United States Environmental Protection Agency

Green City Partnerships

A GUIDE FOR SUCCESSFUL ENVIRONMENTAL PARTNERSHIPS

Sustainability and Best Practices

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U. S. Environmental Protection Agency
Office of Research and Development
National Risk Management Research laboratory
Center for Environmental Research Information
Cincinnati, Ohio

NOTICE

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Foreword

The U.S. Environmental Protection Agency (EPA) is charged by Congress with protecting the Nation's land, air, and water resources. Under a mandate of national environmental laws, the Agency strives to formulate and implement actions leading to a compatible balance between human activities and the ability of natural systems to support and nurture life. To meet this mandate, EPA's research program is providing data and technical support for solving environmental problems today and building a science knowledge base necessary to manage our ecological resources wisely, understand how pollutants affect our health, and prevent or reduce environmental risks in the future.

The National Risk Management Research Laboratory (NRMRL) is the Agency's center for investigation of technological and management approaches for preventing and reducing risks from pollution that threaten human health and the environment. The focus of the Laboratory's research program is on methods and their cost-effectiveness for prevention and control of pollution to air, land, water, and subsurface resources; protection of water quality in public water systems; remediation of contaminated sites, sediments and ground water; prevention and control of indoor air pollution; and restoration of ecosystems. NRMRL collaborates with both public and private sector partners to foster technologies that reduce the cost of compliance and to anticipate emerging problems. NRMRL's research provides solutions to environmental problems by: developing and promoting technologies that protect and improve the environment; advancing scientific and engineering information to support regulatory and policy decisions; and providing the technical support and information transfer to ensure implementation of environmental regulations and strategies at the national, state, and community levels.

This publication has been produced as part of the Laboratory's strategic long-term research plan. It is published and made available by EPA's Office of Research and Development to assist the user community and to link researchers with their clients.

Sally C. Gutierrez, Director
National Risk Management
Research Laboratory

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It has taken tremendous effort from many caring and dedicated people to birth the Partnership into reality, and secondly to labor it into this format—so that what has been accomplished in Louisville and Lexington Kentucky can inform the efforts of others who are working for change.

In an era of partnerships, few have been formed that involve such ambitious goals for huge public institutions. The potential rewards are in proportion.

To develop and implement the goals of the two existing Partnerships, over two hundred busy professionals volunteered their time and expertise. They all deserve thanks, as they are the engines and engineers of the desired change. I will with regret name only a few of them as I thank the contributors to this guide.

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Gordon Garner
Consultant
Louisville, Kentucky

ABSTRACT

Cities with a green reputation are successful in promoting economic growth, cultural vibrancy, job creation and quality of life. Parents see such cities as desirable places to raise their children; businesses see them as a place where they will be able to attract and retain a highly-skilled work force. Rather than gutted downtowns and endlessly sprawling suburbs, such cities—places like Seattle, Washington; Austin, Texas and Portland, Oregon—conjure up images of bustling shopping districts, public green spaces, and opportunities for neighborly interaction and healthy living. This guide explores how public institutions, working together, can contribute to making and keeping their communities green.

The argument for the creation of public-sector green partnerships is straightforward.

• Local governments and public institutions such as universities and public school systems are often the largest employers and the largest consumers of energy and resources in any given community.

• They can and often do set the standards for development that influence both public and private sector activity.

• Given the scale of such institutions and the proportional impacts they have in their communities, incremental improvements in staff and student environmental education, energy consumption, and waste management practices can have real benefits for the quality of life in those communities.

• Green practices make good sense financially, as they save taxpayer dollars and stretch institutional budgets.

• Public institutions are well-positioned to lead by example, demonstrating what is possible, implement-

ing new eco-friendly technologies and undertaking public-education campaigns that fall within their mandate of serving the wider public good.

By partnering—pooling expertise, imagination and purchasing power—such institutions can achieve economies of scale, benefit from each other's experiences, and provide learning and research opportunities for the whole community.

This how-to guide emerges from the experience of reviewing various green partnership models in places around the country and more particularly from the creation of new partnerships in Kentucky's two largest urban areas, Louisville and Lexington. This guide describes in a detailed, practical way how public institutions can partner with one another to implement green practices. Through intensive review of the green partnership process in both Louisville and Lexington, it shows what can be accomplished, outlines successful partnering structures, and points out potential problems and how to overcome them.

