



# OUTCOMES REPORT

School Year 2013 - 2014



OFFICE OF  
SUSTAINABILITY

CITY OF AUSTIN



## **FUNDING PROVIDED BY:**

Austin Resource Recovery  
Watershed Protection Department  
Public Works Department  
Austin Water Utility  
Office of Sustainability





***"Now my mom doesn't have to drive me to school anymore."***

– Maria, Cycle Academy student

**Project Name:** Zavala Elementary School

**School:** Cycle Academy

**Funded By:** Public Works Department

**Project Description:**

The mission of the Zavala Elementary School Cycle Academy is to create cyclists with the skill and ability to use their bikes not only for fun and recreation, but also as a safe and reliable mode of transportation.

Weekly classroom instruction is paired with active rides to refine safety skills, reinforce cycling ability, and experience various Austin parks. The Cycle Academy teaches students an appreciation for green natural spaces and where to find them, as well as how to properly navigate these areas by bicycle. Students keep a journal of the miles traveled during the program and calculate the amount of CO<sub>2</sub> emissions to the atmosphere that have been avoided. Through these examples, students learn to calculate the amount of CO<sub>2</sub> produced by short car trips from their homes, so they can create alternate bike routes for the same trips.

The pilot phase of the program was completed in June and the Academy will be open August 25, 2014.



*Zavala Elementary School Cycle Academy members explore the Guerrero Park Trail.*



***"We have to teach our children to be environmental stewards."***

– Donna Hoffman, School Garden Mentor

**Project Name:** Blackshear Bridge

**School:** Blackshear Elementary School

**Funded By:** Office of Sustainability

**Project Description:**

The Blackshear Bridge project is creating a sustainable school campus as well as teaching students the benefits of healthy eating habits. Blackshear Elementary is using their Bright Green Future Grant to maintain and expand the community garden located in the courtyard and to improve on the highly successful Enrichment Time Learning Program.

This Enrichment Time Learning Program provides students with the opportunity to get out of the classroom and exercise critical thinking skills as they discover and experiment through what feels like play. To enhance the community garden, students were involved in the construction of a school greenhouse as well as the planting of three citrus trees. Blackshear is also working with the University of Texas School of Architecture and the Center for Sustainable Development to create a comprehensive sustainable campus plan.

The garden expansion was completed in June 2014.



*A Blackshear Bridge student rests after tending the community garden .*



***"Our long term impact is the fostering of conservation behaviors in young children, so they can teach their families how to conserve."***

– Susan Peterson, Foundation Communities

**Project Name:** FC Afterschool Green

**School:** Foundation Communities

**Funded By:** Austin Resource Recovery

**Project Description:**

The FC Afterschool Green project will reach over 150 students, teaching them about the importance of resource conservation at home. The pilot program consists of:

- Development of curriculum focusing on environmentally-friendly behaviors in energy, water and waste management.
- A green design makeover of the learning center to support conservation behaviors, with features such as user-friendly waste separation containers for recycling, composting and landfill trash.
- Creation of a community garden where students can grow vegetables and re-use compost materials generated at the center.

On September 19, volunteers from United Way will help with the majority of rough construction for the community garden, moving stone, turning in compost, and spreading mulch.

On October 25, residents and learning center students will plant the garden. In addition, a boy scout working on his Eagle Scout badge plans to purchase and install two 500-1,000 gallon rainwater cisterns for the garden.



*Children study in the soon to be renovated Learning Center at Foundation Communities.*



