

CITY OF COLUMBUS • MAYOR MICHAEL B. COLEMAN

GET GREEN

2010



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A LETTER FROM THE MAYOR

Friends, Partners and Community Leaders:

Just five years ago we issued the Green Memo and launched the Get Green Columbus campaign, and already you can see the impact in our city. I am amazed at the progress we and our civic partners are making in the greening of Columbus and making this a smarter, more sustainable community for future generations. We are also proving that Green is not only good for the planet, but it is also good for business and job creation.

The third party national benchmarking program, SustainLane, recognized our achievements and, in 2008, listed Columbus as the most improved city, stating “Columbus is a veritable Phoenix rising from ashes as the city shoots up a full 20 spots from its rank as dead last in 2006. Cities looking for sustainable inspiration need look no further than the Buckeye state.” This year, Smarter Cities, a project of the Natural Resources Defense Council, ranked Columbus 15th among the 67 large cities evaluated.



Get Green Columbus includes a mix of City operational initiatives and challenges to the community and we are seeing progress on both fronts. In addition to improving our energy efficiency in older City facilities, every new City construction project is LEED certified by the U.S. Green Building Council. Together with private partners we saved the historic Lazarus Building and made it among the nation’s largest green rehabs. We also opened our first sustainable residential neighborhood at GreenView Estates.

We are seeing our Bicentennial Bikeways Plan come to fruition, as Bicycling Magazine has named Columbus one of five cities to watch in the future. Columbus currently has 78.3 miles of bike routes and trails. We want to see an additional 36 miles of trails and 58 miles of on-street bike lanes and routes by the year 2015.

We have been repeatedly recognized for our Fleet Management Division, which was just named one of the greenest fleets in the nation at the Green Fleet Conference 2009 Environmental Leadership Awards. It has also been recognized multiple times by 100 Best Fleets, most recently placing in the top 20.

In July 2008, we launched the Green Spot program. The program was created to inspire, educate and recognize those making efforts to get green. Currently we have over 1,500 businesses, residents and community groups signed up as Green Spots. The program has been truly successful and is serving as a public engagement model for other communities throughout Ohio and North America.

I want to thank all of our city employees, including my Environmental Steward Office, our office recycling stewards and green coordinators. I also want to thank members of my Green Team and special thanks to the Solid Waste Authority of Central Ohio for partnering with the City of Columbus to fund the Environmental Steward’s Office.

I am proud of the progress we have made and look forward to working collaboratively in the future to advance our sustainability goals. As we move ahead to Columbus’ Bicentennial and beyond, we need to build on the successes of the past five years and focus our efforts to ensure that we meet the needs of today without compromising the ability of future generations to meet their needs. We need to balance everything we do as a community and how we manage our great city with the 3P principles of sustainability—balancing the needs of People Planet and Profit. This is our definition of “green”. With this definition and the community’s vision for Columbus’ future articulated, we have created the following strategic plan to carry us ahead into the next five years 2010-2015; this document will be known as Green Memo II.

Sincerely,

A blue ink signature of Michael B. Coleman, written in a cursive style.

Mayor Michael B Coleman

GET GREEN COLUMBUS ACTION PLAN 2010-2015

Mayor Michael B. Coleman launched the “Get Green Columbus” initiative January 28, 2005. A “Green Memo” was issued outlining a series of strategies to both meet economic development goals and ensure a healthier environment. The document provides a policy framework for our community as we come together to address these goals. It outlines changes in city operations to improve efficiency and environmental sensitivity. It also directs our agencies to use the City’s purchasing power and investment incentives to encourage job creation. A key part of this effort was the formation of both an internal administration and external community based Green Team. The group provides an Annual Report detailing the Administration’s progress in moving the City and our community toward advancing an environmental agenda. The Green Memo and annual reports can be found online: www.getgreencolumbus.org.

We are committed to improving the environmental performance of the City’s operations: this means that we will reduce the City’s impact on the environment, as well as conserve natural and financial resources and provide a healthy place for people to live, work and raise a family. We will do this by reducing energy usage, solid waste and water usage, and by increasing the amount of power generated from renewable sources. We will also work with partners to provide transportation options and continue to reduce impact on our waterways — which are the main source of our community’s drinking water and provide recreational opportunities for our residents and visitors. We commit to lead by example throughout the City of Columbus’ operations and to encourage the community to get green by providing incentives and eliminating barriers in our regulations.

As part of the Get Green Columbus initiative, on February 22, 2007, Mayor Michael B. Coleman signed onto the U.S. Mayors Climate Protection Agreement. Since then, the City has conducted a greenhouse gas emission inventory of the City’s operations. Its 2005 baseline emissions are 317,926 MT eCO₂. The City of Columbus has set a



goal to reduce greenhouse gas emissions by 2% per year until 2030 (40% below 2005 levels). The sources of the City’s emissions are:

- Buildings — 31%
- Wastewater Treatment — 37%
- Drinking Water Treatment — 18%
- Transportation — 12%

The City of Columbus has identified over \$400,000,000 worth of energy efficiency projects aimed at reducing our energy usage and meeting our greenhouse gas reduction goal.