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INTRODUCTION TO GREEN PARTNERSHIPS

Cities across the country and around the world have been working for decades to restore waterways and wetlands, develop public green spaces, promote recycling and energy efficient construction, reduce air pollution and otherwise become both greener and more livable. Again and again public institutions—local and regional governments, universities, and public school systems—have played a key role in these efforts. Increasingly, these efforts are formalized in various ways and they can become major themes for energizing city management, with an emphasis on environmental performance measurement and eco-friendly economic development.

Public entities operate for the benefit of the public, and this includes the obvious benefits that accrue from green policies. City governments and major public institutions are often among the largest employers and the largest consumers in a given community, so incremental changes in energy consumption or waste production within such agencies can strongly impact the quality of life in the communities in which they are located. They are also major land owners, responsible for the management and care of a significant portion of the community's natural resources. Many practices that are environmentally sound also make good sense financially, saving taxpayer dollars and stretching or protecting institutional budgets against rising energy costs.

Green Manhattan

David Owen's masterful essay, "Green Manhattan: Why New York is the Greenest City in the U.S.," first published in the *New Yorker* (October 18, 2004) argues that most Americans are strongly conditioned to miss the forest of environmental reality for the trees of ecological stereotypes. "When most Americans think about environmentalism, they picture wild, unspoiled landscapes—the earth before it was transmogrified by human habitation." That is, they think of redwoods and spotted owls, Pacific salmon and snow-capped mountains, and not skyscrapers and crowded streets.

Urbanity by contrast is characterized by gloomy fatalism and hackneyed references to the toxic artificiality of the urban environment. But in environmental terms, cities are a wonderfully efficient way for people to live. They *conserve* vast amounts of fuel and electricity compared to superficially greener (rural and sparse) modes of living. There is nothing intrinsically anti-environmental about big cities. They pose environmental challenges, but they also have advantages and possibilities for reduced negative impacts. Greener living is possible in city, town and country alike.

Recognizing the many advantages of green practices, public institutions across the United States have begun to implement environmentally sound policies. They do so sometimes aggressively, sometimes fighting established organizational cultures every step of the way, but to tremendous public benefit. Nonetheless the implementation of environmentally friendly policies and practices in any given urban area for the most part remains piecemeal, a jigsaw puzzle of efforts adopted separately by each local government, public entity or institution.

Why Partnerships?

The creation of green partnerships between key public sector institutions is one way to create more support, find more resources and strengthen resolve for achieving sustainability. Such partnerships open up avenues for green practices that no public entity acting alone can access. The will and leadership needed to imagine and enact the next generation of environmentally friendly policies is of necessity grounded in normalizing green practices today and educating our public institutions, elementary, secondary and university students, and the public at large about the importance of such policies and practices.

Each public entity, from city bureau to local government, school, or university has its own unique opportunities and challenges. The particular environmental concerns of, say, Beloit, Wisconsin—a small Midwest manufacturing town—are liable to be quite different from those of Astoria, Oregon which is a West Coast town dependent on tourism. A major metropolitan area like Atlanta or Chicago with mixed economies and large public sectors has particular issues and possibilities unto itself. Green partnerships, such as this guide describes, offer an alternative to one-size-fits-few problem solving, which is too often cued to least common denominator thinking. A partnership structure allows public entities to share expertise, ideas and purchasing power with a tight and informed focus upon specific interrelated *local* concerns. Each partner can bring its particular set of strengths to the table, and benefit from the capacities of the others.

Environmental partnerships go back (at least) to the first Earth Day in 1970 when a variety of private and public organizations came together to promote conservation and sustainable living. Such short term, event-focused partnerships serve good purposes, but they do not support the sustained process needed to move local governments and public entities for long term results.

Unlike the kinds of coalitions and alliances that spring up between business, government and non-governmental organizations (NGOs) to address specific, near-term environmental problems, or to set voluntary standards or provide volunteer clean-up labor, public sector partnerships have the potential to make green practices of all kinds a normal, institutionalized part of operations.