***"We have to prepare our kids for an ever changing Earth."***

– Louisa Brinsmade, Project Manager

**Project Name:** Outdoor Learning Center

**School:** Pease Elementary School

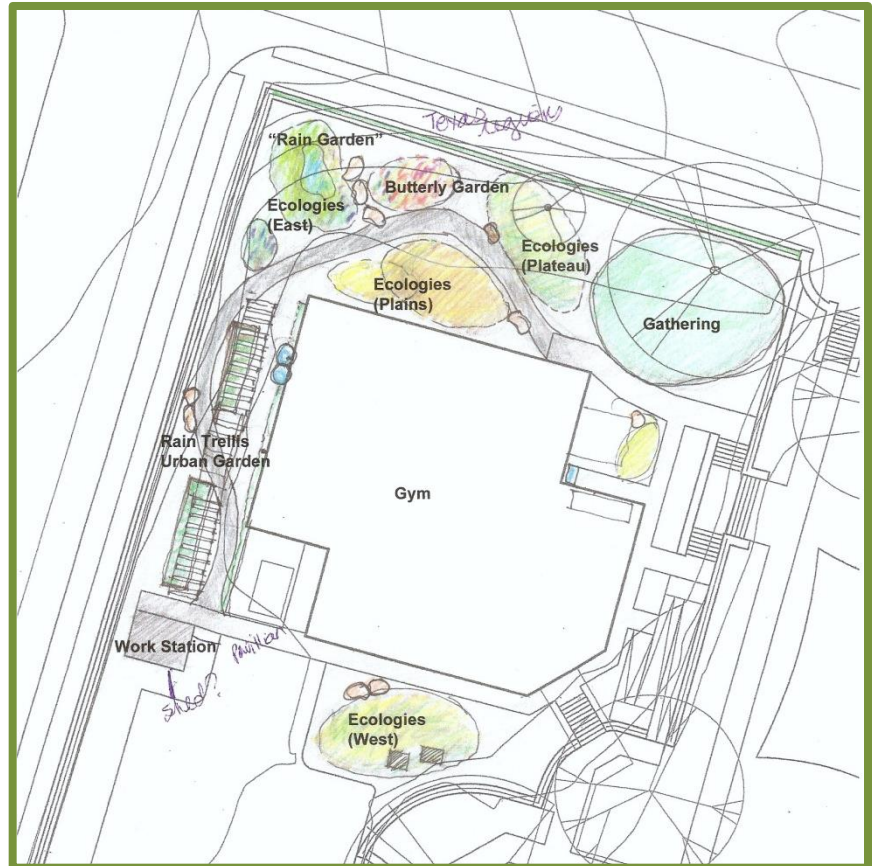
**Funded By:** Austin Resource Recovery

**Project Description:**

The Pease Outdoor Science and Learning Center is designed to teach students about sustainability using practical science applications in a natural setting on the campus. The classroom design includes rainwater collection from the gymnasium roofs, which will be used to water gardens and historic Oaks on campus, a solar-powered pump for the pond, and a large area for composting. In addition, recycled or repurposed materials will be used exclusively for construction of Learning Stations around the outdoor classroom.

The curriculum provided in the Learning Stations will be aligned with TEKS standards, teaching the Life Cycle unit through organic gardening and composting, and the Physics unit through hands-on structures built from recycled materials.

Construction on Phase I began June 23, 2014 and is scheduled for completion in December 2014.



*Design plans for the Pease Outdoor Science and Learning Lab.*



*"I didn't even know what arugula was and now I eat it all the time."*

— Jenny Stewart, Cunningham student

**Project Name:** PEAS Community Garden Phase II

**School:** Cunningham Elementary School

**Funded By:** Watershed Protection Department

**Project Description:**

Last year, grant funding was given to Cunningham Elementary School to build and operate a community organic farm. The project, known as Partners for Education, Agriculture, and Sustainability (PEAS), involved teachers, students, parents, and other members of the community in gardening, composting, and cooking activities.

The second phase of the PEAS Community Garden will be completed in August 2014 with funding from this year's grant program. It will double the available space for planting and includes plans to install a rain barrel, as well as construction of a gazebo that will be used for healthy cooking demonstrations.

In addition to learning about sustainable irrigation and organic farming practices, PEAS participants will have increased access to healthy fruits and vegetables while building stronger connections between students, local businesses, and community members.



*Students and their families tend to the PEAS Community Garden at Cunningham Elementary.*



***"This project is so important because the majority of our students only know what asphalt looks like. They had no idea something like this exists in the City."***

– Gail Buxton, Norman teacher

**Project Name:** Restoration Thru Conservation

**School:** Norman Elementary School

**Funded By:** Austin Water Utility

**Project Description:**

Restoration Thru Conservation is a natural science education program that targets underserved students at this Title 1 school. Featuring hands-on experiential learning and habitat restoration work, the program provides children with important science education, while also providing real-world application opportunities through conservation. Integrated into the school day, key components of the program will align with TEKS requirements for the fifth grade science curricula.

Fifth graders are teamed with experts to learn about Hydrology, Botany and Cartography. Students then put their new skills to work at nearby Blair Woods Sanctuary. They also participate in habitat restoration efforts which include removing invasive species, planting native plants, and caring for trails.

This year's Restoration Thru Conservation will begin in August 2014.



