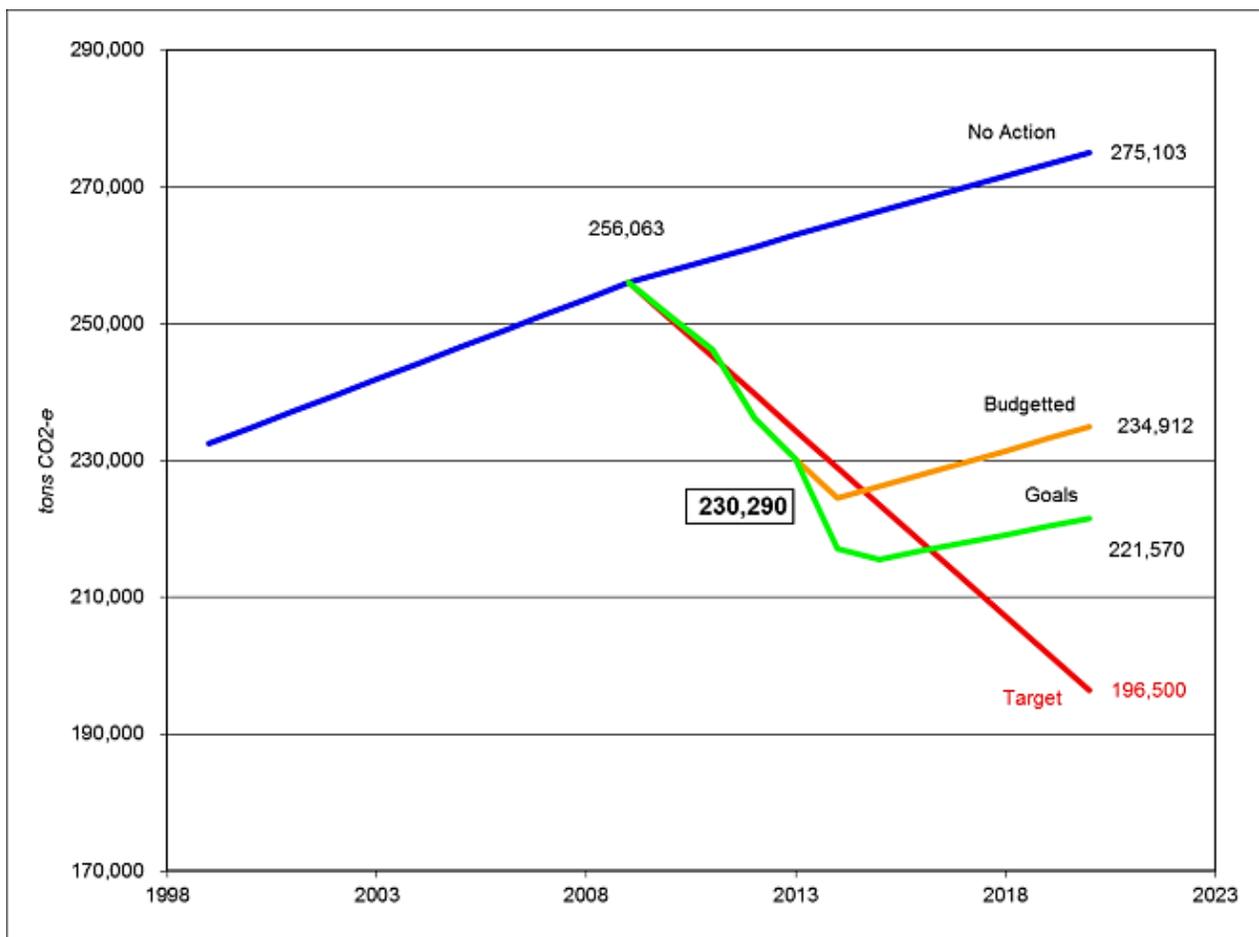


Figure 23: City of El Paso's Draft Climate Action Plan.

Some of these actions to help mitigate climate change include:

- Energy efficiency retrofit program
- Energy conservation awareness campaign
- Widespread rapid transit improvements
- Bike share and pedestrian friendly infrastructure improvements
- Methane capture and reuse systems at the landfill and wastewater plants
- Extensive water conservation and water reuse program in response to reduced rainfall
- Adoption and implementation of a stormwater master plan in response to more intense storm events
- Implementation of a severe weather task force to provide more resiliency for elderly and marginalized communities during severe cold or hot weather events

Figure 23 is an illustration of the City's updated draft Climate Action Plan. The draft plan shows that current City efforts are an excellent start towards meeting the City's carbon reduction goals, but those efforts will need to be sustained over the long term for enduring success.

Reach attainment of federal air quality standards by 2019.

El Paso continues to remain in compliance with federal air quality standards with the exception of PM-10. Portions of the City are designated as a “moderate” nonattainment area for PM-10. Recent modeling studies show that El Paso could meet the NAAQS if not for its proximity to Ciudad Juárez. In order to help reach this air quality goal, the Sustainability Program has advocated for alternative transportation options in efforts to reduce emissions from vehicle miles traveled (VMT).

To promote carpooling in El Paso, the City launched the **iCarpool** web link in December 2012. The iCarpool system allows users to input their travel destinations into an online database. The database will matches riders on a percentage based on similar commutes. Users are also able to customize specific days and times for the program to allow for flexible coordination of rides. iCarpool’s real-time ridesharing tools are also available on desktop computers and even on smartphones, such as the iPhone and Android. Ultimately, this system helps to reduce single occupancy trips. If a person who commutes 20 miles one way would carpool just one day a week they **can save over \$300 in fuel savings** and 1,000