This report is a practical guide to imagining and creating sustainable green partnerships between public sector institutions. The structure presented can accommodate the participation of NGOs and private sector interests, but such typical green projects are already documented elsewhere. The premise of this report is that formal partnerships between major public organizations/institutions can be a significant source of environmental leadership and a force for positive change. Partnering organizations can also act as role models and catalysts for environmentally conscious policy and practice. If the only changes are those within the partnering organizations, such changes still have considerable positive impact because of the scale of the resources used by the organizations. When any city becomes greener, everyone benefits.

Because the barriers to creating the types of green partnerships advocated herein are not small—grounded as they may be in territoriality, bureaucratic inertia, and the inward focus of most institutional cultures—this guide identifies both the likely roadblocks and strategies for moving over, around and through them. Differences in organizational culture can be a strength of partnership—if the partners take the time to understand and learn from their differences. Drawing on detailed case studies of pioneering partnership projects in Louisville and Lexington, Kentucky, and the experiences of other public sector efforts with environmental partnering, this guide is also intended as a document of record. It serves to indicate that the sorts of green partnerships described in these pages are more than wishful thinking—they can be realized because, to one degree or another, they already have been.

WHY GO GREEN?

Green cities are attractive, healthy, prosperous places to live. A green city protects its economy and the health of its residents, and provides for a high quality of life. The education and health of children—the future of the city—is particularly important. The linkage between all these diverse concerns is the environment.

This guide is a tested blueprint for a city to identify environmental priorities and develop creative strategies to make positive change. While many cities have developed green projects and invited participation by various public and private entities, progress can too easily stall once the easy changes are made. The Green Partners project offers some flexible but powerful structures for motivating and assisting very large scale public entities in making positive change not as a one-time effort, but on an ongoing basis.

Collaborations between key local governmental entities can contribute significantly to the success of a city. A common vision of a greener, more sustainable city can motivate a variety of improvements to current practices—with discernible improvements in such diverse areas as academic achievement, reductions in environmental pollutants, and budgetary savings from energy conservation and comprehensive waste reduction strategies.

The participation of regional universities in Green City efforts is crucial for the expertise they can provide. While the Green Cities movement has developed a considerable literature with many valuable concepts and suggestions, it is community-specific data that motivates change. The involvement of university-based researchers in describing and evaluating the locally relevant economic and health impacts of environmental conditions provides a level of public credibility not otherwise available. These experts can be easily accessible resources for local partnership teams.

The collaborative model makes it possible for a community to take its efforts to the next level—beyond what any one of the partners could accomplish individually. This must be the focal point of any green city partnership. Even while the partnering institutions continue their own independent initiatives, partner approved projects and programs should be emphasized for maximum results.

One example of collaboration in action is the public health problem of asthma. Research efforts originating in a local or regional college or university can provide a more finely detailed picture of air quality issues. Students can be involved in this research, and thereby build important skills

and the familiarity with environmental issues that prepares them to be good citizens. Schools and public health departments can help families to identify students suffering from asthma, and guide families to information and services about how to help asthmatic students in the home. Public support can be developed for large-scale environmental air quality initiatives. State of the art fleet management techniques and public use of mass transit can have nearly immediate positive impacts on air quality, as well as setting an example by doing and demonstrating.

Economic Benefits

A partnership including such organizations as a local college or university, the public school system, and local government has the potential for broad scale local impact, because of the sheer size of the resources involved. Such partners control and influence land, buildings, and large fleets of vehicles. They deal directly with the public, their own personnel, students, and all the parents and families of students. They consume considerable amounts of energy and water, and they generate a proportionate amount of waste. So improving practices even via the most obvious measures, for instance by the combined purchasing of recycled and green products, can make for considerable savings due to economies of scale. State-of-the-art green building technologies, and fleet management for fuel efficiency, alone can result in a 5 to 10 percent savings for low cost, quick payback investments.

