

NEHA Excellence in Sustainability Award Application

Columbus Green Community Plan Summary

The City of Columbus, Ohio, has created an innovative and comprehensive environmental management plan that has achieved significant results in protecting natural resources, reducing impacts to the environment and promoting environmentally sustainable practices. Initiated 10 years ago, the plan has partnered city of Columbus staff together with community volunteers to create environmental policies, programs and infrastructure across a range of areas. This partnership has resulted in significant and measurable environmental improvements for the city and its residents. Since 2012, these green successes include:

- City purchase of electric cars and establishment of car charging stations
- City construction of compressed natural gas (CNG) fueling stations
- Launching of free bi-weekly recycling services to Columbus households
- Launching of community car and bike sharing programs
- Downtown dam removal and river restoration resulting in 33 acres of new greenspace
- Installation of the state's largest solar project of its kind on the City's fleet maintenance facility
- Conversion of all city busses to CNG and launching of free downtown circulator bus service
- 11,000 Columbus area residents becoming environmental ambassadors through sign-up in the city **GreenSpot** Program.
- The initiation of an annual Earth Day drug drop-off event at Columbus Public Health collecting over 400 pounds of expired and unwanted medicines, removing them from the waste stream and ultimately protecting community waterways.

In January 2015, the latest version of the management plan – **The Columbus Green Community Plan: Green Memo III** – was released after a year of development. The plan contains both specific actions to maintain current environmental efforts and steps to develop new environmental protection initiatives in the next five years. Goals have been created across 9 environmental areas: 1) climate change, 2) energy, 3) transportation, 4) waste reduction, 5) ecological systems, 6) water, 7) local food, 8) built environment and 9) community engagement. Each of the 178 associated actions will be carried out through the formation of implementation groups, identification of organizational stakeholders to develop action initiatives, and the assignment of a “liaison” to track and report implementation progress to the city administration. The link to the Green Memo III:

http://columbus.gov/uploadedFiles/Columbus/Programs/Get_Green/Survey/The%20Columbus%20Green%20Community%20Plan%20FINAL.pdf

General Project Description

Comprehensive Description

The City of Columbus, OH, is the 15th largest city in the United States, with a population of approximately 822,000 persons. Located in the geographic center of the state, Columbus is the state capital and the region is home to 15 Fortune 1000 and five Fortune 500 companies. Unlike many major U.S. cities, Columbus continues to grow in population, and is one of the fastest growing large cities in the nation. Columbus is also the home of the nation's largest university campus, The Ohio State University.

The city area is 212 square miles, which contains 2.3 square miles of water, including the Scioto and Olentangy Rivers. A number of smaller tributaries run through the metro area, including Alum Creek, Darby Creek and Big Walnut Creek. The city is also home to several thousand parks and recreation areas, including the Grange Insurance Audubon Center, located just 10 minutes from downtown, where thousands of birds migrating from Central and South America rest as a stop-over in their long journeys.

To protect its natural resources and the health of its plants, animals and residents, the city has created an innovative, comprehensive environmental management plan. The *Columbus Green Community Plan* has achieved significant results in reducing impacts to the environment and promoting environmentally sustainable practices. The plan and associated work uses City staff – working together with community volunteers – to create policy, program and infrastructure initiatives across a wide range of environmental areas.

Each initiative has resulted in significant, measureable improvement. Since 2012, these “green” successes have included:

- City purchase of electric cars and establishment of car charging stations
- City construction of compressed natural gas (CNG) fueling stations
- Launching of free bi-weekly recycling services to Columbus households
- Launching of community car and bike sharing programs
- Downtown dam removal and river restoration resulting in 33 acres of new greenspace
- Installation of the state's largest solar project of its kind on the City's fleet maintenance facility
- Conversion of all city busses to CNG and launching of free downtown circulator bus service
- 10,000 Columbus area residents becoming environmental ambassadors through sign-up in the city **GreenSpot** Program.
- The initiation of an annual Earth Day drug drop-off event at Columbus Public Health collecting over 400 pounds of expired and unwanted medicines, removing them from the waste stream and ultimately protecting community waterways.

Initiatives are identified and developed through a collaborative planning process using paid city staff and a volunteer “Green Team.” Green team members are community representatives from area business, education, non-profit, community, and citizen organizations. Their purpose is to collectively offer the Mayor advice and assistance on environmental matters. Every five years the administration's environmental agenda is produced in a management plan, nicknamed the “Green Memo.”

