



SustainPHX

Annual Report

FY 2012-13

Sustainable Community • Sustainable Economy • Sustainable Environment

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Executive Summary

WHAT IS SUSTAINABILITY? -- A million dollar question that can garner a million different answers. For the city of Phoenix, the challenge of defining sustainability has been no different. Do we view sustainability through environmentally-related advances only or do we move beyond and embrace all three spheres - community, economy and the environment – and coordinate our efforts holistically?

For the city of Phoenix, the answer lies in our name, which so appropriately implies our desire to continue to rise up and prosper into the future. We recognize that, if Phoenix is to endure, we must focus on the well-being of residents, a strong economy and a healthy environment and embrace the full approach to sustainability.

We continue to take steps and action to pursue our ultimate goal of making Phoenix the most sustainable desert city. This annual report, coordinated and developed by the city's Green Team, shares some of the actions taken during fiscal year 2012-2013 and highlights efforts coordinated under the city's **SustainPHX** Program to reach our goal. Mirroring the framework established by the Sustainability Tool for Assessing and Ranking (STAR) program, this report identifies major accomplishments in categories critical to achieving the mission of sustaining Phoenix. The report also provides residents and businesses a resource for better engagement:

SustainPHX Highlights: A collection of projects that cross all three spheres of sustainability and fully embrace the city's commitment to this core value.

Sustainable Community: Arts & Culture, Civil & Human Rights, Social and Cultural Diversity, Community Health, Education & Literacy, Emergency Prevention & Response, Equitable Services, Food Access, Youth Programs, etc.

Sustainable Economy: Business Retention & Development, Green Market Development, Housing Affordability, Infill & Redevelopment, Local Economy, Quality Jobs, Workforce Readiness, etc.

Sustainable Environment: Air & Climate, Energy, Green Infrastructure, Land Use, Public Spaces, Resource Efficient Buildings, Transportation, Waste, Water, etc.

Awards & Resources: Accomplishments, Events, Funding sources.

What's Next for SustainPHX?: Future endeavors, projects, and goals.

Moving forward, the city of Phoenix is dedicated to excellence and embraces innovation and development of new opportunities. We approach sustainability with confidence and hope you will explore the richness of this report as it relates to our community, economic and environmental sustainability commitments.

The Mayor's Message



For our great desert city, becoming more sustainable is not merely a choice – it is an imperative. An imperative critical to our future economic viability as a region and our quality of life.

The Phoenix metropolitan area is expected to grow by nearly 30 percent by 2025, and we'll add a population equivalent to the size of Denver over the next 30 years. It doesn't take much to see the challenges that presents when it comes to conserving water, keeping our air clean, moving people efficiently, and preserving our pristine desert spaces.

Phoenix continues to put to work innovative and sustainable solutions to lift our economy. The new Sky Train people mover at Sky Harbor Airport helps to attract new visitors – and allows those visitors to step off their plane and travel to downtown Phoenix, Tempe and Mesa without ever stepping into an automobile. Continued investment in Metro Light Rail and buses take people out of their cars, and cuts back on air pollution. And by encouraging the retrofitting of older and historic buildings, we're preserving our past but embracing the kind of energy efficient technologies our future needs.

These are positive steps in the right direction, and Phoenicians are right to be proud that our city has earned prestigious awards for our successes. But there remains much work to do.

We trail many metropolitan areas when it comes to keeping trash out of the dump and into a recycling center. Through Reimagine Phoenix, we have a plan to reduce landfill waste 40 percent by 2020, but it will take every resident to make the initiative a success. To combat the urban heat island effect, Phoenix has put together a Tree and Shade Master Plan and put more trees in community parks, but each resident as well as the private sector has an important role too.

Our population growth projections present challenges, but also create many more opportunities for our future. By making smart decisions today, we can ensure our economy and quality of life remain strong for decades of tomorrows to come.

Greg Stanton
Mayor

Messages from City Council

District 1

"It is as important as ever for the City of Phoenix to ensure we do not encroach on the ability of future generations to meet their own needs. This report exemplifies our commitment to making Phoenix more sustainable and better equipped to combat the complex challenges posed by an ever changing community, economy, and environment."

—**Councilwoman Thelda Williams**

District 3

"Sustainability is about much more than being 'green' - it's about comprehensive resource management and the streamlining of processes to create efficiencies that save tax dollars in all spheres of sustainability, the community, economy, and environment. It ranges from developing new programs like Bag Central Station, to removing congestion and traffic with the PHX Sky Train. It requires thinking outside the box and identifying new partnerships, technologies, and ways of doing business to provide additional benefit not only to our constituents, but also those doing business with the city. As chairman of the Finance, Efficiency, and Economy Subcommittee, I continue to push our city departments to find better ways to provide services."

— **Vice Mayor Bill Gates**

District 5

"During the past fiscal year, Phoenix has made great strides toward expanding our sustainability focus, incorporating the well-being of the community and the economy along with the environment. As chairman of the City Council Neighborhoods, Housing and Development Subcommittee, I would like to shine a light on Gordon Estates, which exceeds National Green Building Gold Standards and incorporates all three areas of sustainability focus - community, economy and environment. Personally, community health is one of the most important areas of focus and the FitPHX program continues to get our residents moving in a positive direction."

