



City of Phoenix

2015-16



SUSTAINABILITY REPORT

2050

ENVIRONMENTAL SUSTAINABILITY GOALS

After an extensive community consultation process, on April 12, 2016, Phoenix City Council adopted **2050 Environmental Sustainability Goals**. These goals articulate the community's desired long-term environmental outcomes, along with fulfilling the General Plan aspirations of a **sustainable city**.

With these long-term desired outcomes defined, planning is underway to identify additional short and mid-term goals and metrics to be included in the next update to the General Plan for the community's and Council's consideration. Along with environmental metrics, additional social and economic goals are being considered that would best articulate the community's desired outcomes to become a socially, economically and environmentally resilient city.



GOAL AREAS



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WATER 8



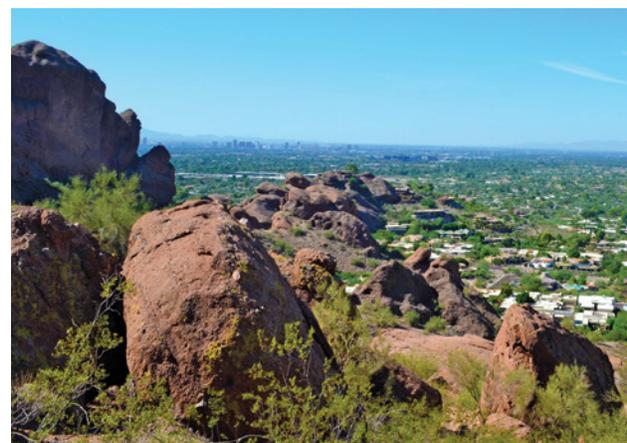
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LONG-TERM GOAL

A CARBON NEUTRAL CITY

Operating on 100% Clean Energy

During my tenure as Mayor, I have made the sustainability of the City of Phoenix my central goal. Now, the City has become one of the most sustainable cities in the U.S. and is working to be an influence globally



by becoming a regenerative and resilient City. Take for example our City's action in water stewardship, recycling 84% of the City's wastewater; its nation leading use of alternative fuels for City vehicles; its 32MW of solar on City property, and, most recently, its carbon accreditation program for the City's acclaimed Aviation department. Working in tandem with the business community, neighborhoods, and the community at large, along with City staff, I am proud of the City's accomplishments, and the leadership shown across City departments highlighted in this update.

GREG STANTON
MAYOR OF PHOENIX

Under the leadership of the Mayor, City Council and the City Manager, I am pleased to present this year's Sustainability Report highlighting the City's 2050 Environmental Sustainability Goals and recent accomplishments. It



pleases me to announce that the City of Phoenix has achieved its goal of a 15 percent reduction in Greenhouse Gas Emissions and is proposing a new goal of a 40% reduction by the year 2025. The City departments of Aviation, Office of Environmental Programs, Parks and Recreation, Planning & Development Services, Public Works, Street Transportation, Transit, and Water Services are taking the lead on achieving the goals and working with other departments to identify corresponding social and economic goals. The result will be to improve the quality of life for Phoenix residents, all while enhancing nature.

MARK HARTMAN
CHIEF SUSTAINABILITY OFFICER



BUILDINGS & LAND USE



2050 GOAL: Reduce carbon pollution from vehicles, buildings, and waste by **80%-90%**. All new buildings will be “net-positive” in terms of energy and materials. At the community scale, we will enhance **15 compact centers** where the services are provided locally. Residents will be able to live, work and play, all within walking distance.

RECENT ACCOMPLISHMENTS

PHOENIX 2015 GENERAL PLAN

CARBON ACCREDITATION PROGRAM:

Sky Harbor was recognized in 2016 as a newly accredited airport in the Airport Carbon Accreditation program. Between 2014-2015, Sky Harbor decreased its carbon footprint by more than 4%.

VALE: As part of the Federal Aviation Administration’s Voluntary Airport Low Emission environmental grant, Sky Harbor was awarded one million dollars to construct chargers that support conversion of airline ground equipment to electric.

WHAT’S NEXT?