In January 2015, the latest version of the management plan – *The Columbus Green Community Plan: Green Memo III* – was released after a year of development. The plan contains both specific actions to maintain current environmental efforts and steps to develop new environmental protection initiatives in the next 5 years. Goals / Goal Statements have been created across 9 environmental areas:

- | | | |
|--------------------|-----------------------|-------------------------|
| 1. Climate Change | 2. Energy | 3. Transportation |
| 4. Waste Reduction | 5. Ecological Systems | 6. Water |
| 7. Local Food | 8. Built Environment | 9. Community Engagement |

Each of the 178 associated actions contained in the plan will be carried out through the formation of implementation groups, identification of organization stakeholders to develop action initiatives, and the assignment of a city “liaison” to track and report implementation progress to the city administration.

Environmental Protection and Stewardship of Natural Resources

One way that the *Columbus Green Community Plan* has proven critical in protecting the environment has been by first highlighting the need to establish baseline information regarding resources used and waste produced. Prior to creation of the *Green Community Plan*, the city lacked accurate and comprehensive information on its environmental status and activities. The project has devoted considerable resources to systematically compile baseline information, which has resulted in the ability to gauge impact from our actions and evaluate the success of our efforts. Some of the baseline data generated from the planning process includes:

- Greenhouse gas totals produced by city operations (2005 and 2013)
- Community greenhouse gas totals (2013)
- Annual residential, commercial and per capita consumption totals for gigawatt hours (electricity) and MCF (1,000 cubic feet of natural gas)
- Percentage of electricity produced from renewable sources
- Community gallons of gasoline used
- Gallons of petroleum used in city operations
- Number and type of alternative-fuel vehicles (AFV) in city’s fleet
- Number and type of alternative fuel vehicles (AFV) sold in City of Columbus
- Percentage of city residents driving a single-occupancy vehicle to work
- Tons of food and yard waste diverted from county landfill
- Tons of recyclables diverted from landfill

The *Green Community Plan* process has increased site stewardship of the city’s natural resources because the planning structure, initiative development and implementation efforts have been expanded to a larger and more diverse group than traditionally seen in other city planning efforts. City staff works alongside “Green Team” community volunteers, who represent private, public, educational, non-profit or community stakeholder organizations. In addition, the project has dedicated significant resources to conduct outreach activities to area residents, providing them with 1) the opportunity to comment on project documents and direction, and 2) educational information on specific actions they can take (as

individuals or businesses)in their daily lives to improve the environment. This most visible piece of this educational arm is the web-based **GreenSpot** Program, which currently has over 11,000 registered members. The opportunity to become an active member of the “Green Team” or a registered **GreenSpot** member has helped to expand the sense of environmental stewardship to far more people than would normally occur in a more traditional process limited to only city staff.

Project Motivation

Initial motivation for developing the *Green Community Plan* came in 2004, when 10 Central Ohio political jurisdictions banded together and established an accord to protect the Big Darby Creek watershed system, which was threatened by development. The Big Darby watershed, located southwest of Columbus, is recognized as a high quality ecosystem and much of the river is recognized as a state and national scenic river. In a canoe trip along the creek, Columbus Mayor Michael Coleman was inspired by the beauty of this natural resource and decided to establish a comprehensive environmental management plan that would not only help protect the Big Darby, but would also address other environmental issues facing the city of Columbus. Since that time, the mayor’s environmental management plan has been contained in successive “Green Memo” documents, produced every five years.

Project Outreach Efforts

The project has devoted significant resources for outreach efforts since its inception. As mentioned above, this has included formation of the volunteer “Green Team” to help guide city planning efforts, and the development of the web-based **GreenSpot** program that now provides 11,000 individual Columbus residents the opportunity to become environmental stewards.

In addition, Green Community Plan organizers expanded their public outreach efforts in 2014 by systematically seeking public comment on the most important environmental issues facing the community. This was done through the use of “Speak Up” comment boxes at a variety of city events and community festivals. The boxes were used to solicit residents’ comments on the community’s environmental issues and how the city could be more sustainable. A similarly-branded website was also created and promoted to the public to allow remote input.

Many of the ideas addressed in the comments provided were already reflected in earlier Green Memo plans. Even so, the comments were useful because they helped show which ideas had broadest public support. More importantly, the use of the comment boxes was extremely helpful in deciding among new potential environmental actions that should be included in the latest “Green Memo” plan. Plan developers used a criticality matrix – with public support being one decision criteria – to help prioritize the action steps that could realistically be completed in five-year time frame.

Innovation Sustainability and Partnerships

The most recent version of the *Green Community Plan* included new work that's not been part of past environmental planning efforts. The current plan was developed as part of a process that also included creation of a broader community vision and value statements:

Vision: Columbus – A green community: Beautiful. Healthy. Prosperous.