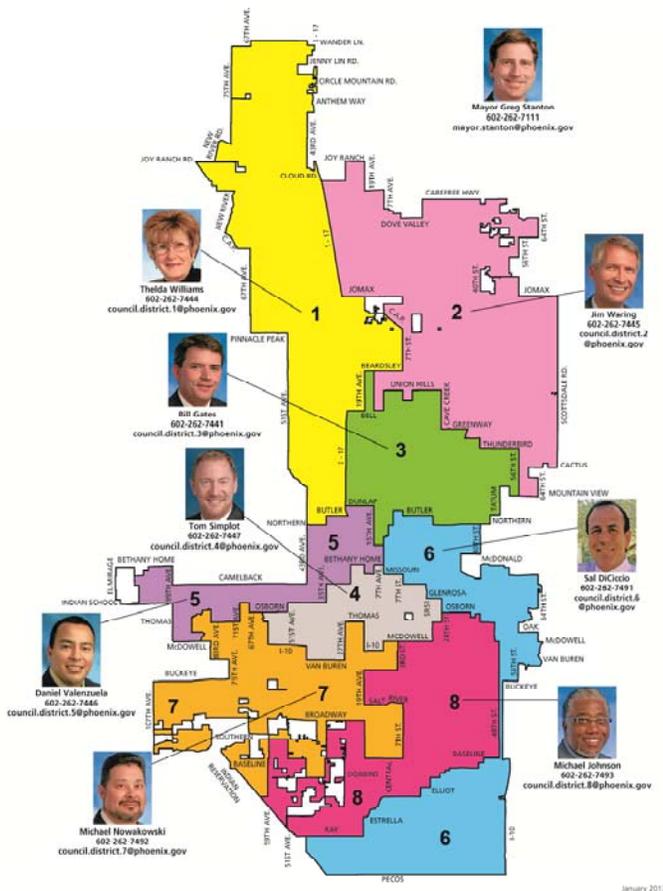
The Helen Drake Senior Center is all about building a strong community for our seniors - and the recently installed photovoltaic solar panels are the 'sustainable' cherry on top. We advocated for the Northwest Light Rail Extension which ties into Reinvent Phoenix and its focus on transit oriented development. And we are currently exploring corporate partnerships for Reimagine PHX - with a goal to divert 40 percent of waste from the landfill by 2020. Together, we can 'Reimagine PHX' as a model of sustainability for the nation!"

—**Councilman Danny Valenzuela**

District 7

One of the most important things we can do today is leave a healthy environment for our children and the generations that follow. But sustainability is also about fostering a quality of life for this generation. District 7 has several 100-acre Brownfields areas, including Del Rio and the 19th Avenue landfill. I see this as an opportunity. We can learn from the environmental mistakes of our past and transform these areas into healthy and vibrant public spaces, while creating human and economic development opportunities at the same time.

—**Councilman Michael Nowakowski**



Introduction from the City Manager's Office

What does it mean to be sustainable? Why should we care? The word is tossed around so much these days, and yet it's still hard to know how we can make it part of the way we live.

Everything we do, use or buy has an impact on the world. For example, making your home more energy efficient will help you save money on your electric bills. Joining a neighborhood program to fight graffiti and clean up trash can help reduce crime in your area. Getting educated can help boost our local economy by attracting high-paying employers. Sustainability isn't just about the environment, conservation or recycling. It has to do with living in a way to preserve the world in its healthiest form.

We are privileged to serve residents, whether it's providing job training, helping businesses grow, helping residents find affordable housing, growing and maintaining our parks, or working to ensure that services are provided fairly. Phoenix employees, businesses, and residents are working together to balance the long-term costs and benefits for the community, economy and environment. Our confidence lies in knowing that those dedicated to advancing SustainPHX will continue to champion these values and do so with the understanding that sustainability work benefits us all.

On behalf of the Phoenix Green Team, we are pleased to present the Annual Sustainability Report for fiscal year 2012-2013. While this report highlights our accomplishments, we realize that being sustainable isn't just about accolades. It's an evolving process that deserves constant and balanced attention.

Ed Zuercher
Acting City Manager



Philip McNeely, Manager
Office of Environmental Programs



SustainPHX Highlights

Why It Matters



The subsequent projects highlight the importance of the three spheres of sustainability (community, economy, environment) in contributing to the success of the city of Phoenix's sustainability program. Each highlight demonstrates the necessity to involve a diverse community, generate savings through efficiency and reduce harmful impacts to the environment.

Gordon Estates

The city of Phoenix **Neighborhood Stabilization Program** and developer partner, Mandalay Communities, successfully transformed a formerly failed subdivision and stagnant construction site into **Gordon Estates**. This is the only green subdivision in the United States that meets and exceeds the National Green Building Gold Standard, Energy Star v3, EPA WaterSense and Indoor Air plus certifications.

Gordon Estates, located at 16th and Apollo streets between Southern Avenue and Baseline Road features:

- ◆ Fourteen green, energy efficient, solar powered, sustainable homes.
- ◆ Energy consumption savings of up to 70 percent when compared to a traditional new home.
- ◆ Estimated energy cost for a 1,900 sq. ft. house less than \$69 per month.



Gordon Estates

Gordon Estates is a pilot program under the Neighborhood Services Department and was the winner of the U.S. Department of Energy Challenge Home, Housing Innovation Awards.