In addition, on October 4, 2007, Mayor Coleman joined with elected officials from 12 other local jurisdictions in signing the Central Ohio Green Pact. The Pact commits the City to lead by example. The goals of the Pact are to

- 1.) Green Public Fleets
- 2.) Grow a Strong Green Economy
- 3.) Collaborate to Purchase Green Products
- 4.) Adopt Sustainable Land Use Policies
- 5.) Build Green Facilities and Reduce Energy Consumption
- 6.) Reduce Waste
- 7.) Educate and Engage Our Communities
- 8.) Reduce Emissions and Climate Protection
- 9.) Preserve Green Space and Create Greenways
- 10.) Improve and Promote Mass Transportation



To date, 27 jurisdictions in central Ohio have signed the Pact and are actively working on implementation collaboratively through the Center for Energy & Environment at the Mid-Ohio Regional Planning Commission.

In January 2008, Mayor Coleman established the City's Green Fleet Action Plan. Columbus has been repeatedly recognized for its Fleet Management Division, which was just named one of the greenest fleets in the nation at the Green Fleet Conference 2009 Environmental Leadership Awards. It has also been recognized multiple times by 100 Best Fleets, most recently placing in the top 20.

In June 2008, Columbus adopted the Columbus Bicentennial Bikeways Plan. By implementing the Plan, Columbus can shift 10 percent of the City's transportation to bicycling, walking, transit and other transportation options by 2012. The Plan includes construction of 300 miles of bikeways and 100 bike parking facilities. Since adopting the Plan, the City has enacted a Complete Street Ordinance, has initiated a City-wide Share the Road Campaign, and has initiated and created a Division of Mobility Options.

In July 2008, Mayor Coleman launched the Green Spot program. The program was created to inspire, educate and recognize those making efforts to get green. Currently there are over 1,500 businesses, residents and community groups signed up as Green Spots. The program has been truly successful and is serving as a public engagement model for other communities throughout Ohio and North America.



More recently, in May 2009, Mayor Michael B. Coleman rolled out the "10 Year Reform and Efficiency Action Plan". The list of reforms and efficiencies resulted from the work of the Economic Advisory Committee and were meant to partially solve the structural imbalance in the General Fund. A recommendation was made to continue and expand energy efficiency measures including building weatherization, installation of more efficient lighting and HVAC system upgrades.

THE COMMUNITY'S VISION

In 2008, over 1,000 community stakeholders participated in the Columbus 2012 Bicentennial Commission's work to create a community vision of Columbus' future. "Columbus will have a thriving downtown, be a place where diversity is celebrated, host 270 neighborhoods of tomorrow, neighborhoods that are safe, affordable, green and support healthy and fit lifestyles. Columbus will offer leading 21st century transportation options such as mass transit connecting downtown and neighborhoods,

bike paths, bike friendly safe and environmentally friendly streets. Columbus will create a new green technology business incubator and higher education- led research programs - all of which will foster entrepreneurship and create new job opportunities." This is the City of Columbus' vision for its future and what follows is our five year strategic plan (2010-2015) for how we will work to achieve this vision.



GREEN PRINCIPLES AND VALUES

The City of Columbus is committed to achieving an environmentally sustainable community that meets today's needs without compromising the ability of future generations to meet their needs, and accepts the responsibility to promote these Green Principles in policy decisions and programs.

1. **Promote and implement environmental quality** for current and future generations when making decisions regarding growth management, transportation, energy, water, air quality and economic development.
2. **Provide for the needs of a growing population in a manner that enhances prosperity and sustains a diverse, resilient and healthy environment** when establishing policy on land use, infrastructure development, open space preservation, healthy lifestyles, preservation of natural resources, growing food locally, and the greening of the city through tree planting and parks development. Prioritize the impact of regional consequences and opportunities.
3. **Strengthen economic vitality** and economic security within the community through environmentally based policies that create jobs, promote entrepreneurship, and expand green business opportunities. Promote products and services that enhance environmental, social and economic vigor by adopting and implementing sustainable procurement practices. Utilize research & development as a vital tool in promoting green economic development, seeking advancements and break-through technologies.
4. **Reduce demand for natural resources** through energy efficiency, water conservation and sustainable land use. Promote construction of high-performance, green buildings based on long-term environmental impact and operating costs
5. **Promote waste management strategies** that seek to reduce, reuse and recycle. Vastly improve awareness and participation in recycling programs in the community. Seek opportunities to reduce the waste stream of solid waste. Implement programs that address all forms of waste, including solid waste, wastewater and organic waste.
6. **Encourage transportation and mobility alternatives** that decrease use and dependence on petroleum-based fuels while improving outdoor air quality. Promote energy indepen-

dence by seeking non-petroleum, renewable fuel sources. Support a variety of choices to the community that promote pedestrian access, transit, bikeways and healthy lifestyles.