Values:

- **Foster healthy, safe and vibrant living**
- **Ensure equity, inclusion and access to community resources for all residents**
- **Increase employment opportunities that generate earnings sufficient for living**

These broader building blocks helped to engage participants by placing their environmental work within a larger context. They enable Columbus residents to see that the city's environmental efforts are linked to broader community desires. The vision and values also help ensure that the city's environmental agenda is aligned and integrated with other daily work being carried out by Columbus administrators. This, and the fact that each city department assigns a staff member to assist in developing the *Green Community Plan*, helps ensure the resulting work (and planning process itself) is sustainable over time.

The *Green Community Plan* has helped to create unique partnerships and constructive solutions to environmental challenges. Among these partnerships:

- A joint climate change education and research project between the Columbus Public Health Department and The Ohio State University. In 2014, climate change presentations and surveys were given to approximately 650 residents, providing them with the best science information on the issue, and getting input on their beliefs and actions they'd support to address it. Project results will be used to help develop a city climate change action plan.
- Creation of "Pedal Instead" – A free, secure, supervised bicycle parking program offered at city events and festivals. The program was initially created by a Green Team subcommittee and supervised by the city Recreation and Parks Department. It has since transitioned to *Yay Bikes!*, a grassroots non-profit. In 2014, 7,434 bicycles were parked at 17 events. This equated to 4,432 gallons of fuel saved and 90,412 pounds of CO² emissions avoided. Since the program began, more than 50,000 bikes have been parked and nearly 500,000 automobile miles saved.
- Deconstruction Initiative – The initiative teams City of Columbus, private and non-profit organization partners to remove blighted houses from neighborhoods, while recycling much of the material and providing training and employment opportunities for ex-offenders. 2013 results included 19 homes deconstructed, 9,700 linear feet of wood being saved, 80 cubic tons of foundation stone saved, 4.75 tons of metal being saved, and more than 40 employment opportunities for men and women with significant challenges to employment,

Superior Practices

Coordinators of the Green Community Plan believe the project structure and process can result in environmental benefits that exceed what might be achieved using other practices. The reasons relate to the participating groups and their specific roles.

The main group – the Mayor’s Green Team – is a volunteer body serving in an advisory role to the mayor and his office of Environmental Stewardship. Green Team members represent a wide range of community institutions, including neighborhood groups, non-profits, businesses and educational institutions. They serve as subject matter experts for work being performed in each of the nine environmental areas being considered. As environmental volunteers, Green Team members are motivated, passionate individuals who provide the Administration with thoughtful ideas, and valuable knowledge and skills. Their work as volunteers creates a greater sense of accountability regarding project development and environmental change.

However, the use and effectiveness of volunteers in planning / development projects can be limited for a variety of reasons. These include 1) the lack of available time that can be allocated to significant, long-term, projects, 2) the lack of financial resources that usually handicap projects utilizing significant levels of volunteer assistance, and 3) the fact that volunteer-led projects can lack a sense of institutional acceptance or importance. But these limiting factors are greatly offset by the appointment of paid city staff members as Green Coordinators. One or more staff members from each city department serve as liaisons to the Mayor’s Office of Environmental Stewardship, and assists Green Team members in their work. The Green Coordinators help provide institutional buy-in from their respective work organizations regarding Green Team work. They provide valuable advice to the Team on the feasibility of work being considered, as well as implementation options concerning Green Memo actions steps. Finally, their participation provides the Green Team with a level of staff support and other resources not available in volunteer-based projects.

Finally, the considerable time and effort dedicated to community outreach resulted in valuable input concerning Green Team work. These efforts included “Speak Up” comment boxes and related efforts made available at a variety of community events and festivals, where residents were asked to provide their input on how Columbus could be more sustainable. A website was also developed and promoted to the public for residents who wanted to contribute input remotely. This public outreach was extremely important in developing the Columbus Green Community Plan. It generated ideas for development by Green Team members. It vetted ideas put forth by Green Team members themselves. And it helped generate community knowledge and support about the Administration’s environmental agenda and planned actions.

Commitment and Leadership in Pursuit of Environmental Achievement

The Columbus Green Community Plan has resulted in a number of written policies and city management practices that demonstrate the city's commitment to environmental leadership and achievement. These include:

- Originating establishment of Big Darby Accord to protect watershed ecosystem
- Formation of a community Green Team, which serves to provide advice to the city administration on the creation of environmental policy
- City anti-idling and paper usage policies established through Executive Order
- Development of the Central Ohio Green Pact, a 10-point approach to creating a more environmentally-friendly region – by the Columbus and 11 other central Ohio mayors
- Adoption of the Environmental Management System (EMS) by the Department of Public Utilities to ensure its staff follows the best environmental management practices in their work. ISO 14001 certification was obtained in 2014
- Creation of an Air Quality Alert Action Plan, which notifies all city departments and staff when ozone and PM pollution levels are forecast at unhealthy levels)
- Creation of the Columbus Green Fund , which provides \$1-million annually to support private green building and brownfield development projects. From 2011-2014, this fund has awarded 48 grants totaling over \$3-million.