*Norman students are shown receiving hands-on learning in the classroom, and then applying that knowledge in the field.*





*"For even the youngest groups, there is nothing quite as effective as Show and Tell. This rain garden will show conservation in action."*

— Deborah Kjallbring, Doss parent

**Project Name:** Growing Opportunities (G.O.)

**School:** Doss Elementary School

**Funded By:** Watershed Protection Department

**Project Description:**

The goal of the Growing Opportunities (GO) program is to instill a sense of environmental stewardship among the 850 Pre-K through 5<sup>th</sup> grade students at Doss Elementary. More specifically, GO promotes water resource conservation awareness and stormwater management; GO will use rainwater harvesting to capture stormwater before it washes into the dry creeks and combined sewer systems surrounding the school campus.

The first phase of rainwater harvesting and stormwater retention will focus on the installation of a 5,000-gallon rainwater cistern and a rain garden. The GO team is considering three designs submitted by UT students and is working with local subject matter experts to determine the most effective and sustainable design.

Construction is scheduled to begin in the Fall of 2014.



*Doss students learn about the benefits of rain gardens.*



***"When children feel they are part of something, it will influence them to practice recycling until it becomes the norm."***

– Clare Bresnan, Zavala Librarian

**Project Name:** Green Beacon

**School:** Zavala Elementary School

**Funded By:** Austin Resource Recovery

**Project Description:**

The Green Beacon project at Zavala Elementary addresses students' lack of awareness and understanding surrounding recycling. The school currently does not offer recycling on campus and throws all waste into one dumpster. With Bright Green Future Grant funding, a group of 10 fifth grade students will study and measure the campus' disposal habits. These students will then educate other students and faculty through a series of assemblies and signage on the importance of recycling. The bilingual signage will also be posted outside to educate parents.

Most Zavala students live in subsidized housing projects that offer few recycling options. Without recycling examples at home, these children are unaware of all of the possible ways to conserve and reuse resources. Zavala will provide this important instruction so that children can teach their families what to do at home.

The informational assemblies will begin in September 2014.



*Zavala students learn the importance of taking care of the environment during a reading circle.*



***"Area schools are very lucky to have the City of Austin as a partner, because not only do they provide funds for projects, but they also provide their expertise."***

— Cristina Rocha, ADS teacher

**Project Name:** Rain Garden

**School:** Austin Discovery School

**Funded By:** Watershed Protection Department

**Project Description:**

The Austin Discovery School's Rain Garden project is a creative solution that will alleviate some of the flooding and drainage issues that plague the exterior of the school with minimal rain fall. With moderate to high levels of rain, the flooding expands to the interior of the building.

Installation of the rain garden will educate students about the water cycle, water conservation and green infrastructure solutions. By planting native plants in the garden, the school hopes to see a reduction in the erosion that affects campus landscaping, a reduction in runoff to the conventional sewer system and Walnut Creek Watershed, and the creation of natural habitat that invites wildlife to the rain garden.

Construction began in June and is on schedule for completion by August 25.



*ADS students spend class time in the school's vegetable garden, which will benefit from the planned rain garden.*



***"Our environment is under climatologic extremes and it is important that the next generation be tasked with a sense of ownership to repair our environment ."***

— Kelly Miles, Hill PTA

**Project Name:** Rain Collection

**School:** Hill Elementary School

**Funded By:** Watershed Protection Department

**Project Description:**

Recognizing that currently the most detrimental environmental problem in Central Texas is drought, Hill Elementary School's Rain Collection project will provide a low maintenance solution to collecting water for reuse on the campus. With over 70,000 feet of flat roof space on the main building, the school will be able to collect a significant amount of water from runoff.

The collection system will be noticeable from all sides of the campus and promote Hill as an environmentally sensitive campus. Students already assist in hand-watering Hill's extensive native plants landscaping; this collection system will provide a hands-on educational opportunity about rain, water collection, dissemination and recycling. The Art Club will produce signage to educate students on the importance of water conservation.

Construction began in June and is on track for completion in August of 2014.



*With over 70,000 square feet of flat roof space, Hill Elementary's rain collection system should capture enough water to provide campus irrigation.*



*"This garden created a place other than the classroom where learning is valued and it emphasizes hands on learning."*

— Cristina Pena, Williams teacher

**Project Name:** Community Garden

**School:** Williams Elementary School

**Funded By:** Office of Sustainability

**Project Description:**

Utilizing an area of the school that was underutilized and experienced constant soil erosion, Williams Elementary School proposed a solution that addresses both by installing a Community Garden for students and their families. Through construction and planting of this garden, students have learned to create, maintain and harvest healthy food, as well as ways to improve home nutrition.