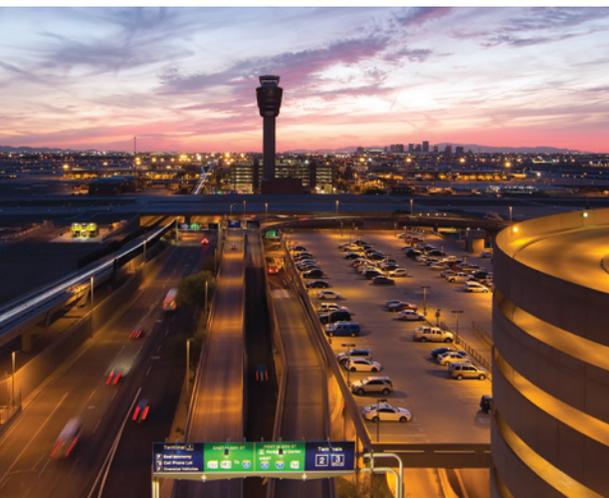
All **90,000 OF THE CITY’S STREET LIGHTS** and lighting at its park facilities will be replaced with LED lights.

Partner with the community to **IDENTIFY INCENTIVES** for early adopters to reduce carbon pollution from vehicles, buildings and waste.

“GREEN” CERTIFICATES OF OCCUPANCY

will be issued for projects utilizing the Phoenix Green Construction Code.

An **URBAN FOREST INFRASTRUCTURE TEAM** will work to implement the Tree and Shade Master Plan.





TRANSPORTATION

2050 GOAL: Make **walking, cycling, and transit** commonly used, enjoyed, and accessible for every Phoenix neighborhood, including our disabled community. This goal will result in **90% of the population** living within one-half mile of transit, and projects 40% of the population will choose to commute by walking, biking, transit or car share.



RECENT ACCOMPLISHMENTS

TRANSPORTATION 2050: The 35-year citywide transportation improvement plan became effective Jan. 1, 2016. T2050 will triple the number of light rail miles in Phoenix and provide late night bus and Dial-a-Ride service to a majority of the City.

BUS SERVICE IMPROVEMENTS are transforming the way riders move by providing increased service and travel flexibility.

LIGHT RAIL EXPANSION

Service began on the northwest light rail extension starting at 19th Ave & Montebello Ave to Dunlap Ave.

THE WALKABLE URBAN CODE was adopted by City Council on July 1, 2015 as the implementation zoning tool that will guide development and shape future growth. The code will help realize the city's vision for sustainable transit and pedestrian-oriented development along the light rail corridor within the Reinvent PHX area.

THE 2015 GENERAL PLAN

articulates strategies for complete streets, transit-oriented development, infill development and many other ways to encourage walking, cycling and public transit.





GRID BIKE STATISTICS

12,286
GRID members in Phoenix

83,468+
rides since 2014

140,778+
miles ridden

\$81,648
saved biking
vs. driving

124,141 lbs
of carbon reduced



WHAT'S NEXT?

TRANSIT-ORIENTED DEVELOPMENT: Establish a design review board consisting of community stakeholders to provide comments on proposed development projects. Establish standards for large new developments and redevelopment projects that require interconnected street networks with small blocks.

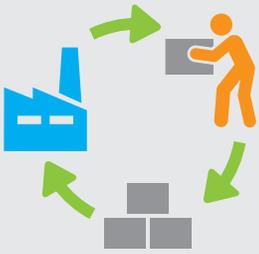
BICYCLING: Maintain a bike lane installation program. Provide a compatible street system with bike lanes on new arterial and collector streets, and remove barriers to bicycling.

COMPLETE STREETS: Encourage a comprehensive parking strategy in downtown Phoenix.

DID YOU KNOW?

Phoenix residents and visitors have made the equivalent of 5 1/2 trips around the world riding GRID bikes!





ZERO WASTE

2050 GOAL: Phoenix will create **zero waste** through participation in the **Circular Economy** where recycled materials are repeatedly used in products versus raw materials.

In the short term, Phoenix will be on target to **divert 40% of waste by 2020**. However, to move toward Zero Waste by 2050, three key actions are needed:

- 1.** Remove commonly recycled and easily compostable products from the waste stream.
- 2.** Increase the number of recyclable products by incubating local businesses to capture new products from the waste stream.
- 3.** Support transition to a Circular Economy by encouraging the retail industry to provide products that are either 100% recyclable or able to be repurposed or refurbished at end of life.

RECENT ACCOMPLISHMENTS

CIRCULAR ECONOMY: Phoenix has started the transition to a Circular Economy by partnering with the Resource Innovation Solutions Network to facilitate public-private collaborations that promote efficiency and restorative use of natural resources.

BUILDING LOCAL MARKETS FOR RECYCLABLES:

The City confirmed a deal with a company to move into the Resource Innovation Campus and turn 34,000 tons of palm tree fronds each year—3.4% of the city’s waste—into livestock feed, starting in 2017.