Green Cities Create Jobs

The Milwaukee Green Team is responsible for much of Milwaukee, Wisconsin's considerable success in developing itself as an attractive home for energy technology companies attuned to increasing market demand for renewable energies. Additionally, Milwaukee boasts regional expertise in energy controls, small engine design, and building technologies. This is a strong base for green jobs, jobs with synergistic effects for Milwaukee's educational system. Strong technical educational opportunities at all levels, from welding apprenticeships to engineering degree programs, help the city to retain young people. A commitment to pulling up even the lowest-achieving students flourishes in locales with vocational opportunities for such students; an educated and able work force attracts employers. A healthy environment

Green Success

Green cities are successful and prosperous. Studies have shown that cities that advocate for best environmental performance and have a reputation for accomplishing best practices in environmental stewardship are cities with diverse and growing populations and healthier economies. These cities are more attractive to young people and entrepreneurs. Among the greenest of cities is Minneapolis, Minnesota. Minneapolis is green in its governmental practices, planning and zoning, and in supporting and encouraging citizen advocacy and participation in environmental decision-making. Other green cities of note include Portland, Oregon; Boulder, Colorado; Seattle Washington; and Austin, Texas—all successful, prosperous and growing, with reputations that emphasize environmental values and practices.

minimizes lost productivity and absenteeism—good public health has a significant economic impact. A commitment to the environment links the many factors that combine to help a city flourish. (For a complete description of the Milwaukee project see the Milwaukee Green Team's home page. (www.city.milwaukee.gov/display/router.asp?docid=13213).

It should also be remembered that while many businesses factor environmental quality into their calculations when locating a new outlet, factory, office or headquarters, many others depend directly or indirectly on careful stewardship of environmental resources. Some examples, gleaned from a report titled EPA 230-B-96-003 *Community-Based Environmental Protection: A Resource Book for Protecting Ecosystems and Communities* (United States Environmental Protection Agency, 1997, p. 2-3), include:

Real estate agents
Local industries with environmental discharges
Developers and builders
Utility companies
Fishing, hunting and nature guides
Horseback riding stables
Resorts, local hotels, bed and breakfasts
Commercial fishing or other industries dependent on renewable resources
Landscape businesses
Businesses that require clean water for manufacturing

GREEN CITIES ARE HEALTHIER PLACES TO LIVE

Quality of life has a lot to do with the availability of green spaces and water for active outdoor recreation, with low exposures to environmental contaminants in the air, soil and water. Pollutants play a role in medical conditions as diverse as pediatric and adult asthma, cancers, birth defects and learning disorders. Green city institutions can partner to address public health issues more effectively and can rapidly improve practices that have direct health impacts. Moreover, public institutions are well-placed to spread the word about the health dangers of environmental degradation and lead the way in eradicating such threats both in the micro-environment of the work place and in the larger community.

Green Universities and Colleges

There is a growing recognition that world-class cities host excellent research universities. America's aspirant cities should take note that most of the highest ranking public research institutions are also some of the greenest in the country. Many large universities and smaller private liberal arts colleges use their emphasis on a green campus and sustainability to recruit and retain students.

- The University of California has a formidable green reputation grounded in more than its raucous history of student activism. In 2004 Berkeley established the Green Building Research Center (GBRC) "to advance and promote sustainable building design and operation on the UC Berkeley campus." GBRC goals include helping the university with design research, course development and energy monitoring.
- The University of Michigan, Ann Arbor, is also notably green. U of M maintains a School of Natural Resources and Environment that not only does cutting edge environmental research, but also promotes sustainable practices on campus—the renovation of its Samuel T. Dana Building, for example, received a Gold LEED rating from the U.S. Green Building Council. The University as a whole was the recipient of the National Recycling Coalition's 2001 Outstanding School Program award.
- The University of Wisconsin-Madison is known for its commitment to green practices and to environmental education. This commitment has paid big dividends to the university in an era of budget tightening: UW-Madison received not one, but two of the NSF's prized Integrative Graduate Education and Research Traineeships (IGERT) program grants in 2006. The grants, each worth over $3 million, go to the Nelson Institute for Environmental Studies and to the College of Agricultural and Life Sciences to foster graduate study in global sustainability, development, and the environment.
- Berea College in Berea, Kentucky, has embraced campus sustainability with impressive commitment and has recently evolved the strategy to include off campus partners and projects to improve the community.