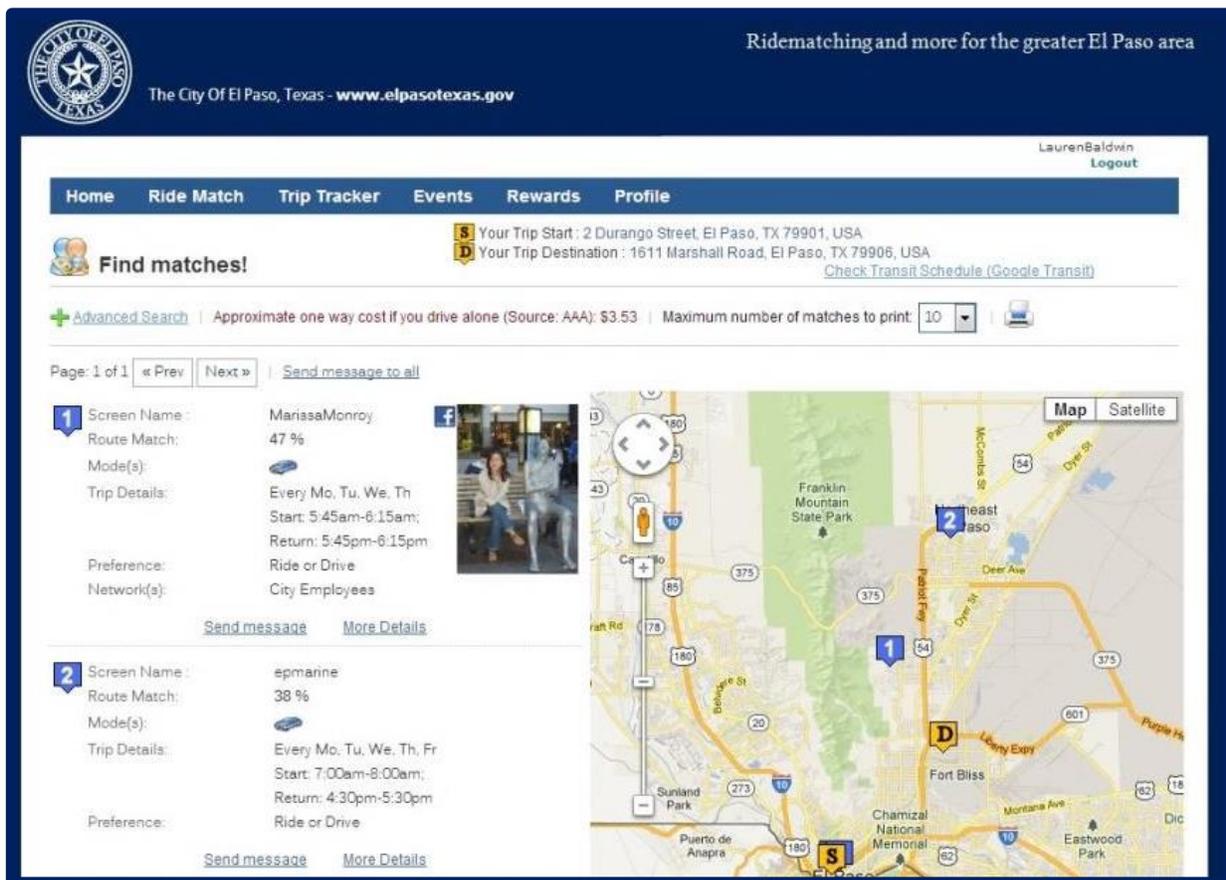


Figure 10: This screenshot from elpaso.icarpool.com shows how the online program matches users using a percentage of their route match.

pounds of carbon dioxide emissions per year.

The Sustainability Program is also working closely with the Metropolitan Planning Organization (MPO) to establish a **bike share system** in El Paso. The MPO Board recently approved \$1.5 million dollars for a bike share system and bike infrastructure improvements. This system will allow commuters to integrate another public transportation system and reduce VMT and emissions from vehicles.

In January 2012, the City and State of Texas adopted a revised PM10 control plan **requiring controls for streets and alleys**. The revised agreement removed the requirement for the City to pave alleys at the rate of 15 miles per year and added the several new requirements. As a result, the El Paso Department of Transportation paved 39 alleys in year 2012. The following requirements were added PM10 control plan:

- All new alleys shall be paved
- Unpaved alleys may not be used for residential garbage and recycling collection
- Reclaimed asphalt pavement (RAP) may be used as an alternate means of dust control for alleys
- City streets will be swept three times per year in the city limits and from six times per week to four times per week in the Central Business District.

These extra dust control requirements were added because the EPA is considering lowering the standard for ozone. If the EPA lowers the ozone standard, El Paso will also be out of compliance for ozone.

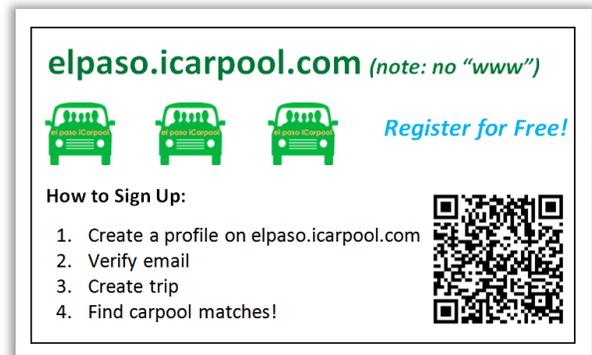


Figure 25: These cards were handed out at an iCarpool promotional event. The QR code links to the iCarpool fact sheet.



Figure 26: Users learned about iCarpool and signed up online using iPads and laptops at an outdoor promotional event.



Figure 27: One of the newly-paved alleys.

Reduce the number of days with **poor AQI** by 25%.

The specific pollutants included in the index are:

- Ozone,
- Fine particulate matter (PM10 and PM2.5),
- Nitrogen dioxide (NO2),
- Carbon monoxide (CO),
- Sulphur dioxide (SO2) and
- Total reduced sulphur compounds.

El Paso experienced 14 days with an Air Quality Index (AQI) that was rated as “Unhealthy for Sensitive Groups” or worse. Figure 28 shows the trend in local air quality over the past six years.

AQI is a blended indicator of air quality, based on air pollutants that have adverse effects on human health and the environment.

Figure 29 details the air quality measurements in El Paso for 2012.