The elected officials and staff of the City of Columbus serve as Environmental Stewards and will promote these Green Principles in a manner reflecting the following Values:

1. **The City leads by example** in order to achieve environmental gains with lasting value while serving as a role model to the private sector and community at large. All City departments contribute resources and commit to the stewardship role.
2. **Awareness, education and environmental literacy** are essential components of all implementation plans related to sustainable strategies. The City is committed to engaging the community, including non-native English speaking groups, in raising literacy regarding solutions to these environmental, economic and social challenges.
3. **Collaboration** with allied organizations, including surrounding communities, will be sought to leverage positive initiatives further into central Ohio. Partnerships will be joined in order to share investment expenses and more broadly reap rewards of sustainable programs.
4. **Prioritize long term and cumulative impacts** in decision-making on environmental issues. Understand and make decisions that promote long-term return on investment for the City's capital spending and general procurement practices, including life-cycle costs.
5. **Distribute the responsibility of environmental stewardship evenly** throughout the community, because the benefits are distributed evenly. Assure fairness in how this burden is shared, mindful of economic and social circumstances.
6. **Seek incentive-based strategies** to promote sustainable, green practices throughout the business community and general public.
7. **Promote the highest quality of life** possible for the citizens of Columbus in making all environmentally based decisions.
8. **Measure results** in achieving environmental quality, and report outcomes to the community annually.

GOAL 1: IMPROVE ECONOMIC, SOCIAL AND ENVIRONMENTAL PROSPERITY BY SUPPORTING THE GROWTH AND DEVELOPMENT OF SUSTAINABLE 'GREEN' BUSINESSES.

The impact of our actions is evident through climate change, depletion of natural resources and growing demand for energy. These challenges are altering our global marketplace. The greening of our economy is the next step in the economic development continuum. The U.S. Conference of Mayor's October 2008 Report on Current and Potential Green Jobs in the U.S. Economy states: "the economic advantages of the Green Economy include the macroeconomic benefits of investment in new technologies, greater productivity, improvements in the U.S. balance of trade, and increased real disposable income across the nation. They also include the microeconomic benefits of lower costs of doing business and reduced household energy expenditures. These advantages are manifested in job growth, income growth, and of course, a cleaner environment."

The U.S. Conference of Mayors' Report on Green Jobs sees great potential for green job growth in the U.S. economy projecting 4.2 million jobs by 2038, Columbus' share is projected at over 30,000 green jobs.

Columbus historically has experienced relatively low unemployment due to its reliance on service-providing industries (e.g. government, education, banking, insurance, healthcare etc.). For the period 2000-2008 the City's average yearly unemployment rate fluctuated from a low of 3.6% (2000) to a high of 5.7% (2002). However, Columbus, like the rest of the country has been hit hard by the recession, with the average year-to-date unemployment rate in 2009 reaching 8.2%, a figure not seen since 1984.

Green Job industries and occupations are defined by the U.S. Department of Labor (Section 171(e)(1)(B)(ii) of the Workforce Investment Act) as including the energy efficient building, construction and retrofit industries; the renewable electric power industry; the energy efficient and advanced drive train vehicle industry; the biofuels industry; the deconstruction and materials reuse industries; the energy efficiency assessment industry serving residential, commercial, and industrial sectors; sustainable agriculture including healthy food production; forestry; recycling and waste reduction; and manufacturers that produce sustainable products using environmentally sustainable processes and materials.

It is our responsibility to nurture this emerging Green Job industry as well as assisting our businesses in becoming more sustainable in their operations and in the products and services they provide. We propose to do this by implementing the following objectives:

OBJECTIVE 1. CREATE, ATTRACT AND RETAIN GREEN JOB INDUSTRIES.

Action 1. Supply a trained workforce.

Support the development of training programs such as the Green Pathways Project-Job Training & Placement Program, led by Central Ohio Workforce Investment Corporation- Job Leaders and Columbus State Community College to help prepare out-of-work individuals for careers in the Green Job Industry.



Action 2. Encourage Entrepreneurship.

In partnership with Sci-Tech, Tech Columbus, The Ohio State University and Battelle, develop a Green Business Incubator in the Tech Corridor to provide office or laboratory space, grant assistance, business planning, connections to venture capital and networking opportunities for entrepreneurs in the Green Job Industry.

Action 3. Market Columbus' assets to targeted Green Job Industries.

Develop and implement a Green Job Industry Economic Development Strategic Marketing Plan to identify, attract and market to the Green Job Industry, building on the existing strengths of our City and of the research institutions and service providers housed here.

Action 4. Foster market development:

- i. Throughout the community for renewable energy and energy efficiency technologies and services through establishment of financial assistance programs such as a Special Energy Improvement District where property taxes can be voluntarily assessed to pay for energy improvements.
- ii. Within City operations- Continue to use the City's purchasing power to help transform the market and to support green businesses (services and products).



OBJECTIVE 2. EDUCATE AND SUPPORT BUSINESSES IN THEIR EFFORTS TO GET GREEN.

Action 1. Maximize Tax Incentives.

The City will maximize its existing economic development tools for Green Businesses and the City will require any company that is seeking economic incentives to meet the City's Green Spot program requirements.

Action 2. Educate businesses about existing resources and partnerships where they can learn to reduce their environmental impact.

- i. Promote the Green Spot program and expand the number of Green Spot businesses from 250 to 2,500.
- ii. Encourage businesses to join EPA partnerships such as those related to waste reduction, vehicle emission reduction and climate protection.
- iii. Develop a Green Resource Directory of private, local, state and federal grant, loan and other programs available to assist businesses located within Columbus. Partner with entities such as the Greater Columbus Chamber of Commerce and conduct outreach activities to showcase the availability of these opportunities.