Green Cities are Smarter

Environmental education means addressing interrelationships between the natural and human-made world, on a level both abstract and also personal and familiar to the student. It is simultaneously intensely theoretical, interdisciplinary and experience-based; both classroom and hands-on. Several national research initiatives (*Closing the Achievement Gap: Using the Environment as an Integrating Context*, 2000) indicate this kind of broad yet integrated learning experience improves standardized test scores and prepares young people for the responsibilities of citizenship—responsibilities which increasingly require an under-

standing of the many public issues affecting health and the environment. Curricula linking the environment to math/science and most any other area of study are easily accomplished and can result in improved student interest and academic performance.

TESTIMONIALS

What follows are quotations from the various organization leaders of the institutions involved with forming Green City partnerships in Louisville and Lexington, Kentucky.

"We need everyone's full cooperation and support to create a greener environment and an ethic that will attract diverse populations and businesses and that will make our young people want to raise their families here, making Louisville a place where we all can work together and enjoy a better life." (Louisville Metro Mayor Jerry Abramson, *The Partnership Project: The Partnership for a Green City*, 2004, p. ii).

Figure 1 — Left-to-right: Jerry E. Abramson, Mayor Louisville-Jefferson County Metro Government, Stephen Daeschner, Superintendent Jefferson County Public Schools, James Ramsey, President University of Louisville.

Photo: Louisville Partnership for a Green City.

"At the University of Louisville we talk a lot about partnerships. What we're trying to do in developing our partnerships is prove at a time of tough resources, scarce resources that one plus one can equal three. So developing partnerships is part of our strategic initiative." (Dr. Jim Ramsey, U of L President).

"We've approved an MOA to allow our organizations to purchase paper and eventually other products, such as cleaning products. The bid will be taken in a week and a half. It will cover over one half million reams of recycled white paper copy."

"People from all our shops come together, work together. The purchasing initiative is one example of that. It's an important thing not just in terms of financial savings, but in terms of the environmental impact. For us the great benefit is coming together with JCPS and Metro Government and find out what they're doing and take their ideas back to the University of Louisville and see how they can help us." (Dr. Stephen Daeschner, JCPS Superintendent)

"A green city will be a place where young people choose to make their homes and raise their families, and a desirable location for companies that use quality of life as a yardstick when they decide where to set up their headquarters. The Partnership for a Green City allows us to share our expertise, resources, assets and collective 'weight' as we strive to create a greener, more sustainable community." (Partnership for a Green City, One-Year Report).

"U of L's residence hall recycling program, which began one year ago, is another good example of how 'going green' can pay off. Today, each ton of material we are recycling from our dorms is saving us in disposal costs." (U of L President James Ramsey).

"This exciting project provides us with a unique opportunity to conserve our resources, protect the environment, and minimize waste and pollution. Potential partnership benefits include environmental management cost savings for partners, more resources for joint research, sustainability-related business development opportunities, increased expertise for academic instruction and improved environmental education possibilities for children and the broader community. " (Lexington Mayor Teresa Isaac)

"Through this partnership, we can impact students at all levels, through both curriculum and extracurricular activities, while tackling environmental issues that affect the entire region." (UK President Lee T. Todd Jr.)

"Together, we can present a strong, united front to sustain and improve the quality of life for all Bluegrass residents." (Fayette County Schools Superintendent Stu Silberman)

Figure 2 — Left-to-right: Lexington-Fayette Mayor Teresa Isaac, Fayette County Schools Superintendent Stu Silberman, and University of Kentucky President Lee Todd sign the Bluegrass Partnership for a Green Community Proclamation.

Photo: Bluegrass Partnership for a Green Community.

2

CASE STUDIES IN URBAN GREEN PARTNERSHIPS

Cities across the country have used environmental partnerships to leverage green outcomes for many years. Below is a review of some of the most dynamic, each using a slightly different model and each quite different from the comprehensive public sector environmental partnerships described in later sections of this guide. There is something to be learned from each of these excellent, environmental projects.

Figure 3 — Philadelphia Skyline. Photo: Adobe Stock Photos

PHILADELPHIA GREEN

At the heart of the Pennsylvania Horticultural Society's 30 year old urban greening program, Philadelphia Green, is a commitment to creating a greener, more livable urban environment through strategic partnerships. It is grounded in a citywide network of strategic partnerships with community groups, government agencies, and non-profit organizations. "Working together toward a common purpose, each partner brings something unique and critical to the table. Through these alliances, Philadelphia

Green and its partners increase their capacity to tackle complex problems in creative ways, accomplishing far more than any one organization could achieve alone" (Pennsylvania Horticultural Society, "Collaborations: The Power of Partnership," *Urban Impact*, March 2002—available at www.pennsylvaniahorticulturalsociety.org. Note that subsequent quotations about Philadelphia Green reference this article).