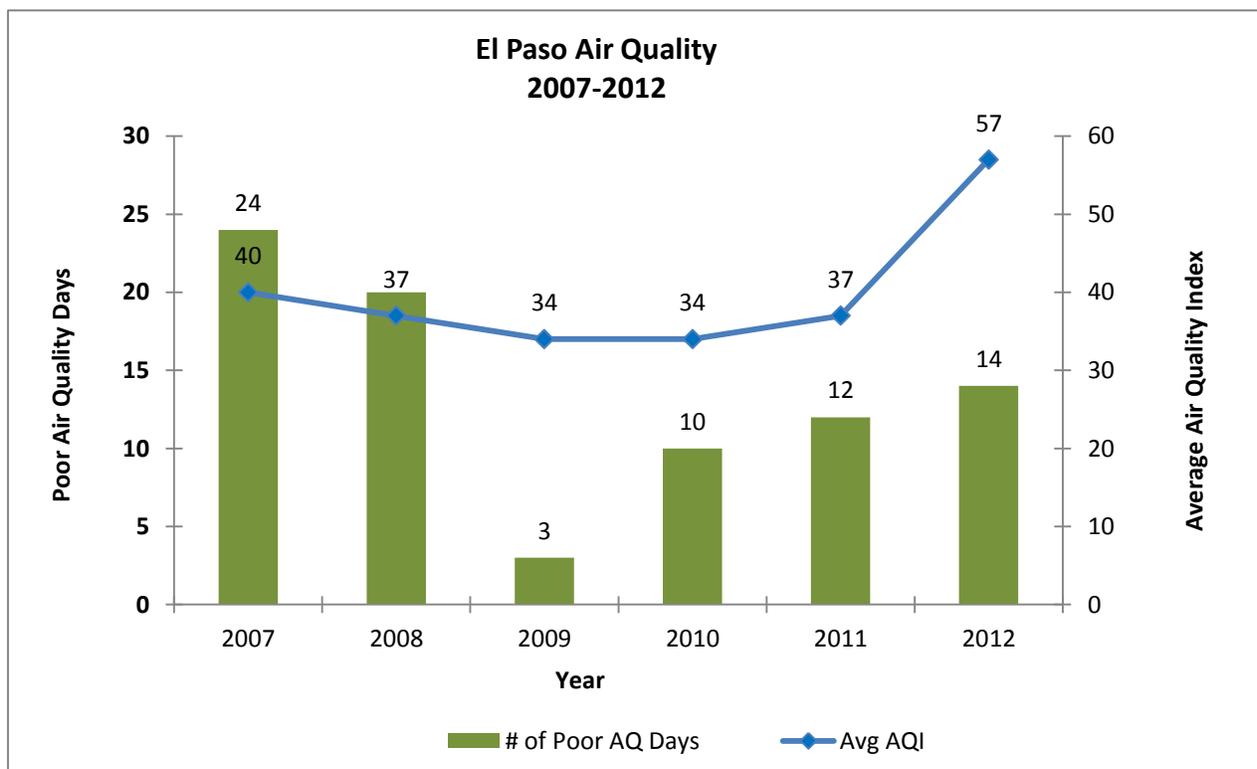
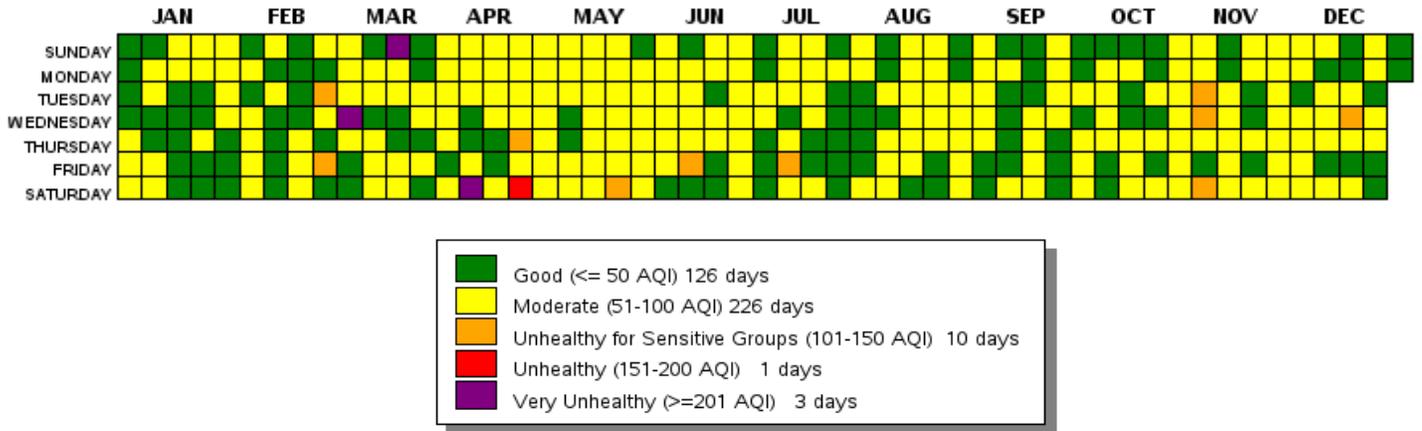


Figure 28: El Paso Air Quality measurements from 2005 – 2012.

Figure 29: Daily El Paso Air Quality Values in 2012. Fourteen days were rated as “Unhealthy for Sensitive Groups” or worse. These are caused by negative changes in air quality resulting from congestion, industry, and dust particles in the air. To minimize these “unhealthy” air quality days, dust controls are required for street and construction operations and alternative transportation options are encouraged.



Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>  
 Generated: April 23, 2013





# Community Goals

**Civic pride** will increase by 30% above baseline levels by 2013.

A Customer Service Citizen Survey was not conducted in 2012, but it is planned for 2013 and results will be reported in next year's Annual Report.

In November 2012, the community approved \$485 million in Quality of Life Bonds with over 70% of the vote. Specific projects will include more parks, recreation, open space, zoo improvements, and museum, cultural, performing arts, and library facilities. The overwhelming support for the Quality of Life Bonds is significant in terms of community involvement and pride.



Figure 30: Elementary school students proudly displayed their crafts made out of recyclable materials at the Recyclable Arts Night at Coldwell Elementary School.

Participation in **sustainability outreach programs** will increase by 25% above baseline levels by 2013.



Over 38,000 El Pasoans, over 450% more than 2011, participated in sustainability related events since April 2012. Some of the larger events included:

- Green Business Challenge Kick-off and Workshops
- Party for the Planet at the El Paso Zoo
- Earth Day event in the Union Plaza District
- Re-Energize the Americas Conference
- Chalk the Block
- Environmental Summit
- Aztec Pavilion Dedication
- Congress for New Urbanism Workshop

**Green Business Challenge Website Statistics**

The El Paso Green Business Challenge website, which was created in April 2012, is growing faster than expected. Presently we have 42 companies utilizing our scorecard service and custom reporting tool, and we anticipate further growth in the coming year.

Our website ([elpasogbc.org](http://elpasogbc.org)) has generated increased activity in the past few months, based on the increased number of unique visitors, which started at 20 in April 2012, to upwards of 400 in April 2013.



Figure 31: Local high school students and Earth Day staff with the winning design for the Earth Day Mural Contest.

Additionally, total page views have increased dramatically. Total number of views per month has steadily increased from 1,283 monthly views in April 2012, to well over 5,000 views per month, as of April 2013.

The increased page views and traffic generated to both our website was based on increased interest, and activity in the social media, live trainings, and media updates via online news sources, such as El Paso Times, Twitter, and Facebook as well as the most up to date statistical data provided by Google and other online resources, we are anticipating an even greater growth period over the next year, and well beyond.