Green Team

The city of Phoenix's **Green Team** is made up of representatives from 20 departments. Its goal is to embed sustainability into city culture through community engagement, activities, programs, education and awareness. This year, the team accomplished the following:

Events and Education

- ◆ Hosted seven "**Green Bags**" lunch and learn events
- ◆ Hosted the second annual **Green Vendor Showcase** with more than 50 vendors participating
- ◆ Hosted the first annual **Phoenix Food Day**.
- ◆ Hosted a **Sustainability Educational event** for 90 kids for Take Our Daughters and Sons to Work Day
- ◆ Joined more than 100 public, private, and nonprofit organizations for **Earth Day Phoenix** to promote environmental stewardship
- ◆ Participated in the **Phoenix GoGreen 2012** annual conference.
- ◆ Initiated development of a web-based sustainability training module for city employees



Learning about SMART cars.

Community and Employee Engagement

- ◆ Initiated the **Green Gardening Group (G3)**, which developed and maintains the **Demonstration Garden** located near Phoenix City Council Chambers. The harvest is shared with the **Watkins Homeless Shelter**.
- ◆ Fostered the emergence of departmental Green Teams:
 - ◆ Parks and Recreation—developing a sustainability plan for the Pueblo Grande Museum (further described on page 26.)
 - ◆ Public Works—Developed quarterly Green Champion awards to recognize Public Works staff for implementing/promoting sustainable programs and ideas. Manages the City Hall composter and collects materials from three floors at City Hall; the final product is used in the city's downtown demonstration garden.
 - ◆ Neighborhood Services - Drafted an annual action plan to educate staff about sustainability at quarterly meetings. This year's topics included proper recycling, and energy conservation at home and work, with an emphasis on personal behavior and making a difference. The team also developed **Green Office Initiatives**, which encourages change in daily activities to conserve resources around the office. Forty percent of Neighborhood Services Department staff participates in the initiative.



G3 Demo Garden

Awards and Recognition

- ◆ Continued the quarterly **Green Guru Award Program** where individuals, teams and departments are recognized for their successful advancement of sustainability efforts
- ◆ Hosted the annual **Certiably Green** event, which recognizes citywide sustainability achievements.

PlanPHX

Starting in August 2012, the Mayor and City Council hosted 13 **PlanPHX** community forums where residents answered these two questions:

What do you love about Phoenix?

and

What is your big idea for the future?

The questions were aimed at identifying what residents want the city to focus on preserving, as well as, what they are interested in enhancing. The questions also provided feedback on the elements residents want to promote for Phoenix in the future.

In addition to the 13 forums, staff participated in 150 **PlanPHX** presentations or activities, ranging from senior health fairs to hosting tables at popular locations such as Food Truck Friday.

Following the forums, presentations and activities, **PlanPHX** created a website to widen its reach. By answering the questions online, the project's website, myplanphx.com, provided another avenue for residents to participate in **PlanPHX**. More than 1,400 registered users are on the site. In total, residents generated more than 12,000 ideas regarding the future of Phoenix.

The comments and ideas gathered by **PlanPHX** are intended to be incorporated into the update of **Phoenix's General Plan**. Answers to the questions also will be applied to the transit oriented development plans for communities along the light rail line as a part of **ReinventPHX** projects.

As a city interested in furthering sustainable design, such community feedback is essential to building places, improving the economy and protecting the environment.



PlanPHX Community Meeting



PlanPHX Community Meeting



PlanPHX Ideas & Visions

PHX Sky Train™

Open to the public in April 2013, the **PHX Sky Train™** now connects **Phoenix Sky Harbor International Airport (PHX)** to the **METRO Light Rail**. The **PHX Sky Train™** is free to ride and allows for easy access to the airport.



PHX Sky Train™

The project provides a vital transit link to the region and is anticipated to improve:

- ◆ Ridership on the Light Rail by both the traveling public and airport employees
- ◆ Adjacent transit-oriented development
- ◆ Community livability
- ◆ Local air quality by reducing passenger cars and airport buses.

The PHX Sky Train™ stations are constructed of 23 percent recycled materials, 11 percent locally obtained materials, 96 percent certified wood products and 10 percent recycled materials, and reduces energy use by 37 percent over current building standards.

The project also:

- ◆ Recycled 80 percent of construction waste
- ◆ Generated 8,000 jobs and \$1.58 billion to local economy
- ◆ Attained a LEED Gold Certification
- ◆ Won “Job of the Year” by the National Terrazzo and Mosaic Association for the artist-designed flooring.

This expansion of multi-modal transportation availability in Phoenix enhances access and increases the connectivity for residents and visitors alike. The project highlights the city’s priorities to move toward improved economics, careful land use, better air quality, and serves as an exceptional example of Phoenix’s interest and commitment to sustainability.

Sustainable Community



Why It Matters

Successful communities recognize the value of a diverse, vibrant, educated and connected populace. Empowering community cohesion is essential to building sustainable communities. Communities must find ways to create that cohesion by giving residents a sense of place and collective pride in their homes while celebrating social and cultural diversity.

Arts and Culture

Six major works of public art were commissioned by the Phoenix Office of Arts and Culture for installation at **PHX Sky Train™** Stations. The pieces won “Job of the Year” by the National Terrazzo and Mosaic Association.