Parks Revitalization. Collaborating with both Philadelphia's Department of Recreation and groups of citizen volunteers, Philadelphia Green has dramatically improved the quality of neighborhood parks in the city. With the three-way partnership as its strategic cornerstone, this project has grown from a modest initiative to improve three parks in 1993 to one that serves over 40.

"Each collaborator makes an essential contribution. Philadelphia Green helps residents to organize as volunteer 'Friends' organizations that in turn serve as park stewards. It provides training and technical support to both city staff and volunteers and works to obtain additional resources. The city has installed new playgrounds, renovated crumbling park maintenance sheds, and supplies seasonal maintenance workers. Friends groups schedule regular clean up days, hold various events, and raise funds on their own. Staff from Philadelphia Green and the Department of Recreation meet regularly with each other and with the community to plan new projects, problem solve, monitor ongoing maintenance, and share information."

Successful partnership, notes Philadelphia Green associate director Joan Reilly, is grounded in a shared vision—but that vision does not come about by accident. "We worked hard to forge bonds not only with the Department of Recreation's top leadership, but also with key staff members at every level, while also building a bridge between the city and community volunteers. That way, the partnership doesn't end if there is a change of personnel in any one organization."

Key Lesson: Successful partnerships have a shared vision.

Common Ground. Recognizing that the most basic requirement for successful partnerships is a shared commitment on goals, Philadelphia Green has worked to educate its partners about the value of integrating an open-space vision into their urban development plans. For example, in the 1990s, PG worked extensively with traditional community development corporations (CDCs) to help them reimagine the urban environment as one that includes not only "built" spaces, but a green infrastructure of parks, tree and ground cover, and open spaces as well.

Figure 4— Seattle skyline. Photo: Adobe Stock Photos

GREEN SEATTLE PARTNERSHIP

Nationally known for its environmental leadership—e.g. in the Mayor Greg Nickel's "Kyoto Challenge," calling on U.S. municipalities to voluntarily meet Kyoto standards for reduction of greenhouse gases—the Green Seattle Partnership is a good example of a public / non-profit partnership, in this case between the City of Seattle and the Cascade Land Conservancy.

The purpose of the Green Seattle Partnership is to promote the health and vigor of Seattle's substantial urban forest. The partnership fosters a vision in which the Emerald City's parks and forests are seen as Seattle's "green infrastructure"—a living support for clean air, water run-off management, environmental education and quality of life.

In order to restore and sustain Seattle's forests, the City and Cascade Land Conservancy entered into a 20-year agreement to increase the overall canopy, reduce the number of invasive tree and ground cover species, and provide resources for forest management. Out of the memorandum of agreement signed by the partners came a 20-year strategic plan to implement the goals of the partnership (Green Seattle Partnership, *20 Year Strategic Plan,* City of Seattle and Cascade Land Conservancy, 2005).

Structure of the Partnership. The Green Seattle Partnership is governed by a nine-member Executive Council that includes representatives from the Cascade Land Conservancy, the City of Seattle, and volunteer civic leaders. This council meets quarterly and is responsible for strategic planning and fund-raising leadership.

Management is provided by a Management Team and various subcommittees. The Management Team meets monthly to ensure implementation and supervise staff. This team is made up of representatives from three Seattle agencies heavily vested in the project—Parks and Recreation, Sustainability and Environment and Seattle Public Utilities—as well as representatives from the Cascade Land Conservancy. The Management Team and its subcommittees develop budgets and annual work plans and has primary responsibility for implementation of the Partnership's strategic plan.

Administrative support for the project comes primarily from the Cascade Land Conservancy with support from city agencies for recordkeeping. Field implementation is by a combination of community volunteers, nonprofit organizations and paid work crews.

Key Lesson: Annual partnership work plans yield more consistent results.