Action 3. Assist the manufacturing sector in becoming more sustainable.

Continue to work with partners at the local, state and federal level to expand the Energy, Environment & Economy: E3 program to an additional 35 manufacturing companies in Columbus (\$875,000 program- projected savings to the companies if recommendations are implemented are \$15.6 million annually, equating to 156 jobs created or retained) and encourage participation in the ByProducts Synergy Network sponsored by the Center for Resilience at the Ohio State University.

Action 4. Energy Assistance.

With the U.S. Department of Energy's Energy Efficiency & Conservation Block Grant (EECBG), we will establish a \$1 million, low-interest Green-Switch Loan Fund for energy efficiency building retrofits. The program will be administered by the Community Capital Development Corporation. A rough estimate calculates that a reduction of 5,631 metric tons carbon dioxide equivalent (MTeCO₂) emissions can be achieved through this effort.



GOAL 2: IMPROVE LIVABILITY BY IMPROVING AIR QUALITY, WATER QUALITY AND CONSERVATION OF NATURAL RESOURCES.

CENTRAL OHIO'S AIR QUALITY

U.S. Environmental Protection Agency (EPA) has established air quality standards for various pollutants. Most recently on December 7, 2009 the EPA announced that greenhouse gases (GHGs) threaten the public health and welfare of the American people. GHGs are the primary driver of climate change, which can lead to hotter, longer heat waves that threaten the health of the sick, poor or elderly; increases in ground-level ozone pollution linked to asthma and other respiratory illnesses; as well as other threats to the health and welfare of Americans. EPA's endangerment finding covers emissions of six key greenhouse gases – carbon dioxide, methane, nitrogen oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. Scientific consensus shows that as a result of human activities, GHG concentrations in the atmosphere are at record high levels and data shows that the Earth has been warming over the past 100 years, with the steepest increase in warming in recent decades. The evidence of human-induced climate change goes beyond observed increases in average surface temperatures; it includes melting ice in the Arctic, melting glaciers around the world, increasing ocean temperatures, rising sea levels, acidification of the oceans due to excess carbon dioxide, changing precipitation patterns, and changing patterns of ecosystems and wildlife.

In addition, by August 2010 it is anticipated that Central Ohio's air quality will not meet federal air quality standards for both ozone and particulate matter. This means that Central Ohio will be designated by the U.S. EPA as a non attainment area. The U.S. EPA defines a non attainment area as a geographic area in which the level of a criteria air pollutant is higher than the level allowed by the federal standards.

Ground-level ozone (smog) is a pollutant formed by the action of sunlight on two other



pollutants: Nitrogen Oxide (NO_x) and Volatile Organic Compounds (VOCs). Sources of ground level ozone in central Ohio are:

- 53% cars and diesel trucks,
- 22% power plants,
- 12% off-road equipment (farm/construction) and
- 6% small sources (gas stations, residential fires, dry cleaners, lawn equipment)

Ozone pollution is a particular concern during the summer, when strong sun and hot weather can combine to produce harmful and unhealthy concentrations. Exposure can result in a number of harmful health effects, including:

- Irritation of the respiratory system
- Difficulty in breathing
- Increased frequency of asthma attacks
- Inflammation and damage to the lungs
- Possible aggravation of some chronic lung diseases, including emphysema and bronchitis

These effects are generally short-term in nature and eventually cease when an individual is no longer exposed to harmful ozone levels. However, there is concern that repeated short-term damage from ozone exposure could lead to permanent lung injury.

Particle pollution – commonly referred to as particulate matter (PM) – is a mixture of microscopic solid particles and liquid droplets suspended in the air. Sources of PM in central Ohio are:

31% small sources (gas stations, residential fires, dry cleaners, lawn equipment),
 20% off-road equipment (farm/construction),
 17% industry
 17% cars and diesel trucks and
 13% from power plants.

Exposure to larger particles (PM 10) can irritate the eyes, nose and throat. Smaller particles (PM 2.5) are of greatest concern because they can get deep into a person's lungs, and even into the bloodstream, affecting both the lungs and heart. Long-term exposure to particulate matter has been associated with reduced lung function, development of chronic bronchitis and even

premature death from heart or lung disease. Short-term exposure (hours or days) can aggravate lung disease; cause wheezing, coughing, asthma attacks or acute bronchitis; and may increase chances of developing respiratory infections. In people with heart disease, short term exposures have been linked to heart attacks and arrhythmias.

Air quality has improved in recent years. The Mid Ohio Regional Planning Commission who locally evaluates and reports the EPA Air Quality Index has observed a 43% decrease in days per year that bad air quality was observed (from 2001-2008).

OBJECTIVE 1. REDUCE GREENHOUSE GAS EMISSIONS BY 10% FROM CITY OPERATIONS.

Action 1. Reduce energy usage from City facilities Energy used in our buildings makes up 31% of our total greenhouse gas emissions. In 2005, our buildings emitted 88,627 MTeCO2.