REIMAGINE PHOENIX

In 2013, the Public Works Department launched its waste diversion and sustainability initiative, Reimagine Phoenix, with a citywide goal of diverting 40 percent of trash from the landfill by the year 2020 by considering how we reduce, reuse, recycle, reconsider, and reimagine healthy consumption habits to minimize waste in our daily lives.

REIMAGINE PHOENIX STATISTICS

19.1%
of trash being diverted

34,000
tons of palm fronds
to be recycled annually,
beginning in 2017





DID YOU KNOW?

We could go to the moon and back **14 TIMES** with the miles we put on our garbage trucks going to the landfill.

WHAT'S NEXT?

IMPLEMENT THE 2015 GENERAL PLAN

that outlines strategies for Waste Infrastructure.

CONSTRUCT THE RESOURCE INNOVATION CAMPUS at the Waste Transfer Station.

OPEN PHOENIX'S FIRST COMPOSTING FACILITY IN 2017.

DEDICATE APPROXIMATELY 40 ACRES OF PROPERTY at and around the Resource Innovation Campus to develop a resource cluster focusing on a Circular Economy and by-product synergies.





CLEAN WATER

2050 GOAL: Provide a **clean and reliable 100-year supply** of water.

Water shortage on the Colorado River is a serious issue that Phoenix must confront. Key tenets include:

1. Support for system conservation that helps stabilize Lake Mead
2. Use of innovative water-sharing arrangements that allow water to move flexibly and efficiently across Arizona
3. Continued protection of the fossil aquifers that underlie the Valley of the Sun

RECENT ACCOMPLISHMENTS

CONSERVATION: Phoenix’s residential gallons per-capita-per-day water consumption has fallen **34%** since its peak in 1996. It fell **6%** in the last two years alone.

INNOVATIVE WATER SHARING: The Phoenix-Tucson water exchange is an example of how to work collaboratively to build resiliency in water supplies.

CLEAN WATER: Phoenix went above and beyond current regulatory requirements for lead and copper testing in its water system to ensure the provision of safe, clean water.

PHX WATER SMART

In 2015, the Water Services Department launched its PHXWaterSmart initiative to better educate residents and businesses regarding water conservation measures, the importance of maintaining the infrastructure that underpins safe, reliable deliveries of water, and the methodical planning needed to confront the challenges that climate change engenders for our long-term water supplies.

PHX WATER SMART STATISTICS

98% of Phoenix’s water comes from renewable surface water supplies.

84% of reclaimed wastewater is re-used for beneficial purposes.



Phoenix saves groundwater for future generations.



WHAT'S NEXT? //

CONSTRUCTION OF A GAS CAPTURE AND PROCESSING FACILITY

at 91st Ave Wastewater Treatment Plant to convert waste gases into renewable natural gas—doubling the City's current production of renewable energy.

CONSERVATION through collaboration with Phoenix Achieves to engage more classrooms in lessons on water.

IMPROVE PUBLIC ACCESS & AMENITIES AT THE TRES RIOS WETLANDS so that the public can appreciate the value of reclaimed water in the desert.

BUILD INFRASTRUCTURE that enables the City to withstand even the worst case scenarios for water shortage on the Colorado River.

DID YOU KNOW?

Phoenix is a net-positive contributor to groundwater aquifers.





PARKS & OPEN SPACES

2050 GOAL: Having all residents within a **five-minute walk** of a park or open space by:

1. Adding **new parks or open space** in underserved areas.
2. Adding **150 miles of paths, greenways, and bikeways** throughout the City, and transforming an additional 150 miles of canals into vibrant public space.
3. **Reducing the urban heat island effect** through green infrastructure as well as doubling the current tree and shade canopy to 25%.



RECENT ACCOMPLISHMENTS

In 2016, the City **UNVEILED A NEW MARGARET T. HANCE PARK MASTER PLAN**. The City's vision is for Hance Park to be an iconic destination that provides recreational and cultural experiences, while also serving as a major event space for concerts and festivals.

More than **20 CITY PARKS FEATURE DESIGNATED FITPHX WALKPHX PATHS**, and that number will grow to 30 by early 2017. Each location has a mapped walking path with signage and mile markers that help users track physical activity.

Since 2001, the City has acquired **10,000 ADDITIONAL ACRES OF MOUNTAIN AND DESERT PRESERVE LAND**. The City is steward of more than 41,000 acres of mountain and desert preserves, which includes a 200-plus mile trail system.