Employee Participation and Education

City of Columbus employees play a significant role in both the environmental planning work and the development and implementation of action items established under the Green Community Plan. Staff members from each city department are named as “Green Coordinators.” As Green Coordinators, their responsibility is to assist the city Environmental Steward volunteer Green Team in their work by participating on Green Team workgroups. In addition, Green Team Coordinators are expected to assist with, develop or oversee environmental initiatives within each of their respective departments. These initiatives may be part of administration's Green Community Plan. However, their work as Green Coordinators often empowers staff to explore additional opportunities for environmental stewardship. As a result, these initiatives may also be other, separate environmental initiatives developed independently from the Green Community Plan process.

Green Coordinators are provided an opportunity each year to enroll in the Ohio Environmental Leaders Institute (OELI). Developed by The Ohio State School of Environment and Natural Resources, OELI provides a 3-day training to participants on a variety of environmental issues concerning sustainability, decision making, project planning and management, etc.

Technical Assistance

Technical assistance was provided by a city planning department staff member, who meeting facilitation services at both large committee and smaller workgroup sessions. These services were extremely

valuable, given the large number (50+ persons) who often participated in committee sessions. Clear direction to committee members regarding expected work and work processes was critical in enabling them to do significant work in limited available time. In the smaller workgroup sessions (6-10 persons) the facilitator was extremely valuable in effectively guiding discussion, summarizing workgroup input and identifying future work needs.

Organization's Financial Commitment

Overall coordination of the Columbus Green Community Plan rests with the Office of Environmental Stewardship. Housed in the mayor's office, it contains the city's Environmental Steward, two other full-time staff, and five office interns

In addition, 19 other staff is appointed by department directors as Green Coordinators to 1) serve as liaisons to the Office of Environmental Stewardship, 2) actively participate on the mayor's volunteer Green Team, 3) ensure internal initiatives developed in the Green Community Plan are being carried out, and 4) oversee other environmental activities in their own respective departments. Offices / Departments appointing Green Team Coordinators include:

- Civil Service
- Human Resources
- Public Service
- Building & Zoning Services
- Public Utilities
- Public Safety
- Public Health
- Community Relations
- Development
- City Council
- Recreation & Parks
- Finance & Management
- Technology

Green Coordinators assist the Office of Environmental Stewardship and its volunteer Green Team as part of their normal department responsibilities. Their positions are not funded via grants or outside sources.

Sustainability

Embedding Green Coordinators across 13 city offices and departments – and the fact that these positions are not funded via grants or outside sources – helps ensure long-term continuity (sustainability) in the environmental planning process. It also provides for a ready-made work force that can assist with the development, implementation and management activities associated with the environmental actions. And, because many of the Green Coordinators are staff with significant city tenure, they're often a source of valuable institutional knowledge regarding city processes and community stakeholders needed to implement recommended actions.

Transferability to Other Users

The Green Team planning model can easily be replicated by other governments. All cities have residents passionate about protecting the environment who would gladly be tapped as volunteer advisors. City staff already working in applicable departments (i.e., Public Utilities, Parks and Recreation, Forestry, Public Service, etc.) could be selected to work with them in development of environmental policies, initiatives and programs.

The Green Team model has also produced a number of examples where project activities or results are being shared by others. One Green Team project, formally administered by the Columbus Recreation and Parks Department, is now being coordinated by a local bike advocacy organization, whose executive director is Green Team member. The *Pedal Instead* program was initially created by the Green Team in 2007 to encourage more people to reduce their driving by making shorter trips by bicycle. Members recognized that a significant barrier to this goal, however, was the lack of supervised / secure bicycle parking facilities.

In response, *Pedal Instead* was created to provide residents with free, secure, valet-style bicycle parking at public events –originally, annual festivals sponsored by the City of Columbus Recreation and Parks Department. As part of these events, Department staff added bicycle corrals where riders could park without worry.