- i. Energy Star Portfolio Management System: The City of Columbus manages 8,259,784 square feet of space for City operations. We will work to populate data from the 170 facilities into the free EPA Energy Star portfolio software which will weather-normalize the data and benchmark our facilities against one another and against national averages. This will assist in targeting facilities for energy efficiency measures and identifying the best returns on investments.
- ii. Building Energy Efficiency Retrofits: With the Energy Efficiency Conservation Block Grant 2010 Program funds, we will retrofit at least nineteen of the Columbus fire stations and the Columbus Cultural Arts Center with energy efficient lighting (\$1,312,318); retrofit the Columbus Central Safety Building with items such as energy efficient lighting, building envelope



retrofit, domestic pump set replacement, building automation control modifications, boiler replacements, chiller replacement, solar PV with battery backup for domestic water system (\$2,599,532); and retrofit the Center of Science & Industry building (the building is owned by the City of Columbus and this project is leveraging \$500,000 from the State of Ohio's capital budget) (\$144,000). These activities are expected to achieve a reduction of 2,476.4 MTeCO2 in greenhouse gas emissions (this is a 2.8% reduction) avoiding \$451,332 in utility costs per year. We will also explore the AEP gridSMART Lighting, Custom and Self Direct programs to further our energy efficiency retrofits.



- iii. Technology: Purchase energy efficient hardware (i.e. Energy Star desktops, notebooks and monitors) and use power management technologies and best practices. These activities are expected to achieve a reduction of 2,840 MTeCO₂ of greenhouse gas emissions (this is a 3.2 % reduction) avoiding \$357,000 in utility costs per year.
- iv. Water and Wastewater Treatment Facilities: The City of Columbus provides 145 million gallons of drinking water to 1,104,500 people daily. The City's wastewater treatment facilities treat 174.9 million gallons per day. Treating water and wastewater is an energy-intensive process; approximately half of the City's greenhouse gas emissions are generated from the electricity used at the five treatment facilities. We will conduct comprehensive audits of each facility identifying cost effective measures to reduce energy consumption and greenhouse gas emissions. The water and wastewater facilities are in various stages of expansion and upgrades.
- v. New Construction - We will continue to build new city facilities to meet or exceed the

- U.S. Green Building Council's LEED certified standards.
- vi. Renewable Energy- We will explore financing options such as Power Purchase Agreements to install renewable energy such as geothermal, methane capture and cogeneration, solar pv and solar thermal in City facilities. In addition to the beneficial biogenic methane usage currently employed by the City's two wastewater treatment plants, we will continue to work with third-party facilities such as Quasar Energy Group where we will deliver biosolids from the City's wastewater treatment plants to their OrganicWaste Recovery and Reuse System (OWRRS) facility scheduled to open in 2010. Up to 25,000 tons per year of biosolids will be anaerobically digested at the OWRRS for the recovery of biogenic methane and the cogeneration of 3 to 5 million kWh of electricity per year. This additional beneficial usage of biogas represents 2,154 to 3,591 metric tons of greenhouse gas emissions.



Action 2. Retrofit traffic and street lights owned by the City of Columbus with energy efficient lighting.

- i. Continue to retrofit traffic and pedestrian lights. With the EECBG funds (\$1,581,650), we will convert 3,698 pedestrian signals to LEDs, the annual reduction in energy usage will be approximately 1,946,000 kilowatt-Hours (kWhr) – avoiding \$163,199 in utility costs per year and avoiding 1,398 MTeCO₂ greenhouse gas emissions. We will explore leveraging funds from American Electric Power’s gridSMART Lighting program to retrofit the remaining traffic signals with energy efficient LED technology. If we converted the remaining 6,989 8” and 12” traffic signals to LED’s, the annual reduction in energy usage would be approximately 6,031,000 kilowatt-Hours (kWhr) or \$505,778 utility cost avoidance annually. (Total avoided utility costs of \$668,977 and a reduction of 5,729MTeCO₂ - this is a 1.8% reduction of greenhouse gas emissions).
- ii. Retrofit street lights. Pilots are underway to test the rapidly evolving energy efficiency technologies. Once complete, a policy will be developed to retrofit street lights with the best available technology. There are 51,286 street lights in Columbus’ system

(73% powered by Columbus Division of Power & Water; 26% powered by American Electric Power).

Action 3. Reduce fuel usage and vehicle emissions from the City’s fleet as well as from employees commuting to work.