In collaboration with the Arts and Street Transportation Departments, artist Meejin Yoon, designed three separate, permanent shade parasols located within downtown Phoenix.



Terrazzo flooring at PHX Sky Train™

Civil & Human Rights, Social and Cultural Diversity

The city of Phoenix voted to amend the **Phoenix Municipality Code, Section 18**. The document, for city contractors, now states:

“The contractor further agrees not to discriminate against any worker, employee or applicant, or any member of the public, because of sexual orientation or gender identity or expression and shall ensure that applicants are employed, and employees are dealt with during employment without regard to their sexual orientation or gender identity or expression.”

Community Health Systems

The **FiTPHX** program kicked off in May with Olympic Gold Medalist Misty Hyman instructing the first **Senior Champions Programs**. In affiliation with the Parks and Recreation Department, **FiTPHX** hosted 182,711 participants in diverse aquatic activities, including water basketball, junior life guard academy, and swim and dive teams.



Education and Literacy

The informational **Fix-a-Leak** fair and race occurred in March with a 35 percent increase in attendance. Partnered with the Arizona Municipal Water Users Association, the event has been recognized by EPA WaterSense at its annual award banquet. Arizona Forward Environmental Awards also has given accolades to the city for public education on water conservation.



Teaching kids about water at the Fix-a-Leak Fair, March 2013

Read On Phoenix targeted literacy resources to the highest need communities, which provided support to schools, teachers, parents and children while pursuing a goal of every third grader reading at stated proficiency.

The Youth and Education Taskforce was created with representatives from city departments, to embed educational strategies in existing curriculum, and to promote civic engagement and leadership development.

The **Aviation Department** holds LEED (Leadership in Energy and Environmental Design) classes for staff citywide, and encourages staff to become accredited.

The **Parks and Recreation Department** created partnerships with the Arizona Community Tree Council to complete sustainable landscape maintenance certifications for 83 staff.

Emergency Prevention and Response

The Human Services Department provided emergency financial assistance to 12,018 families and helped 809 families receive long-term case management services.

Healthy Homes and the **Lead Hazard Control Program** completed 29 home interventions, provided outreach to the community and developed a class for the city's **Neighborhood College program**, which provides education to residents on a variety of topics.

Equitable Services and Access

The **Neighborhood College** program, launched in March 2013, hosted hands-on workshops for more than 250 Phoenix residents. The intent of the program is to provide participants with knowledge about the city's programs, services and resources; the tools to access those resources; and the skills and ideas with which to build positive, sustainable communities.

Human Services

The Human Services Department's **Senior Service Program**, began an automated program that allows participants to easily register for activities. In addition, Human Services provided more than \$8 million to help 12,888 families with housing needs.

Food Access & Nutrition/Food Deserts

The Housing Department, through the Let's Grow Phoenix Gardens Initiative (more details on page 25), implemented community gardens at the following sites:

- ◆ Maryvale Parkway Terrace
- ◆ Washington Manor
- ◆ Sidney P. Osborn
- ◆ Henson Village (two gardens)



Seniors planting community garden

The Parks and Recreation Department added four new community gardens at the following community centers:

- ◆ Desert West Community Center
- ◆ Mountain View Community Center
- ◆ Pecos Community Center
- ◆ Bret Tarver Learning Center

The city hosted its first annual **Phoenix Food Day** in October with more than 1,000 attendees with goals of promoting and providing education to attendees on healthy food and how to attain it. Vendors provided healthy food samples and educational material.

In November 2012, Mayor Greg Stanton, in partnership with **Keep Phoenix Beautiful** and Barron Collier Companies, began **PHX Renews**, a plan to transform a 15-acre vacant lot into a sustainable public place, including the creation of community garden plots.



PHX Renews at Central Ave & Indian School

Safe Communities

The Neighborhood Services Department's **Good Neighbor Program**, provided 32 sessions with 980 residents receiving leadership training.

The Parks and Recreation Department installed additional flash cams at department facilities to deter graffiti and vandalism. Currently, 40 cameras are in use throughout the department.

Through the Human Services Department, the **Family Advocacy Center** and the **Watkins Emergency Shelter** served 5,916 victims of crime and 2,768 individuals who are homeless, respectively.

Volunteer Programs

Neighborhood Bin Program

Through the Neighborhood Services Department, 3,818 volunteers collected 306 tons of trash. Valuable information provided by a bin tracker from the cleanups works toward improving collection programs.

Wipe It Out!

3,000 volunteers removed or painted over more than 1,000 linear feet of graffiti at a citywide event in November.

PHX Cool Roofs

In partnership with Hands on Greater Phoenix, the Broadway Heritage Neighborhood Resource Center Facility, 7,800 sq. ft. was coated with an Energy Star rated acrylic white paint. Lighting fixtures also were upgraded to LED systems.

My Phoenix My Park

Parks and Recreation Department volunteer opportunities are consistently growing through the partnerships with civic minded communities, both in the public and private sectors. In the My Phoenix My Park program, more than 40,000 hours were logged by 5,689 registered volunteers in fiscal year 2012-13.

The Parks and Recreation Department hosted more than 5,727 volunteers. Donated hours totaled 58,014 for an estimated value of \$1.2 million

The Human Services Department received more than 160,768 volunteer hours for an estimated value of \$3.5 million.