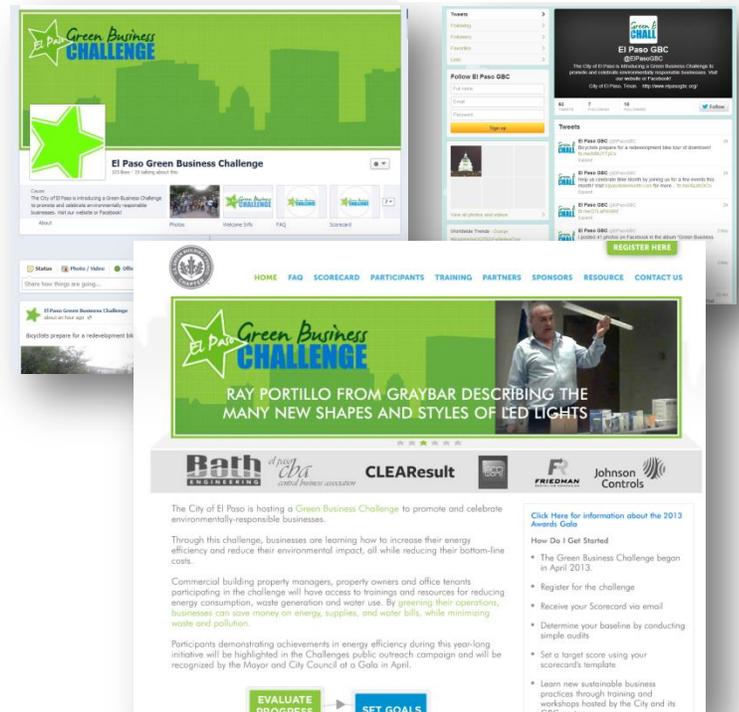


Figure 32: Community members proudly show off their garden plot in the Vista del Valle Community Garden.

**Understanding of general sustainability principles** will increase by 20% above baseline levels by 2013

A Customer Service Citizen Survey was not conducted in 2012, but is planned for 2013 and will be reported on next year's Annual Report. The baseline for this goal was collected with questions included in the 2011 Customer Service Citizen Survey. The 2011 survey indicated that El

Pasoans place significant weight on environmental topics and many residents would like more information on topics such as saving energy, recycling, improving air quality, and climate change was important to them.



Figure 33: Participants listen closely to Robert's Permaculture Demonstration. The Permaculture Club of El Paso is promoting gardening practices that conserve water, which is so important in our arid climate.



# Development & Buildings Goals

Become one of the least car dependent cities in the U.S. by promoting smart growth and integrated user-friendly transit systems

El Paso is aggressively pursuing all forms of alternative transportation options to reduce car dependencies. Topics range from increased and enhanced bus service, street cars, a free downtown circulator, ridesharing and bike sharing, and to increase the availability of bike and hike paths.

The City is working on the following specific initiatives in pursuit of this goal:

- The implementation of four Rapid Transit System corridors. The first to be completed is the Alameda corridor in late 2013 with Mesa corridor to follow in 2014. The Dyer and Montana corridor is scheduled for 2015 and 2016, respectively.
- The Planning of the El Paso Streetcar Project that will be a 2-miles corridor, beginning at the International Bridges and traveling through and around downtown to the University of Texas at El Paso (UTEP) area, the Cincinnati Entertainment District and back.
- The Bike Share Program is a regional project in partnership with the City of El Paso, Metropolitan Planning Organization, and UTEP aimed at providing more commuter travel options with purchase of approximately 20-25 bicycle stations

and 180-200 bicycles. The program will encompass the Westside, Downtown, Central, and Eastside Transit Terminals to include the UTEP campus and the greater Downtown area.

- iCarpool is a free online ridesharing program that provides high precision ride matching based on percentage of route in common, times of travel, and preferences such as non-smoking and is available to anyone in the region. Ridesharing reduces emissions from vehicles, reduces emissions from vehicles, and vehicle fuel cost.

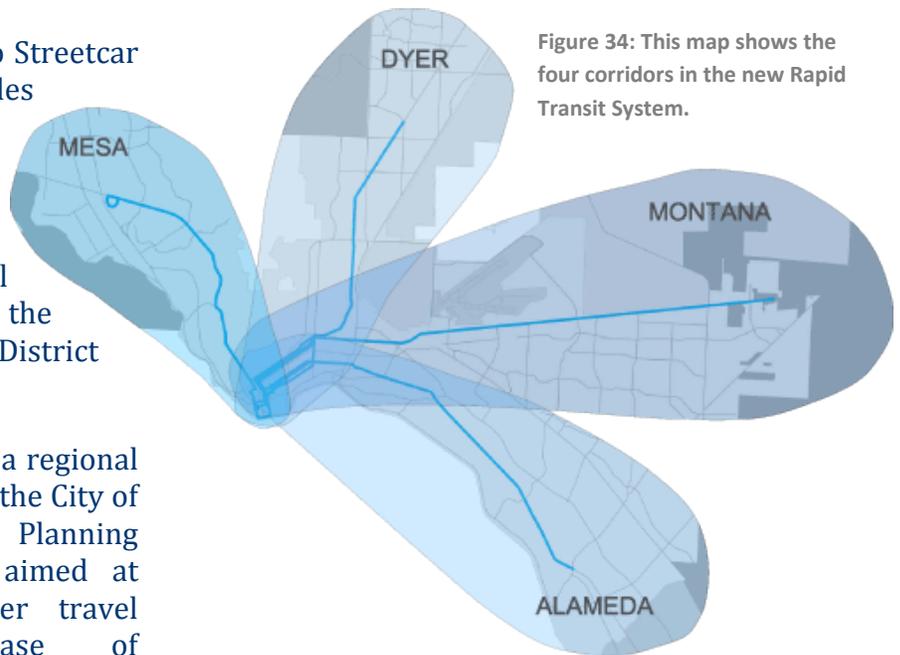


Figure 34: This map shows the four corridors in the new Rapid Transit System.

Establish green building practices as normal business case in El Paso.



The City and local green building stakeholders have made serious inroads towards realizing this vision. In 2012, 1072 Energy Star certified homes were built in El Paso. According to the Energy Star website, the Energy Star homes built in El Paso in 2012 are the equivalent of eliminating emissions from 525 vehicles, planting 868 acres of trees, and saves the environment over 6,231,536 pounds of CO<sub>2</sub>.

Currently, 12 local building projects have received certification from the USGBC or Green Globes. Another 88 local construction projects are pursuing various “green” certifications. Fort Bliss accounts for the majority of those buildings (60). The City of El Paso received the Gold Certification in Leadership in Energy and Environmental Design (LEED) for the José Cisneros Cielo Vista Library and the Glory Road Transfer Center. There are seven other City projects in different phases of construction that are being built to LEED standards and expect certification. The City is currently near completion of the design for a state of the art LEED-Certified baseball stadium.