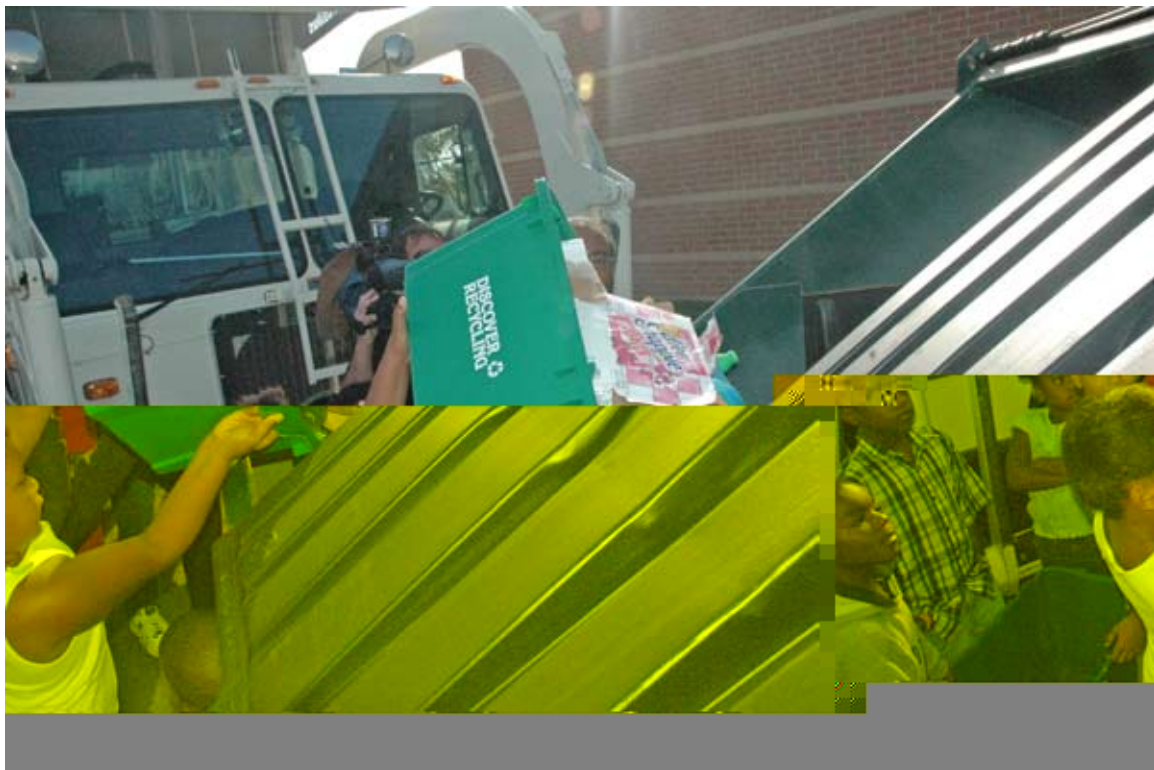
- i. Continue implementing the Columbus Green Fleet Action Plan and work with partners to assist others (private and public) in greening up their fleets. Throughout the planning timeframe the City will complete installations of emission control and idle reduction technologies; purchase green vehicles (hybrid and CNG) and construct multiple CNG fueling stations through support of the Department of Energy Clean Cities and Department of Transportation Congestion Mitigation Air Quality grant programs; decrease use of fuel as well as decrease the amount of petroleum used; implement the green driver training course and begin the greening up of off-road equipment.
- ii. Reduce the commuter miles of employees by partnering with the Central Ohio Transit Authority (COTA) and the Mid Ohio Regional Planning Commission (MORPC) Ride Solutions program to connect car, bike and van pools and encourage use of the City’s telecommuting policy.



Action 4. Increase the amount of material diverted from the waste stream by City operations and increase recycling options.

- i. Office Recycling Program- In 2008 the City of Columbus office recycling program recycled 627 tons, which was a 69% increase in recycling volume compared to 2007 and is equal to 149 MTeCO₂. We will conduct a waste audit of all city operations and set a reduction goal to improve recycling diversion rates and agency participation. We will also work to expand the recycling program to include batteries, e-waste etc.
- ii. Paper reduction- Continue paper reduction measures and pursue completion of the Columbus Human Resources Information System (CHRIS) which will eliminate the need for the existing paper based payroll and personnel system.
- iii. Evaluate waste stream and participate in programs such as the ByProducts Synergy Network to divert waste from the landfill to users of the waste as raw material for products.

- iv. The draft Solids Treatment and Utilization Master Plan has recommended an increased shift from disposal to beneficial reuse of wastewater biosolids to reduce energy use and greenhouse gas emissions. By reducing the amount of biosolids that are incinerated, more biogas from the anaerobic digesters at the City's wastewater treatment plants can be used as biogenic fuel, thereby further offsetting the use of fossil fuels. The corresponding increases in the amount of biosolids available for composting and for land application as fertilizer will enhance the sequestration of carbon, the restoration of depleted soils, and the continued success of the City's Composting Facility to provide exceptional quality compost products for the central Ohio community.



CENTRAL OHIO'S WATER QUALITY

The greater Columbus area is nationally known for its beautiful, ecologically diverse rivers and streams. Aesthetically, ecologically and economically our streams offer countless opportunities for improving health and enhancing quality of life.

The Ohio EPA monitors water quality of rivers and streams throughout the state. They use biological (fish and aquatic insects) as well as chemical and habitat indicators to determine stream health. The Ohio EPA divides the state into watershed regions and assigns an attainment score to each region- the cleanest streams achieve 100% (full) attainment. Ohio has set a goal, 80% of the state's waterways will meet full attainment

by 2010. In 2008, 79% of the large rivers (draining over 500 square miles) met this standard, but only 55% of the smaller streams were meeting full attainment. Of the 69 separate watersheds in central Ohio, only 4 meet the full attainment goal.