Youth Programs

The Parks and Recreation Department visited 38 **Phoenix Afterschool Center (PAC)** sites and instructed more than 2,800 students who participated in the following events:

- ◆ Earth Day
- ◆ America Recycles Day
- ◆ Arbor Day
- ◆ Keep America Beautiful Month
- ◆ National Green Week

With \$1.1 million in funding, the **Phoenix YouthBuild** chapter assisted and provided 66 at-risk youth with classroom instruction and occupational skills training.

Sustainable Economy



Why It Matters

A healthy economy and strong jobs climate are a foundational aspect for building sustainable communities. Likewise, policies that support increased sustainability also boost local economy and create greater diversity and access to high paying jobs.

Business Retention and Development

In June 2013, Phoenix Sister Cities in partnership with Arizona Forward hosted its 14th annual **Global Links Business Outlook Luncheon**. This year's topic focused on economic development and environmental sustainability.

Arizona's Business Loan Alliance is a \$12 million loan collaborative intended to help secure the capital necessary for businesses to flourish. The pilot program is designed to generate and attract greater investment for Arizona business owners.



Global Links Business Outlook

A small business pilot program was created by the **Community and Economic Development Department**. In collaboration with several Chambers of Commerce and Local First Arizona, access to services such as technical assistance and training workshops will be provided, retained and/or expanded.

Green Market Development

The **Public Works Department** installed equipment improvements at the North Gateway Transfer Station, including equipment to capture PET plastic (water bottles), a glass screen that sorts broken glass, "air knives" to pull paper out of the container line and an additional newspaper screen to mechanically sort paper from containers. As a result, efficiency has improved with a 40% reduction in rejection rates.

Staff from the Community and Economic Development Department assisted in site selection and workforce services for the expansion of the APS BioGroup Headquarters in Phoenix.



North Gateway Transfer Station Upgrades

Housing Affordability

Weatherization Assistance Program completed 177 single family residences. An additional 68 are currently under construction.

The **Lofts at McKinley** opened in September and provide 60 urban style apartments for low-to-very low income seniors, age 55 and older.

Under the **Neighborhood Stabilization Program**, the **Move in Ready Program** acquired 393 vacant and foreclosed homes located in areas close to transit and schooling. A total of 299 homes were sustainably rehabbed and sold, with expectations of utility costs to be reduced by 25 percent.



Lofts at McKinley

Infill and Redevelopment

The **11th Street Streetscape** is a one mile redevelopment between Washington and Moreland streets, overseen by the Neighborhood Services Department, focused on improved settings for pedestrians, including sidewalk and bus stop improvements as well as the installment of 275 native trees and shrubs.



11th Street Streetscape

Las Palmaritas, developed through partnerships with Habitat for Humanity Central Arizona, Wells Fargo, **YouthBuild** and the Neighborhood Services Department's **Neighborhood Stabilization Program**, provided a single family LEED platinum home to Phoenix residents in May 2013.



Las Palmaritas

Local Economy

New business generated more than \$266 million in capital investments and existing business generated more than \$217 million.

The creation of the \$4 million **Business Loan Fund** offers low cost capital to disadvantaged business enterprises that serve low-to-moderate income communities. These businesses were selected for concessions at Terminal 4 of Phoenix Sky Harbor International Airport. The program is committed to creating jobs, providing education opportunities, and offering other benefits to low-to-moderate income communities.

Local Economy (continued)

The city continued to educate and promote the benefits of **Sustainable Purchasing** by involving a higher degree of collaboration and engagement between key departments and providing the green vendor community direct contact opportunities to increase business.

Impact of Sustainable Purchasing:

- ◆ Fifty-five contracts have green purchasing line items or specifications;
- ◆ Four contracts (renewed/created) have new or revised green criteria (pesticide services, recycled-content polyethylene bags, Aviation janitorial services contract and a solid waste truck washing contract)
- ◆ Eighteen one-on-one meetings held with green vendors
- ◆ More than 50 attendees at the annual **Green Vendor Showcase** event designed to help develop the local green product market.



Quality Jobs

7,013 new jobs were created and retained through efforts of the Community and Economic Development Department.

In partnership with the Mayo Clinic, Arizona State University, Arizona State Land Department, Desert Ridge Master Developer, and the Community and Economic Development Department, the **Arizona Biomedical Corridor** was created, which will significantly advance opportunities to attain quality jobs, and advance scientific research and education opportunities.

Through the development of an **Employment Consortium** and 14 formalized agreements to provide job training and placement services, the Human Services Department increased placements for employment opportunities by 133.

Workforce Readiness

A total of 28,549 job seekers were assisted through **Workforce Development Initiatives**.

More than 300 outreach visits were conducted by Community and Economic Development staff.

The **Business and Workforce Development Center** opened in May 2013 and serves as a critical resource for recruitment and training. Services to businesses include talent acquisition strategies, training and development, including employer seminars and workshops. Most services are free to businesses. The center is conveniently located in downtown Phoenix.



Grand Opening & Ribbon Cutting



Sustainable Environment

Why It Matters

The environment is the sustainability sphere most influenced by individual actions. By recognizing the scarcity of all resources, organizing to reduce harmful emissions, and minimizing waste, Phoenix is becoming a more sustainable desert city.