In 2012, the City completed construction of Fire Station #31, which included enhanced energy performance and utilized regional recycled materials and resources including concrete, steel, carpet, ceramic tile, countertops and insulation. The library design will utilize 35% less energy than a typical building built to meet minimum code requirements.

The City joined the Better Building’s Challenge in 2012 and has committed to reducing 2.5 million square feet of the City’s building portfolio’s energy use by 2020 from 2009 baseline. The goal of the Better Buildings Challenge is to improve the efficiency of American commercial and institutional buildings and industrial plants by 20 percent or more by 2020. More than 110 organizations have committed to the Better Buildings Challenge, including building owners, manufacturing firms, municipalities, financial institutions, and utilities, working collaboratively to create and share implementation models that can help the marketplace move more quickly to adopt energy efficiency measures. Partners represent almost two billion square feet of commercial and industrial real estate and are leaders in the healthcare, hospitality, retail, commercial real estate, public and manufacturing sectors.



Figure 35: The José Cisneros Cielo Vista Library is LEED Gold Certified and features daylight sensors, motion sensors, and a beautiful check-in countertop made of recycled denim and other recycled products.

Achieve international recognition for successful preservation of our Chihuahuan desert natural heritage for all time

The Zoo is a founding member of the Chihuahuan Desert Education Coalition, a non-profit organization focused on serving as a resource on information about the Chihuahuan Desert, encouraging life long learning about the Chihuahuan Desert and collaborating efforts among public educators, the public and CDEC to enhance conservation and education of the Chihuahuan Desert.

The Zoo is involved in supporting conservation efforts to protect the Castner Range in the Franklin Mountains by participating in the planning and presentation of the annual Poppies Celebration. The Zoo is also involved in supporting conservation efforts to increase awareness of the resources protected at Franklin Mountains State Park by helping to plan and present activities and programs at the annual Chihuahuan Desert Fiesta.

In 2012 the Zoo helped to launch two new conservation initiatives as part of a Think Tank Project sponsored by the City Manager in 2011. One project called “Healthy Families Live Outside the Box” is designed to encourage backyard habitats in El Paso using native desert plants. Another project called “El Paso County Conservation Cooperative” is designed to help protect wildlife corridors in the region using undeveloped natural open space as part of the America’s Great Outdoors program

initiated by the Obama Administration in 2010 (<http://americasgreatoutdoors.gov/>).

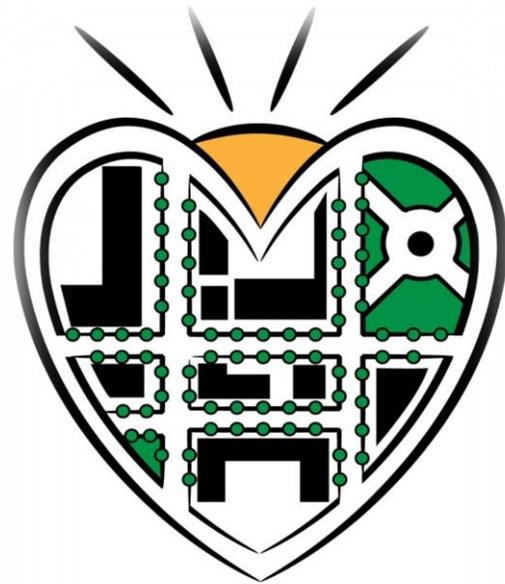
El Paso Water Utilities completed improvements to the Basin G, Featherlake II Basin, and the RV Channel Spillway that preserve the habitat and promote desert sustainability.

## Complete a biodiversity inventory by 2011.

While a biodiversity inventory has not yet begun, Plan El Paso included the following language in the Sustainability element goals and policies:



*The City should produce or commission a plan for biological corridors and habitat that identifies existing habitats and corridors and candidate sites and routes for restoration. The plan should acknowledge that the ecosystems that constitute the Chihuahuan Desert, wildlife corridors, and migration routes are independent of political boundaries such as state and county lines or the national border with Mexico.*



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PLAN EL PASO.  
PLAN THE FUTURE. NOW.

[www.planelpaso.org](http://www.planelpaso.org)

Identify and prioritize habitat that will be protected by 2012.

The El Paso Zoo Conservation Committee has been working with Zoo staff and the El Paso Zoological Society in raising the bar in helping the Zoo reach a higher level in its overall conservation efforts. Support of In-situ research and conservation efforts has increased dramatically over the past four years. In partnership with the El Paso Zoological Society, over \$35,000 was provided for conservation program support and research, locally and globally. These funds helped endangered Asian elephants in Sumatra, Great Apes in Africa and Asia, endangered bolson tortoises, jaguars, and black-footed ferrets in N. America. Training programs that provide field experiences, programs that aid in the transfer of relevant technology for use in the field.

1. Zoo staff has been involved in monitoring black footed ferrets released at Jornada Grasslands in Chihuahua, Mexico.
2. Zoo staff has been involved in building artificial nests for burrowing owls.
3. The Zoo sent an Education Specialist to a Palm Oil Conference in Indonesia in 2011. The Specialist also visited a Sumatran orangutan conservation area.
4. The Education Team has taken field trips to study the ecology of Franklin Mountains State Park, Bosque Del Apache National Wildlife Refuge and Guadalupe Mountains National Park.



Figure 36: The Desert Borderlands Project is a collaborative approach to study and research the jaguar and help conserve its natural habitat.

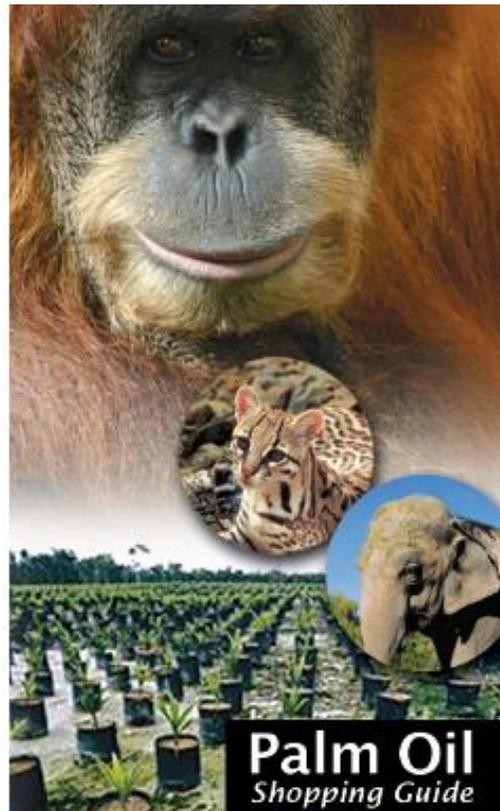


Figure 37: The Palm Oil Shopping Guide helps inform people of the destruction of wildlife habitat due to the growing demand for palm oil and the development of palm oil plantations.