Though much improvement has been made to achieve water quality standards in the large rivers mainly from the control of point source pollution (factories, wastewater treatment plants etc), we still have work to do in the small tributary streams. In order to meet the State's goal, the non point sources of pollution will need to be reduced - these are more difficult to control because they stem from individual behaviors and land use.

OBJECTIVE 2. IMPROVE WATER QUALITY AND PROTECT AND RESTORE NATURAL AREAS THROUGH CITY PROGRAMS.

Action 1. Plant 20,000 trees and acquire 400 acres of parkland.

Action 2. Participate with regional partners in development and implementation of watershed and balanced growth plans.

Columbus will continue to participate in watershed and balanced growth plans (Darby Accord, Olentangy etc.) as well as continue and expand source water protection efforts above drinking water intakes (Big Walnut Creek and the Scioto River) and stream restoration projects such as the 5th Ave dam removal on the Olentangy River and the Clover Groff Run stream restoration in the Big Darby watershed.

Action 3. Incorporate green infrastructure practices into applicable capital projects.

Green infrastructure practices are those that manage and treat stormwater and recharge groundwater. Such practices include pervious pavements, green roofs, rain gardens, bioswales/bioretention, native plants, trees, etc. Demonstrate these practices on city funded projects



such as City's streetscapes and the Watershed Management Section's Impervious Surface Reduction project - which is a \$4.5 million stimulus project to redevelop public land around the City's three drinking water reservoirs to reduce pollutants and erosion using green infrastructure practices. Work is scheduled to begin Spring 2010.

Action 4. Continue greenway corridor acquisition.

We will continue to work in partnership with regional partners such as MetroParks utilizing funding sources such as the Ohio EPA Water Resource Restoration Sponsorship Program and the Clean Ohio (Green) Fund.

Action 5. Continue to implement the Wet Weather Management Plan.

Project Clean Rivers was created to eliminate combined and sanitary sewer overflows into our waterways and leverage federal and state resources to assist. We will continue to explore green infrastructure options as part of the solution.

OBJECTIVE 3. ENSURE ENVIRONMENTAL COMPLIANCE IN CITY OPERATIONS.

Action 1. Build on the proactive work of the Department of Public Utilities to audit the City's facilities for environmental compliance and explore expansion of the Environmental Management System to serve all City agencies.

Action 2. Develop employee training centered around meeting Get Green and environmental compliance goals.

OBJECTIVE 4. ENCOURAGE RESIDENTS TO GET GREEN BY PROVIDING INCENTIVE AND STANDARDS BASED STRATEGIES TO CONSERVE WATER, REDUCE ENERGY USE, REDUCE WASTE SENT TO THE LANDFILL AND REDUCE STORMWATER RUNOFF TO LOCAL WATERWAYS.

Action 1. Establish a comprehensive Sustainable Yards program,

Provide incentives and partner with non-profit organizations to deliver education and outreach on the benefits of practices such as rain barrels, rain gardens, edible gardens, and native landscaping.

Action 2. Home Energy Efficiency Assistance.

To reduce energy consumption and reduce utility bills for our residents, we will assist utility companies AEP and Columbia Gas as well as the Ohio Department of Development in marketing their energy efficiency programs for residential customers. Over 10,000 homes in Columbus have been serviced through these programs in the past 20+ years and even more are anticipated due to an increase in federal funding assistance. In addition, we will develop the Energy Efficiency Conservation Block Grant (EECBG) funded Home Energy Efficiency Baseload Reduction Program. Columbus will partner with the Mid Ohio Regional Planning Commission who currently operates the Electric Partnership Program for investor owned utility American Electric Power within Franklin County. These funds will allow MORPC to retrofit approximately 60 homes in the Columbus Power service area. This includes an electrical energy audit, installation of energy efficient lighting and installation of Energy Star appliances such as refrigerators and freezers, saving customers an average of 12% on their energy usage and reducing greenhouse gas emissions by 30 MTeCO₂.

Action 3. Encourage wide spread deployment of renewable energy generation and energy efficiency projects.

We will explore the development of a Solar Special Energy Improvement District (SID), advocating for the expansion of the SID legislation to include other types of renewables and energy efficiency and looking into other forms of financing to assist businesses and residents implement green energy projects.

Action 4. Reduce waste sent to the landfill.

We will develop a comprehensive residential yard waste and recycling program. The current diversion rate for recycling is 6.3% and the diversion rate for yard waste in 2009 was 3.8% (combined diversion rate of 10.1%). We share the State of Ohio's goal to reach 35% diversion rate by 2015 (increasing our rate by 18.5%), which when using the 2009 refuse collection tonnages, would be equal to approximately 109,000 tons.

Action 5. Recognition.

Green Spot — increase residential spots to 10,000 and develop the Green Spot network online through tools such as Facebook to allow residents to share stories of going green and learn from one another.

Action 6. Evaluate incentives and programs to conserve water.

Implement the recommendations in the Comprehensive Water Master Plan (to be completed in 2010) which is evaluating conservation measures to reduce demand.