Air and Climate

As an arid city, it is important to keep the air as clean as possible to diminish illness due to pollutants coming from cars, industry, and buildings. The reported amount of carbon dioxide (CO₂), a greenhouse gas, saved this year from solar installations and other upgrades discussed in this annual report was 8,271 metric tons CO₂.

The city is currently conducting a comprehensive greenhouse gas inventory for city operations for calendar year 2012 as an update to the 2005 inventory. For more information on this project, see the "What's Next for SustainPHX" section, page 26.

In implementing the City's Dust Reduction Task Force recommendations, staff responded to High Risk Dust Advisories issued by the Arizona Department of Environmental Quality by ensuring that all bare surface soils at city facilities were stabilized against high winds and rescheduled non-emergency dust generating operations until winds subsided.

Tree and Shade Master Plan efforts led by the Parks and Recreation Department included:

- ◆ GIS layer showing all city maintained landscape was completed, as well as inventory and analysis of 100,000 city-owned trees. This data will be significant in furthering the **Tree and Shade Master Plan**.
- ◆ More than 450 trees were planted in Phoenix parks.
- ◆ Trees and shade forestry supervisor conducted five training programs for 160 staff and three community outreach education sessions.
- ◆ Fifty-five staff members also were trained on tree maintenance.



View of downtown Phoenix



Volunteers planting trees.

Sustainable Environment

Energy

More than 13MW of solar energy production contributed 3.35 percent to the citywide goal of utilizing 15 percent of renewable energy by 2025.

Consolidation of information and technology equipment in several different departments added to the goals outlined in **Phoenix Strategic Plan—Innovation and Efficiency, Sustainability and Technology Areas.**

The Aviation Department formed an **Energy Conservation Team** to focus on the reduction of energy usage within the Phoenix Sky Harbor International Airport, Phoenix Deer Valley Airport and the Phoenix Goodyear Airport. In addition, renewable energy generated by photovoltaic installations at Phoenix Sky Harbor International Airport, the Rental Car Center and East Economy Garages, supplies nearly 50 percent of their energy needs.

Solar Photo Voltaic Panel Installations:

- ◆ Helen Drake Senior Center; now climate neutral — 40Kw
- ◆ Transit Centers — 112,429 Kw
- ◆ Lake Pleasant Water Treatment Plant — 7.5 MW

Energy Upgrades:

Burton Barr, Yucca Branch, and Mesquite Branch Libraries all received upgrades to lighting and cooling systems.

Historic City Hall energy upgrade included a combination of building envelope, lighting, and HVAC system upgrades, which are estimated to reduce overall energy use by 23 percent.

The North Transfer Station MERF LED lighting retrofit resulted in a 60 percent reduction in energy consumption and reduced maintenance costs.

Tovrea Castle Museum exterior incandescent bulbs that surround the castle and ground were retrofitted with LEDs, which resulted in a 97 percent energy savings.

Conversion of 325 high pressure sodium street lights to energy efficient LED lights.

Parks and Recreation Department renovated and upgraded 16 park and pool lighting systems.



Lake Pleasant Water Treatment Plant

Green Infrastructure

The city's **Stormwater Program** improved efforts to raise public awareness about stormwater pollution and reduction methods. A new interactive webpage was launched and an online banner ad campaign was used to direct attention to the site. The program also has increased participation and visibility of public outreach and training events. In conjunction with the Water Services Department's **Water Conservation and Industrial Pretreatment Groups**, Stormwater program staff participated in more than 20 outreach/training events, including specific training programs targeting automotive recyclers and construction contractors.

Land Use

The city's Office of Environmental Programs in partnership with the Planning & Development Department, with assistance from the Public Works, Neighborhood Services, Parks and Recreation, and Community and Economic Development departments completed the **Del Rio Area Brownfields Plan**. The Plan covers an approximate 2.5 square mile area of the city located near downtown Phoenix and south of the Salt River. The project:

- ◆ Engaged the residents of the Del Rio and the greater South Mountain area to develop a community-driven brownfields land use plan that guides future development of the area
- ◆ Was developed by the community through a visioning and planning process completed over a one year period
- ◆ Conveys the community's desire for quality, mixed-use development that incorporates restaurants, shopping, art-related opportunities, quality jobs, and sports and recreation.



Public Spaces

The city acquired an additional 1,542 acres in north Phoenix, bringing the total of the **Sonoran Preserve to 9,100 acres**.

Renovation to the **Echo Canyon Park Trailhead** began in January 2013 and will double the parking spaces; as well as add new restrooms, a ramada, and a restored hiking trail.

Renovations were completed at the historic **Winship House** adjacent to **Hance Park** that now features space for three nonprofit groups and department staff.

The Parks and Recreation Department created a partnership with the Desert Ridge Homeowners Association to fund improvements at **Cashman Park** in northeast Phoenix. Funding of \$500,000 will improve aesthetics, replace play equipment and revitalize park amenities.

Sustainable Environment

Resource Efficient Buildings

The city of Phoenix **adopted the 2012 International Energy Conservation Code** to ensure buildings obtain a minimum of 30 percent efficiency greater than the 2006 codes.

Through the Human Services Department, the **Helen Drake Senior Center** facility was completed and awarded a LEED certification.