The first phase of the project involved leveling the land by adding soil and mulch. Next, students and their families built eight raised vegetable garden beds and used native plants for additional landscaping. This garden has taught students to be more respectful of the environment, insects, composting, and water conservation.

Construction on the garden began in the Summer of 2013 and was completed in April 2014.



*Composting created with material from the Williams' cafeteria is available for community use.*



***"The courtyard will be the classroom. No textbook can replace the first hand experiences the pond will provide."***

— Karen Hanson, Perez teacher

**Project Name:** Courtyard Pond

**School:** Perez Elementary School

**Funded By:** Office of Sustainability

**Project Description:**

According to the National Wildlife Federation, a schoolyard needs 3 separate features to be certified as a Wildlife Friendly Schoolyard Habitat. Perez Elementary provided the first two: sources for Food and Shelter/Rest. However, it was lacking a significant Water source for wildlife. Completion of the school's Courtyard Pond will provide that Water source and help the school achieve NWF certification.

Plans call for a large pond to be built in the school's enclosed courtyard. The pond will be elevated and enclosed on three sides with stone, with the fourth side made of Plexiglass so that students can view a cross-section of the pond. Students will be actively involved in the building, supplying and maintenance of the pond. Materials collected from the pond filter will be used to fertilize campus trees and gardens.

Construction on the pond began in July with a target completion date of September 2014.



*Parents of students at Perez volunteer to do some of the heavy lifting as they begin installation of the Courtyard Pond.*



*"The quiet, lush beauty of the area will invite people to come garden, sit and chat, and build a community."*

– Nine Francois, KMS parent

**Project Name:** Community Garden – Rain Collection

**School:** Kealing Middle School

**Funded By:** Watershed Protection Department

**Project Description:**

The Community Garden at Kealing Middle School, which started as an after school club, is now an official elective in the KMS curriculum. The garden offers students the opportunity to work together while learning about environmental stewardship, science, healthy food options, farming, and problem-solving. Today the garden consists of 8 planting beds for KMS students, 3 beds for the community, an outdoor classroom, and a two-room shed to house gardening tools that features a water collection roof.

Bright Green Future Grant funding will allow Kealing to install a rain collection system to help water the entire garden. Currently, the gardens are watered through a spigot that requires a special key for access. The new rainwater barrel and gutter system will be incorporated into the shed design, allowing unfettered access to the water supply.

Construction began in July with completion expected in late August.



*Kealing students and volunteers build the tool shed that will be the centerpiece of the rain collection system.*



***"Our biggest contribution is educating and empowering our youth and community to make a difference."***

— Dr. Sherry Lepine, GTA Director

**Project Name:** Green Tech Academy

**School:** Small Middle School

**Funded By:** Austin Resource Recovery

**Project Description:**

Small Middle School started a grassroots program over 10 years ago to address the disconnect between people and nature. This program has become the Green Tech Academy, where projects have been almost entirely envisioned, designed, and completed by students, with guidance provided by staff.

Some Green Tech Academy projects include a 600 square foot greenhouse for native plant and food propagation, as well as thousands of square feet of native gardens and raised beds, which supply the school salad bar. The school has been recycling for 10 years and uses engineering courses in the academy to design composting systems. Currently, the school is using found materials – cob bricks, tires, bleachers - to construct a Labyrinth. Recently the school's chicken coop was added to the Funky Chicken Coop Tour.

The Labyrinth is scheduled for completion in the Fall of 2014.



*Green Tech Academy students show off the most recent edition to the Funky Chicken Coop Tour.*





***"It's just more fun riding on a bike than riding in a car."***

– Daniel, Cycle Academy student

**Project Name:** Cycle Academy

**School:** Kealing Middle School

**Funded By:** Public Works Department

**Project Description:**

The Kealing Cycle Academy is a structured education program that concentrates on bicycle riding, safety, and maintenance skills. The curriculum is divided into education modules that measure and track each student's achievements and progress with the goal of developing youth cyclists who can be teachers within their peer groups and families.

Weekly classroom instruction is paired with active rides to refine safety skills, reinforce cycling ability, and experience various Austin parks. The Cycle Academy teaches students an appreciation for green natural spaces and where to find them, as well as how to properly navigate these areas by bicycle. Students keep a journal of the miles traveled during the program and calculate the amount of CO<sub>2</sub> emissions to the atmosphere that have been avoided. Through these examples, students learn to calculate the amount of CO<sub>2</sub> produced by short car trips from their homes, so they can create alternate bike routes for the same trips.

The pilot phase of the program was completed in June and the Academy will be open on August 25, 2014.