OBJECTIVE 5. GO GREEN - DEVELOP AN INTEGRATED AND SUSTAINABLE TRANSPORTATION SYSTEM TO MOVE PEOPLE AND GOODS, REDUCE ENERGY CONSUMPTION AND GREENHOUSE GAS EMISSIONS, IMPROVE AIR QUALITY AND ECONOMIC COMPETITIVENESS AS WELL AS PROVIDE EXPANDED OPTIONS FOR MODES OF TRAVEL.

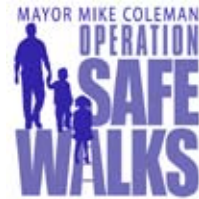
Action 1. Implement the Bicentennial Bikeways Plan.

- i. With use of the Energy Efficiency Conservation Block Grant, the City of Columbus will partner with the Capital Crossroads Special Improvement District to construct new bike parking facilities in five downtown garages, four bike shelters along downtown intersections, two secure shelters and two sets of 10 bike lockers along downtown city core (Broad & High). When complete, we will have the capacity to store 260 bicycles and will save 20,800 gallons of gasoline (avg 16 commuter miles/100 days). Reducing greenhouse gas emissions 183 MTeCO₂. (\$523,804)
- ii. With capital project funds as well as private-public partnerships, construct 36 miles of off-road multi-purpose trails and 58 miles of on street road improvements.
- iii. Support efforts of bike advocacy and educational organizations such as Consider Biking.



Action 2. Implement Operation Safe Walks.

Construct 47 miles of sidewalks along arterial and collector streets.



Action 3. Support carpooling and vanpooling services.

Service such as those provided by the Mid Ohio Regional Planning Commission's RideSolutions Program, which provides matching services for those who seek pooling arrangements for trips to work/school as well as support for employers wishing to encourage ridesharing among employees.

Action 4. Bus Transit.

Support the ongoing efforts of COTA to improve bus service and increase ridership.

Action 5. Passenger Rail Transit.

Support development of the Ohio 3C Rail connecting Cleveland, Dayton, Columbus and Cincinnati with passenger rail service as well as pursuing partners and support for establishing a regional rail system and future high speed rail connections to other major metropolitan areas. Work with local, state and federal partners to secure funding.

Action 6. Support the greening up of freight (movement of goods).

Encourage participation in the U.S. EPA Smart-Way Transportation Partnership program.



Action 7. Conserve Fuel.

Explore adoption of a city-wide fuel conservation ordinance modeled off the City of Cleveland (Ordinance No. 207-09) and partner with Mid-Ohio Regional Planning Commission, Ohio Environmental Council and local jurisdictions to educate the community about the health, environmental and economic benefits of not idling vehicles. Such a project has the potential to save 21 million gallons of fuel and \$48 million annually.

OBJECTIVE 6. ENCOURAGE NEW DEVELOPMENTS AND EXISTING NEIGHBORHOODS TO GET GREEN BY PROVIDING POLICIES, INCENTIVES AND REGULATORY MEASURES.

Action 1. Continue to review and update City development codes and policies to encourage sustainable development practices.

- i. Continue the Healthy Places Program which helps to integrate positive human and environmental health strategies into development proposals.
- ii. Adopt and implement revised parking code for Columbus, intended to “right-size” standards and reduce impervious pavement through lower minimum requirements, greater emphasis on landscaping and green infrastructure, provision for bicycle parking, and use of maximum parking levels.
- iii. In partnership with Franklin County, adopt the AWARE Green/Universal Design Manual as the performance standard for the construction and renovation of federally-funded residential projects (ie. Neighborhood Stabilization Program housing funds) and conduct green contractor training.
- iv. Explore options to preserve and restore forests/tree canopy through evaluation of existing and potential programs and policies.
- v. Use neighborhood plans and other development policies to encourage new development and redevelopment in key areas that includes a

mix of uses arranged in a compact, walkable and transit supportive manner.

- vi. Reinforce the integration and protection of natural areas and resources as areas develop.

Action 2. Explore and provide financial incentives to targeted areas for development of green buildings, infill development and local food system development.

- i. Create the Green Columbus Fund which will be a green building, urban infill incentive program, providing developers grants to offset the costs of building green in the urban core (ie. environmental assessments, site cleanup, soft costs to building LEED certified buildings etc). In addition the City will continue to partner with developers to access the Ohio Department of Development, Clean Ohio brownfield funds to clean up larger brownfield sites.
- ii. Explore incentives to encourage small and large scale urban farming in collaboration with the Institute for Active Living, American Community Gardening Association, Franklin Park Conservatory and other community partners.



GOAL 3: EDUCATE & ENGAGE THE COMMUNITY.

Action 1. Establish Get Green Metrics.

Establish Green Memo II objectives, track performance, benchmark results against other like communities and communicate results.

Action 2. Develop a Get Green Columbus Communications & Outreach Plan.

Identify opportunities such as utilization of social media tools to engage the community, work with civic associations, Columbus City Schools, business associations, area commissions and churches.

Action 3. Continue to partner with the Mayor's Green Team.

Reach out into the community with the Get Green Columbus message and promote programs available to assist the community in green efforts.

Action 4. Expand the Green Spot program.

Include categories for Neighborhoods and Hotels/Hospitals. Recognize achievements of all Green Spot categories through the Green Spot website, signage and the annual Mayor's Green SpotLight Awards Ceremony.



THANK YOU!

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