After its initial year, coordination of the Pedal Instead program was assumed by *Yay Bikes!*, a non-profit organization dedicated to increasing trips by bicycle and reducing the number of bicycle crashes in the Central Ohio area. In 2014, the program parked approximately 7,500 bicycles at 19 events – saving 4,300 gallons of fuel and over 90,000 pounds of related carbon dioxide emissions. Since the program began, over 50,000 bikes have been parked and nearly 500,000 automobile miles saved.

A second Green Team program, **GreenSpot**, was introduced in 2008 to give community members a place to make pledges to conserve energy, protect and conserve water, and reduce waste. Households, residents and community groups get involved by registering on-line, where they can also receive educational information and environmental incentives like low-cost rain barrels. As of 2014, the program registered more over 10,000 members.

Since its inception, the program has also launched **GreenSpot for Kids**, which helps first-grade teachers incorporate sustainability themes in the classroom. It will soon be expanded to include green-themed summer camp experiences. At the end of 2014, the program was working with over 140 classes representing over 4,000 Columbus students.

GreenSpot also offers Corporate Sustainability Initiatives classes for area business. As of November 2014, 25 large organizations representing thousands of employees have completed or are enrolled in classes.

Funding Sources

The *Columbus Green Community Plan* is directed from the Mayor's Office of Environmental Stewardship, which is financed through a combination of general fund, enterprise dollars and grants. The Mayor's budget includes approximately \$250,000 annually to cover a portion of Office personnel costs, as well as special project funds. Another \$150,000 in annual costs is contributed by The Solid Waste Authority of Central Ohio, which has been a long-time supporter of the office. A final piece – **GreenSpot** coordinator – is supported through the Public Utilities enterprise fund (approx.. \$60,000/year).

The Office is assisted in developing the *Columbus Green Community Plan* by the Mayor's Green Team, consisting of 34 community representatives who have been appointed by the Mayor to serve in advisory capacity on issues relating to environmental sustainability. Green Team members serve in voluntary capacity and their work is not funded by city general fund, special fund or grant dollars.

As mentioned, 19 Departmental Green Coordinators are appointed to serve as liaisons to the Mayor's Office of Environmental Stewardship and assist in the Green Team in developing *the Green Community Plan*. They're work is reflected as a portion of their regular office, division or department duties, and funding through the respective general or enterprise funds.

Other Details: Environmental, Economic and Operational Benefits

The Columbus Green Community Plan has resulted in significant operational and environmental benefits for the City of Columbus and its residents. These benefits have been realized through 1) protecting environmental resources or reducing environmental contaminants, 2) implementing city operational and maintenance improvements, and 3) saving significant tax dollars. Notable highlights include:

I. Volunteer Engagement

- Planting trees, cleaning up litter, removing invasive plants, tending to gardens
- The 58,000 volunteer hours in 2013 = \$1.3 million in labor value (assuming \$22.13/hr. rate)

II. Energy Efficiency Projects

- Interior and exterior lighting efficiency upgrades on various facilities throughout the City to reduce electricity usage and costs.
- Upgrading HVAC units to more efficient models to reduce both electricity and natural gas.
- Installed occupancy sensors in many police substations to reduce lighting run time hours.
- Upgrading control systems to eliminate pneumatic systems (leaky and inefficient) and ability to adjust for comfort.
- Upgrade of traffic and pedestrian signals to LED technology throughout the City.
- Conservative estimated cumulative savings from 2009-2014 is over \$650,000

III. American Electric Power Energy

- Columbus is currently purchasing 30% green power from the utility [e.g. wind-generated, solar-generated, etc.], which is projected to reduce the city's greenhouse gas emissions by 7%
- Locking in at a lower kwh rate and is projected to save the City \$1.1 million over 3 years

IV. Solar Array – Fleet Management Groves Road

- 2013 installation of 2,650 solar panels on Fleet Management's administration building
- The panels provide over 50% of the building's annual electricity needs, resulting in approximate annual savings of \$16,000, and reducing greenhouse gas emissions by 566 tons

V. RecyColumbus

- Free, citywide biweekly recycling and yard waste collection program launched in 2012
- Since inception, the program has saved \$3.7 million in landfill tipping fees

VI. Alternative Fuels – Fleet Management

- Approximately 400,000 in CNG gasoline gallon equivalent pumped to internal and external city customers in 2014, reducing carbon dioxide emissions by 3,556 metric tons
- Projected CNG savings for the city and its residents was \$738,000, compared to 2014 average price of diesel (\$3.85/gallon)

VII. Fuel Usage Reductions

- Fleet efforts since 2010 have resulted in a 2.6% reduction in fuel usage
- This approximates 90,000 gallons, which is about a \$320,000 in cumulative savings (or \$80,000/year)
- Accomplished through right sizing, use of more fuel efficient vehicles, and anti-idling measures