*Christopher Stanton and students of the Kealing Middle School Cycle Academy explore the Southern Walnut Creek Trail.*



***"This project will illustrate how to strike a balance between nature and growing food locally. Kids need to understand oranges come from nature – not HEB. "***

**– Annette Schlageter, BMS PTA**

**Project Name:** Dryland Farming

**School:** Bailey Middle School

**Funded By:** Austin Water Utility

**Project Description:**

Bailey Middle School plans to establish a demonstration fruit orchard to empower students to grow healthy fruit by using proven water conservation techniques. The project will challenge students and citizens to think about food production and, most importantly, water conservation. The project is innovative because it will use rain water for producing fruit.

Fruit trees and fruiting bushes that are well adapted to our area will be planted with an emphasis on variety, proper site preparation (mulch, berm and swales), and rain water collection to provide a model that students can apply to their backyards. The school will plant a model orchard of at least 15 trees and 10 fruiting bushes so that all 1,000 Bailey students will have the opportunity to interact in the orchard, engage in independent learning, and be empowered to grow fruit at home.

Site preparation began in the Spring, with trees and bushes scheduled to be planted late Fall of 2014.



*Aerial view of Bailey Middle School where a demonstration fruit orchard will be planted in the Fall of 2014.*



***"You can teach anything in a garden."***

– Martha Cason, GHS Teacher

**Project Name:** Community Gardens

**School:** Garza High School

**Funded By:** Office of Sustainability

**Project Description:**

The Garza High School Community Garden project encompasses the entire campus. There are two garden beds on the grounds: one for herbs and the other for a community garden with vegetables. The area also includes a native orchard area, native wildlife landscape, horse stall, goose pen, two compost areas, outdoor classroom, urban forest area, rainwater collection areas, and a pond. All areas are designed, installed and maintained by students, primarily using repurposed materials. Garza High School also has one of the most robust recycling programs in the district.

The community garden is not only used by the students of Garza High School, but also provides healthy food preparation demonstrations for community members.

Expansion plans for Fall 2014 include keyhole gardens, a rain garden and the rainwater collection area.



*Solar panels add to the learning experience in the Garza High School Community Garden.*



***"Students participating in this project will acquire the knowledge and skills to be environmental leaders in the community."***

— Rebeca Guerrero, THS teacher

**Project Name:** Outdoor Learning Center

**School:** Travis High School

**Funded By:** Austin Resource Recovery

**Project Description:**

This project is a collaboration between Travis High School's Environmental Science class, Engineering class, and their Green Teens after school program. Students will work together to revitalize an existing, but limited, vegetable garden. The plan is to incorporate native vegetation, water catchment receptacles, and composting bins in an outdoor classroom setting by using repurposed materials. Engineering students will be responsible for designing the outdoor classroom and utilities necessary to make it functional and sustainable. The rest of the students will be charged with designing, creating, and building the gardens and compost bins.

This project will promote student engagement with natural settings and encourage them to spend more time in the environment around them.

Design of the project was completed in June, with construction to be completed in the Fall of 2014.



*Preparations have begun for Travis High School's Outdoor Learning Center.*



***"The 'big picture' is an integrated system that produces food and fertility for future generations."***

*– Nicole Welling, Eastside teacher*

**Project Name:** Outdoor Learning Center and Garden

**School:** Eastside High School

**Funded By:** Watershed Protection Department

**Project Description:**

Eastside High School used their 2013/2014 Bright Green Future Grant to create an outdoor classroom that produces food, reduces waste, and cycles nutrients. Although a thriving garden is useful for obvious reasons, this project strives to integrate many innovative ideas into one small space. Specifically, this outdoor classroom provides creative solutions to common socio-economic and environmental problems, and will be a shared community asset for years to come.

The outdoor learning center was built in the school courtyard that was "shovel ready" and principal-approved. The garden contains three, 4 X 4 foot raised beds that various student groups and classes maintain. There is also an active compost pile that provides the beds with nutrient enrichment.

Several phases of the project have been completed, with the Outdoor Classroom scheduled for completion by August 2014.



*Jessica Wilson, WPD Education Manager, poses with students and teachers in front of the raised bed gardens at Eastside Memorial High School.*



## OUTCOMES ACHIEVED

More than 1,000 student have participated

70 schools have applied for grants

19 different native plant species planted

2,500 pounds of vegetables produced

Over 65,000 gallons of water saved

25% of campus waste diverted through composting

17,280 miles traveled by bike instead of by car