Transportation

The Public Works Department purchased 42 compressed natural gas garbage/recycling trucks, and completely transitioned all fleets to bio-diesel (B20).

All of the taxi fleet contracted to pick up passengers at Phoenix Sky Harbor International Airport uses 85 percent ethanol fuels. During peak season that equates to 223 taxis.



Garbage Truck

The Public Transit Department satisfied a requirement of the **Transit 2000 Plan** by providing rapid transit services to southwest Phoenix.

The Public Works Department **reduced fleet emissions** by scheduling recycling and trash pickups on the same day, enabling Solid Waste Field Services to decrease the number of city collection routes by 23 and collectively eliminate 234,000 miles traveled by garbage/recycling vehicles.

The **Trip Reduction Program** is one of the leading programs in the Valley. The program provides the following for the city's 14,000+ employees:

- Bus cards: 3,500 employees are using the 100 percent subsidized bus pass using public transit and light rail on a daily basis; up 20 percent from last year.
- Twelve Park and Rides in Phoenix and 13 throughout other Valley cities.
- Increasing Carpooling incentives by reducing the percentage of miles needed to qualify.
- Forty bike lockers for the downtown corridor, free of charge for employees.
- Four electric charging stations in one employee/public parking garage.

The Street Transportation Department installed a tunnel for bicyclists and pedestrians on the Arizona Canal under 7th Avenue near Dunlap and at 15th Avenue and Dunlap, a bridge was constructed for bicyclists and pedestrians.



15th Avenue & Dunlap Bridge

Waste

Reduce

The Rehabilitation Appeals Board hearing records were automated, which reduces the need for various equipment, paper and toner usage.

Phase one of the **Electronic Plan Review** pilot program was initiated with a goal of 5 percent of construction plans in process by 2014.

In an effort to decrease time and equipment use, the Neighborhood Services Department's Preservation Division facilitated a weeklong time management training program for all inspection staff.

Reuse

Technological upgrades and functional improvements including automation of international mail processing reduced staff time and overall energy consumption.

Approximately, 60-70 percent of sign blanks were refurbished by the Street Transportation Department and 50 percent of street name sign brackets were reused this year.

Recycle

The **Aviation Department** recycled 100,000 tons of pavement into new products and increased the passenger waste recycling rate by 21 percent.

The **Information Technology Department** coordinated end-of-life management of 4,089 "IT end user devices", which were recycled and/or refurbished through Dell's Take Back program. Dell's Electronic Disposition Policy ensures appropriate management of IT assets and products and bans export of e-Waste (non-working electronics).

The **Illegal Signs Abatement Team** currently recycles 31,200 signs a year. The team employed a new system that maximizes landfill diversion and recycling efforts.

The **Blight Elimination Green Demolition** completed six demolitions. More than 1,300 tons of material was either recycled or diverted, for a 78 percent diversion rate.



Recycling Truck

Sustainable Environment

Divert

Green Organics Recycling, offered by the Public Works Department, was introduced to 86 homes. Almost 50,000 tons of green waste and more than 1,900 tons of other materials also were diverted.

The Human Services Department diverted more than 100,000 plastic plates and the Parks and Recreation Department diverted 5,000 tons of green organics from landfills.

More than 200 participants within the **Reduction Diversion** pilot areas under the Public Works Department increased their diversion rates by 18 percent.

Water

The installation of a 7.5MW solar voltaic system at the **Lake Pleasant Water Treatment Plant** became operational in December 2012. The facility now generates 70 percent of the plant's electrical needs.

The city partnered with the Calgon Corporation to locally outsource waste water operations. The process is expected to limit the current carbon footprint by 80 percent.

The Parks and Recreation Department saved \$400,000 by monitoring and renovating three irrigation systems.

The Water Services Department significantly increased the number of industrial stormwater inspections and enforcement actions. Over 600 industrial inspections were completed. Efficiency within processing cases led to almost 100 percent of cases being closed.

The Aviation Department has now completed a comprehensive water inventory and field audit at the Phoenix Sky Harbor International Airport.

Wildlife Management

Ground rodents and rabbits were damaging prehistoric features within the **Pueblo Grande Museum**. The Parks and Recreation Department partnered with the Phoenix Herpetological Society to use gopher snakes for rabbit and rodent control as an environmentally-friendly approach.

Awards and Resources

32nd Annual Valley Forward Environmental Excellence Awards

Livable Communities: Multimodal Transportation and Connectivity

- ◆ The **Central Station Refurbishments Project** won the top prize in this category, the Crescordia Award.
- ◆ The **27th Avenue & Baseline Road Park-and-Ride Station** won the Award of Merit.



Central Station Transit Center

Building Owners and Managers Association (BOMA) Awards

The **Broadway Heritage Neighborhood Resource Center** received a BOMA award for the most improved social/meeting facility.

BOMA and U.S. Green Building Council Kilowatt Krackdown Awards were given to seven city facilities for achieving the highest Energy Star ratings in their respective category as well as demonstrating the greatest improvements in energy efficiency.