The City's **MOUNTAIN AND DESERT PRESERVES FEATURE 41 TRAILHEADS**, including two that have opened in the last three years — Apache Wash in 2013 and Desert Hills in 2016 — both located in the northern region of the City in the Sonoran Preserve.

During the 2016 calendar year, approximately **\$18 MILLION OF VOTER-APPROVED** Phoenix Parks and Preserve Initiative (PPPI) money helped fund 33 Parks and Recreation Department capital improvement projects.

The Parks and Recreation Department **2016 CAPITAL IMPROVEMENT PROJECTS** were highlighted by the addition of a two-acre dog park, multi-use lighted sports fields, and stage to Cesar Chavez Park in March, and the grand opening of the 3,200-square-foot Muriel Smith Recreation Center at Lindo Park in October.





DID YOU KNOW?
Phoenix has more miles of canals than Venice, Italy!

TREE & SHADE STATISTICS

12.4%
average tree canopy cover

92,890
City of Phoenix trees

\$40.25M
in annual benefits from our urban forest



WHAT'S NEXT? // // // // //

GENERAL PLAN STRATEGIES

PARKS & OPEN SPACE: Implement the Hance Park Master Plan and the Connected Oasis as set forth in the Downtown Phoenix Plan, and develop a land acquisition program to acquire land for open space.

CANALS AND TRAILS: Develop an off-street system of paths and trails that is safe for a variety of users.



AIR QUALITY

2050 GOAL: Phoenix will achieve a level of **air quality that is healthy** for humans and the environment. This includes outperforming all federal standards and achieving a visibility index of good or excellent on **90% of days or more**.



DID YOU KNOW?

The City reduced its greenhouse gas emissions from operations by 15.6% since 2005.

RECENT ACCOMPLISHMENTS

THE 2015 GREENHOUSE GAS EMISSIONS (GHG)

reduction report for City Operations was published.

ACHIEVED A 15% REDUCTION

in GHG emissions and set a new goal of a 40% reduction by 2025.

AIR QUALITY STATISTICS

1,700 tons of air pollution removed annually by Phoenix's trees

29% reduction in PM-10 (dust) since 1990

6% reduction in ozone since 1990





FOOD SYSTEMS

2050 GOAL: Maintain a **sustainable, healthy, equitable, thriving local food system** by eliminating food deserts (areas without ready access to fresh, healthy, and affordable food), increasing urban agriculture, establishing farmers markets in each of the city's urban villages, and significantly reducing the rates of hunger, obesity, and diet-related disease.

RECENT ACCOMPLISHMENTS

MARICOPA COUNTY FOOD SYSTEM COALITION was formed as a voluntary community organization advocating for the advancement of the local food system in Maricopa County.

The Office of Environmental Programs was awarded a \$400,000 community-wide Brownfields Assessment Grant from the U.S. EPA for the Phoenix **BROWNFIELDS TO HEALTHFIELDS PROJECT**. The project is focused on transforming community health through cleanup and reuse of environmentally-challenged properties for food and healthcare.

The **FARMERS MARKET ZONING ORDINANCE** was updated to eliminate barriers and reduce fees to encourage establishment of farmer's markets.

WHAT'S NEXT?

ADOPT ZONING, land use guidelines, and other policies that incentivize grocery stores, farmer's markets, community gardens and food trucks to locate in underserved neighborhoods.



COORDINATE with Maricopa County Food System Coalition to pursue completion of a regional Community Food Assessment that obtains information on the assets and needs of the county.

CITY OF PHOENIX LONG TERM GOALS



A Carbon Neutral City
by 2060



New buildings are **Net Positive**
in energy & materials



15 vibrant
Compact Centers



Zero waste through participation
in the **Circular Economy**



Parks or Greenways
in every neighborhood



40% Waste Diversion
by 2020



Visibility index of good or excellent
on **90% of days or more**



Clean Air that out-performs
federal standards



25% tree and shade
canopy



40% of residents commute by
walking, biking, transit & car share



Zero Waste



300 Miles of pathways and
walkable vibrant canals



100-year clean &
reliable supply of water



Everyone within a **5-Minute**
Walk of a park or pathway



15% renewables
by 2025



80-90% reduction in
GHG emissions



A thriving vibrant
Food System



Eliminate
Food Deserts



90% of residents within
10-minute walk of transit



Transit in every Phoenix
neighborhood



City of Phoenix

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