# Energy Goals

**Reduce total City of El Paso energy consumption by 30% by 2014**

The City is making excellent progress towards accomplishing this goal.

Figure 38 illustrates the City’s energy use over the past five years. In fiscal year 2012, the City used 23% less energy than fiscal year 2008. This reduction was a result of City department energy challenges, educational campaigns, and energy efficiency upgrades in City buildings.

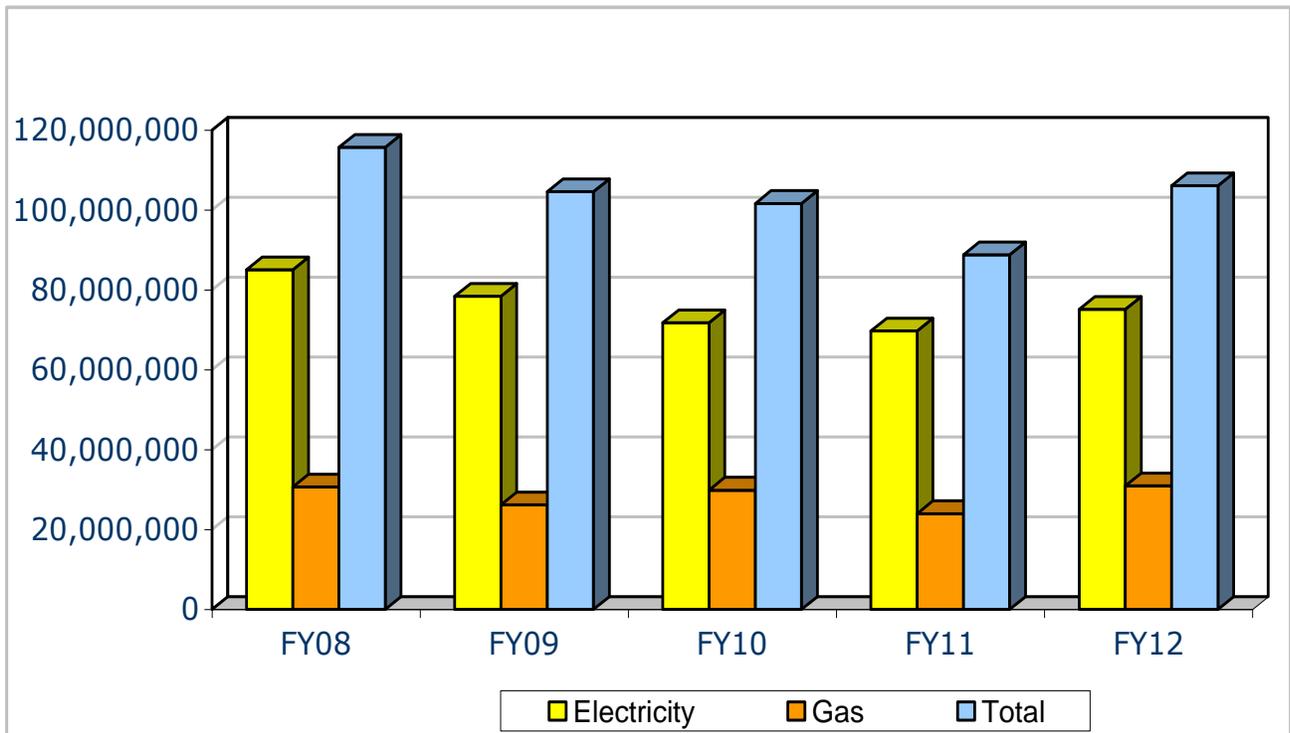


Figure 38: City Energy Use

## Implement 20 renewable energy projects by 2015

The City is steadily progressing towards this goal. The City currently has twelve renewable energy systems operating.

The Aztec Pavilion is the City's first Educational Artistic renewable energy project that was commissioned in September of 2012 which dually serves as a functional and aesthetically pleasing public and performance space, and a renewable-energy education tool for the community.

As a newly-created green space, the Pavilion features sidewalks, native plants, and a solar-powered public art piece. The domed-shaped public art piece, made of a combination of COR-TEN steel, concrete, solar panels, and crystal prisms, showcases an intricately-cut steel ceiling that provides shade and pays homage to the original Aztec calendar. Nine custom clad solar panels rim the outside of the ceiling, powering the 110V AC outlets and the irrigation system, and providing nighttime illumination. These four solar-powered outlets are free for the public to use to charge electronic devices.

Additionally, the pavilion feeds unused solar energy back into the City's power grid and displays these metrics to the public. Nearby are two educational signs describing the flow of energy through the pavilion and providing a brief overview of how solar power works.



Figure 39: The Aztec Pavilion sits in the middle of a newly-created greenspace filled with benches and native plants.



Figure 40: These two educational signs were placed in front of the Aztec Pavilion to provide the public with information about who solar power works and how electricity is generated at the Aztec Pavilion.



Figure 41: This shows a close-up of one of the educational signs at the Aztec Pavilion.

The City completed installation of the following three renewable energy projects in 2011:

- 20-kilowatt solar photovoltaic power system on Main Library
- 20-kilowatt solar photovoltaic power system on the Animal Shelter
- 167-kilowatt solar photovoltaic power system on the Municipal Service Center (pictured here)

The City completed installation of the following eight renewable energy systems in 2009 and 2010:

- Seven solar hot water systems for indoor pools
- Kalahari Research Station demonstration solar and wind project at the El Paso Zoo

El Paso Water Utilities started up three wastewater biogas recovery systems in 2012. The Gas Recovery Systems will save more than 227 million kilowatt hours of energy in 20 years by capturing and using gas from biosolids at three wastewater treatment plants. The new systems take biogas from existing digesters, remove pollutants, and reuse the gas to generate electricity and heat for the plants. More than \$20 million in energy savings are projected over 20 years.

The Environmental Services Department completed installing a landfill gas recovery system at the Greater El Paso Landfill and is evaluating the potential for producing power.



Figure 42: Attendees tour the biogas recovery system.



Figure 43: EPWU announces the start-up of the biogas recovery system.

**20% of City energy use will be renewable by 2020**

Approximately 5% of the City's energy use in 2012 was produced from renewable sources due to the City's new solar and biogas systems that were recently completed. The City has plans to complete projects in the next three to five years that could increase this to 13%.

The City is aggressively pursuing alternative funding mechanisms for future renewable energy projects to meet this goal.



## 10% of community energy use will be renewable by 2020

While less than 1% of the community's energy supply is currently derived from renewable sources, there are both short and long-term plans in place that could accomplish this goal. In the near term, El Paso Electric has signed a 20-year agreement to buy power from the Macho Springs plant.