Innovation's Transforming Local Government Conference

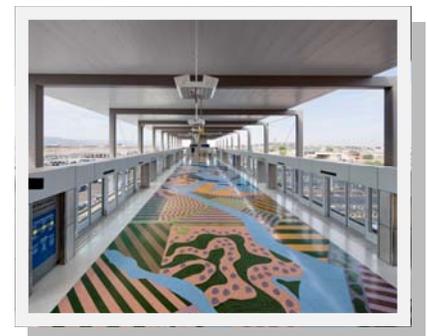
The city was a 2013 finalist for presentation of bioscience investments and associated direction toward a more sustainable economic future.

U.S. Department of Energy Challenge Home Award

Gordon Estates, an intensive project associated with the Neighborhood Services Department, won the Housing Innovation Award for its excellence in creating 14 energy efficient homes.

National Terrazzo and Mosaic Association Award

The six major works of public art commissioned by the Office of Arts and Culture, installed at the **Phoenix Sky Harbor International Airport Sky Train Stations**, won "Job of the Year".



PHX Sky Train™

Tree City USA Award

The city of Phoenix was recognized as a **Tree City USA for the 27th year**. This national recognition by the National Arbor Day Foundation, the National Association of State Foresters, and the USDA Forest Service demonstrates the city's commitment to urban forestry.

Sterling Growth Award

The city received the prestigious **Sterling Growth Award for the 17th straight year**. This award honors the city for a continued commitment to improve environmental programming, and for achieving increased levels of tree care and community awareness of the urban forestry.

Bloomberg Philanthropies Grant - Cities of Service

Submitted by the City Manager's Office, the Bloomberg Grant was awarded to the city in October 2012 for two new initiatives—Let's Grow Phoenix Gardens and Cool Roofs. The Let's Grow Phoenix Gardens initiative partnered with HandsOn Greater Phoenix to implement community gardens at three low-income public housing sites. The goal is to provide 200 residents with healthier food options as well as building leadership and community.

The Cool Roofs program funds were used to coat 70,000 square feet of city-owned roof tops with a special reflective paint. The goal is to reduce energy usage, electric bills and greenhouse gas emissions by 61 metric tons.



Volunteers planting a garden.



Volunteer "painting" a cool roof

U.S. Environmental Protection Agency Grant - Green Infrastructure

The Office of Environmental Programs received a grant to review City Code, ordinances, policies, and guidance to identify possible barriers to green infrastructure and provide recommendations for revisions, which will encourage green infrastructure and low impact development.

U.S. Department of Labor

\$1.1 million was awarded to the city of Phoenix's **YouthBuild** program, which assisted 66 at-risk youth by providing classroom instruction and occupational skills training.

To view all the city of Phoenix awards, please visit
phoenix.gov/citygovernment/awards/awardslist/index.html.

What's Next for SustainPHX?

Aviation Department

- ◆ Aviation is developing the city's first **Departmental Sustainability Management Plan**. The plan will include both city initiatives and efforts developed within the aviation community.

Green Team

- ◆ Plans to implement an e-learning module for all city staff on sustainable concepts.
- ◆ Sustainable curriculum for the **Phoenix Afterschool Center (PAC) Program** is being designed on air and climate and energy topics, and will be taught with the existing themes of water and recycling.
- ◆ A **Facility and Employee Sustainability Template** will be developed to help educate and empower employees on ways to become a part of the city's sustainability culture and is aligned with a number of city goals. It serves as a "how to" guide for increasing awareness, conserving energy, improving air quality, and pollution prevention.



Educating PAC Youth on Recycling

Office of Environmental Programs

- ◆ Through a grant from the University of Arizona's Institute of the Environment and Climate Assessment for the Southwest (CLIMAS), the city will conduct a detailed analysis of the economic impacts of two **Urban Heat Island (UHI) mitigation strategies**: the Tree and Shade Master Plan and the applications of cool roofs to city buildings. The effort will provide the ability to quantify incremental energy and water costs.
- ◆ In partnership with Keep Phoenix Beautiful and the city's Water Services Department, OEP will be assisting in the implementation of a "**Littering is Wrong Too!**" campaign. The campaign is a complement to stormwater management efforts.

Parks and Recreation

- ◆ A sustainability plan for the **Pueblo Grande Museum** is under development. The plan will cover energy and water conservation, sustainable landscape practices, environmentally preferable purchasing and integrated pest management and is expected to be finalized within the next year.

Parks and Recreation (continued)

- ◆ The Forestry section, in collaboration with Arizona State University and the University of Arizona, is currently working on three studies to help quantify the economic benefits of tree and shade canopies.
- ◆ In partnership with the Phoenix Parks Foundation and the Sunnyslope Business Alliance, plans to create a **community garden at Mountain View Park** are underway.

Public Works Department

- ◆ **Reimagine Phoenix** employs city wide programs to reach the goal of a 40 percent reduction in landfill waste by 2020.



Street Transportation Department

- ◆ A **Complete Streets Policy** will be developed to make Phoenix more walkable and bikeable, support investments in transit, foster social engagement and community pride, boost the local economy and property values, and improve the livability and long-term sustainability of our region.
- ◆ Establish and operate a **bike share network** that will include up to 500 bicycles throughout the city of Phoenix. Access to the network will be available by making a reservation via the internet or a mobile device.

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For more information, please contact the Office of Environmental Programs at phoenix.gov/environment or 602-256-5669.

Notes

Sustainable Community • Sustainable Economy • Sustainable Environment



SustainPHX

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