In the state of New Mexico there are four major solar projects providing power to El Paso Electric. These four solar projects provide 48.8 megawatts of solar power.

The Army is pursuing multiple projects to meet Fort Bliss' Net Zero Goal. The plans would require in-depth collaboration for success and include a 140-megawatt waste-to-energy facility, a 3-5-megawatt geothermal power project, a 50-megawatt wind project and over 5-megawatts in distributed rooftop solar projects. In addition, Fort Bliss has plans to bring on a 20-megawatt solar project later this year.

The City is also supporting state-wide legislation that would provide a mechanism for El Paso Electric to meet its renewable energy goals from local sources.



Figure 44: Solar panels are slowly being added to the roofs of Fort Bliss houses to help this Army base reach its Net Zero Goal.



## Clean energy will become a core business sector in El Paso through the aggressive use of partnerships and incentives

The City currently has approximately 15 clean energy, or clean technology companies that employ approximately 70 employees.

SunEdison recently announced a partnership with Foxconn Technology Group, where Foxconn will manufacture solar panels for SunEdison, the second largest solar developer in the world, in their local facility. This facility should act as the hub for a clean energy sector in our region.

Utilizing a portion of the franchise fees collected by El Paso Electric, the City provided start-up funding for the “Hub of Human Innovation” (the “Hub”) (<http://hubofhumaninnovation.org/>) and the Regional Cyber and Energy Security Center (RCES).

The “Hub” and UTEP’s Center for Research Entrepreneurship & Innovation Enterprise are helping 23 separate clean technology companies grow in El Paso.

The Regional Cyber and Energy Security Center (RCES) at the University of Texas at El Paso, funded by the City of El Paso completed its 1st year successfully. The Center has hired 12 people, wrote 11 proposals, and won three awards. The RCES mission statement is as follows:

- Establish the RCES Center as the worldwide authority for the research and development of innovative capabilities in cyber, cyber-physical, and energy security, as well as in modeling and simulation of secure energy networks. To successfully fulfill our mission, we adhere to three guiding principles:
  - Develop partnerships with industry, government, and academia that create opportunities for the deployment and broad-scale commercialization of those processes and solutions
  - Deliver economic benefits (including job creation, IP licensing, and widespread recognition) locally, across the Paso del Norte region, and worldwide, particularly in Latin and South America
  - Create curriculum and provide instruction to create an increased awareness of cyber, cyber-physical, and energy security throughout the utility, vendor, government, regulatory, academic, and media sectors



# Transportation Goals

Maximize fleet efficiency by adopting a **Green Fleet Policy** by 2011 and implement the major elements of the policy by 2015

The City is making excellent strides towards accomplishing this goal. The General Services Department has continued to implement their policy to purchase hybrid or alternative-fueled vehicles whenever those options are available. This transition to alternative fuel vehicles has resulted in a cost savings for fuel of over \$41,770 for 2012.

In addition, General Services analyzed vehicle usage and vehicle types for all jobs and has implemented a “Right Sizing Policy.” As vehicles are being decommissioned and replaced they are assessed for maximum efficiency.

The City fleet includes the following efficient vehicles:

- 72 hybrid vehicles
- 25 propane-fueled vans
- 2 natural gas-fueled trash truck
- 1 electric vehicle

In 2012, thirty-two electric vehicle charging stations were commissioned as part of a city-wide partnership with UTEP, El Paso Community College, Sun Metro, the Housing Authority and the El Paso International Airport. This effort led to UTEP adding an additional 10 electric vehicle charging stations.



Figure 45: This is one of the electric charging stations that were installed across El Paso.

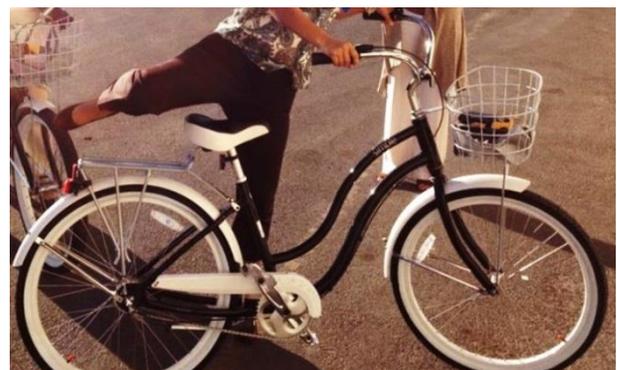


Figure 46: City employees enjoy using the bikes in the Bike Pool to ride to and from lunch and to meetings across downtown.

The Fleet division added 16 bikes to the fleet, known as the Bike Pool. The bikes are available to City staff to take shorter trips in around the downtown area. The bikes are located in four locations, including the new City Hall and Tillman.

The General Services Department is also working on multiple policies to make vehicle use more efficient including an anti-idling policy and green fleet procurement plan. In 2013, the Defensive Driving course given to all employees will be adding training that will cover the new policies on how they can maximize fuel efficiency in their everyday use.



Figure 47: Bike lockers hold four bikes for City employees to use at the New City Hall.



Figure 48: The City's one electric vehicle, the Leaf.

Become nationally recognized as an innovative leader in **efficient fleet services** by 2015.

The General Services Department is diligently working on achieving this goal and hopes to apply for more awards in the coming year.

The Department is working on a multi-faceted plan to maximize vehicle efficiency, reduce idling, and train City staff. These

efforts are combined with the expansion of the repair services provided and the implementation of a Fuel Management System. Plus the repair facility has continued to receive the ASE Blue Seal of Excellence given by the National Institute of Automotive Service Excellence.

The General Services Department has the potential for additional national recognition as a leader in efficient fleet services, as a result of all of these combined improvements.



Figure 49: This compressed natural gas garbage truck is just one of the many hybrid vehicles in the City's fleet.



# Waste & Resources Goals

Achieve **residential waste diversion rate of 25%** by 2013 to become a leader among Texas cities

The City's diversion rate has been stagnant the past several years after the initial success of the curbside recycling program. The City's diversion rate for 2012 increased slightly from 15.3% to 15.7%. Figure 50 illustrates the City's waste diversion rates since inception of the "Drop it in the Blue" curbside recycling program.

The increase in diversion rate is due to the "Know What to Throw, Recycle Right" program, an extensive media campaign that helps educate residents, increase recycling rates, and reduce the amount of contamination in recycling bins.

To increase diversion rates and help meet this goal, the City also began a green waste mulching program this year to put green waste that had been landfilled to beneficial use. In 2012 over 300 tons of mulch was provided free of charge to the community at the Citizen Collection Sites.

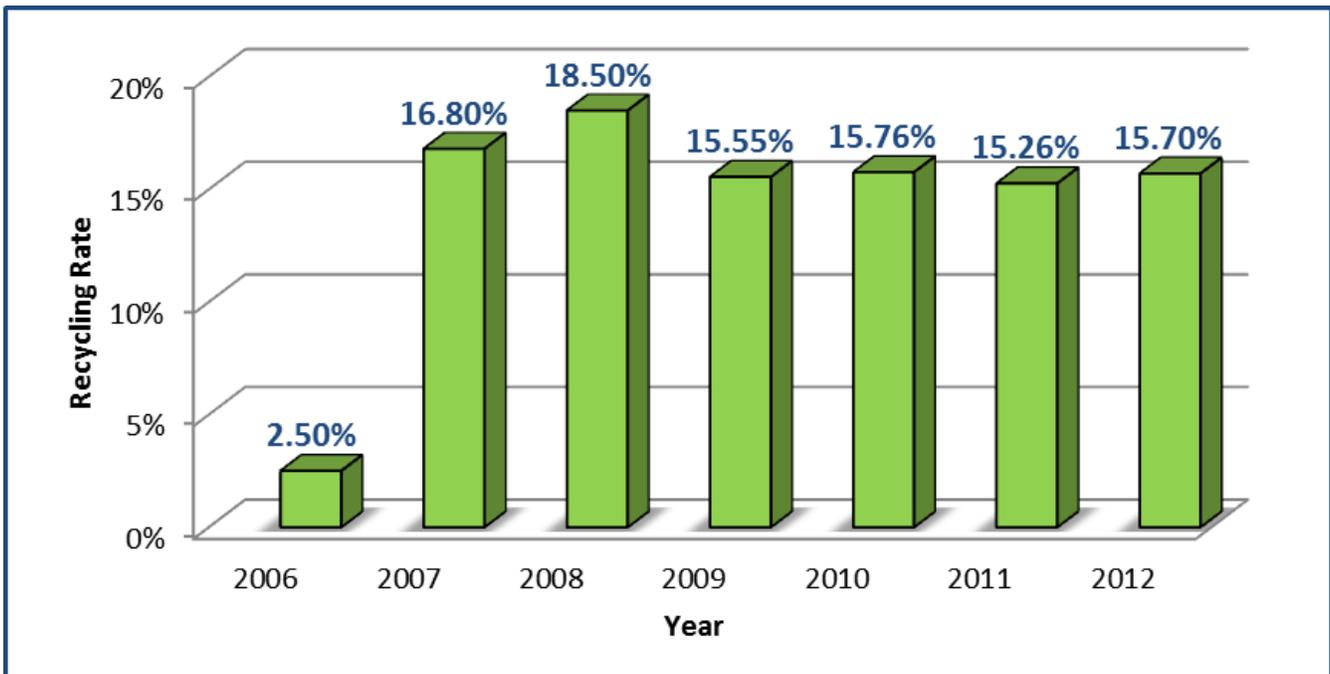


Figure 50: El Paso Recycling Rate

**Reduce waste** produced by City departments by 10% by 2011

The City has exceeded this goal. In 2011, City facilities recycled a total of 663 tons of material, an increase of over 300% above 2011 levels. The City continues to make strides in this area.

In 2012, twenty two recycling bins were purchased and placed in public areas at City Hall. Twenty bright blue cylindrical metal bins were placed next to the elevators in City Hall for public use. Two larger square blue bins were placed in the basement of City Hall to launch the Central Recycling Location (CRL) pilot. The CRL pilot accepted used batteries, ink and toner cartridges, and cellphones. The used batteries are recycled locally and help keep toxic battery acid out of our soils and groundwater supply. The phones are given to the Zoo, who participates in a phone donation program that helps support gorillas and gorilla habitats. The ink and toner cartridges are also recycled locally and help generate a small amount of money which will help expand the recycling program.

The City Hall relocation team dramatically cut down on the amount of cardboard required and wasted, and energy used, in a more conventional move by going box-less for the move. Instead 1,500 plastic reusable crates were used to move 550 employees out of City Hall. All of the crates were rotated through various department moves and reused about three times. This resulted in savings that equates to about 9,000 cardboard boxes.



Figure 51:  
These purple bins replaced cardboard boxes in the move to the City Hall

## Starting to **PACK** and **MOVE** **OUT** of City Hall?

**Recycle** those stacks of papers instead of hauling them to your new building!



**Toss them in the  
BIG BLUE BINS!**

Figure 52: This slide was added to the continuously-running announcement slides in City Hall to inform City employees that these blue bins were available during the move.

Also during the relocation, additional recycling bins were provided to City Hall departments to help capture the paper products being discarded. Nearly two dozen 9 6-gallon bins were filled and picked up twice a week for 12 weeks. This translated to approximately 20 tons of paper that was collected for recycling.

The Airport reused metal awnings that were removed during construction as shuttle stops for the public. This innovative project required three metal awnings to create the top of each shuttle stop that provided shelter from the elements to the public while waiting in long term parking.



Figure 53: Instead of disposing of the metal from a construction project, the Airport reused these metal pieces to create bus stops.

Increase **environmentally friendly products purchased** by 5% by 2011



The El Paso International Airport and the City's Purchasing Division are leading in this goal to procure more environmentally friendly products and projects.

The EPIA just finished building a Military Lounge equipped with Energy Star appliances, Mexican style furniture made from wood pallets, and a tank less water heater. This lounge provides all military personnel with a comfortable place to relax while waiting for their flights with a true El Paso feel.

EPIA also promotes the use of reusable water bottles. To help travelers reduce waste, Airport management is replacing their old water fountains with Halsey Taylor Hyrdoboost water fountains. The new fountains keep a tally of how many water bottles were eliminated from the waste stream. Although, the EPIA has only completed installation of two of the fountains, over 3200 disposable bottles have been eliminated from the waste stream. They quickly fill bottles and are an attractive, fun, interactive way to reduce the amount of disposable plastic bottles people use.

The Purchasing Division is developing criteria that would be incorporated into most City procurement processes to account for environmental factors.



Figure 54: Military lounge with an El Paso feel



Figure 55: The lounge features a small kitchenette area and a few sitting areas with televisions

Factors that are being considered include:

- Use of durable, long-lasting content
- Use of recycled or recyclable content
- Use of renewable content
- Products that are free of mercury and lead and eliminate the use of other persistent bioaccumulative toxic chemicals where possible,
- Use of energy efficient equipment
- Provision for returning equipment to vendor for recycling at the end of the product's life



Figure 56: These new Hydroboost water fountains track how much plastic bottle waste is saved from the landfills by reusing bottles with this quick and exciting fountain.



Figure 11: This shows the conventional water fountain next to the new Hydroboost fountains.



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