Milwaukee Green Team

Created in April 2005 under the auspices of the offices of Mayor Tom Barrett, Milwaukee, Wisconsin's Green Team is a working group of dozens of Milwaukeeans drawn from government, business and citizen-activist backgrounds. Recognizing that no American city can afford to treat green policy as an exotic luxury, Mayor Barrett tasked the Team with developing a comprehensive set of recommendations for the greening of Milwaukee.

"The basic insight and strategy," notes the Green Team's initial report, "recognizes the interdependence of Milwaukee's economy and environment. By applying solutions that respect and enhance this relationship, the city can save taxpayer money, help foster a thriving community and enjoy a dynamic economy" (Milwaukee Green Team's Report to Mayor Tom Barrett, October 2005, p.7).

Structure. The Milwaukee Green Team was called together under the leadership of the mayor's office, using the voluntary public commission model, with representatives from both the public and private sector.

A steering committee was established to provide strategic planning for the group and to coordinate three working groups. These groups include:

GREEN TEAM ACTION RECOMMENDATION

Issue an Executive Order from Mayor Barrett to reduce contributions to the sewer system from city property by 15% using downspout disconnection, rain barrels, bioswales, green roofs, etc. by 2012.

Explanation. Mayor Barrett can demonstrate the City's commitment to the on-site management of storm water by providing leadership through a call to increase the use of storm water best management practices (BMPs) such as rain barrels, rain gardens, bioswales and green roofs. City projects need to be showcased that achieve on-site storm water management to demonstrate their feasibility for the private sector. Such showcases include:

- Green city parking lots that use storm water BMPs
- Lloyd Street School bioretention demonstration project with school storm water curriculum
- Green roof Highland Gardens public housing facility

Accountability: Mayor's Office

Recommended Time line: 2005 – 2012

(Adapted from the Milwaukee Green Team's Report to Mayor Tom Barrett, October 2005, p.10.)

- The **City Team**, which was responsible for examining ways in which city government could improve green practices in its own operations.
- The **Interface Team**, which was tasked with recommending ways in which the city could encourage environmentally friendly practices in the private sector through education and incentives.
- The **Private Team**, which was asked to recommend ways in which private industry can become involved in environmental stewardship that make good economic sense.

Priorities. Mayor Barrett rank-ordered three areas for the Team to work on: storm water reduction and management, smart energy, and green economics. In response the Green Team produced a report that included dozens of suggestions, including both "quick win" solutions that could be implemented in the short term at little or no cost and mid- and long-range strategies for environmental stewardship and green development.

A strength of the Green Team report is that each recommendation includes both an action summary and detailed explanation—along with naming the party or agency accountable, and a time line for implementation. (For an example of the Team's storm water management recommendations see the box at the left.)

All of the Green Team's recommendations are presented in a simple, goal-oriented format that highlights the benefits of green practices and notes the ways in which green practices are often by any measures the best practices. This report points out built-in synergies and opportunities for inter-agency partnership. For example, showcasing green storm water management at city owned parking lots and green roofs used in the construction of public housing demonstrates the practicality of on-site storm water management for the private sector. It also indicates the importance of a working alliance between various agencies, including the Milwaukee Metropolitan Sewer District, responsible for managing storm water, and the various departments of city government responsible for constructing, contracting and maintaining public facilities. Likewise the Lloyd Street School bioretention project at once acts as a model for emulation and a source for school-based environmental education, indicating the importance of involving educational institutions, at all levels, in green partnerships.

General Recommendations. Besides the specific recommendations of the Green Team in the three key areas, the Team also recommended the following (adapted from

Milwaukee Green Team's Report to Mayor Tom Barrett, October 2005, p.5):

- **Green Message Marketing:** "Without an overarching message to the public, the Green Team initiatives will lack civic meaning, have less support and not generate the recognition Milwaukee deserves."
- **Office of Sustainability in City Government:** "This office is critical to coordinate the implementation of policy initiatives, conduct green marketing, foster an on-going network of environmental professionals that can act as a resource for the city and help transform city culture to one that embraces environmental strategies as a key to our future well-being. The Office will be self-funded by leveraging grants, private sector support and cost savings from green initiatives to demonstrate that green programs are an investment that improves the City's bottom line."

The recommendations of the Green Team, general and specific, indicate a high level of awareness of the importance of making a green practices a normal part of doing the public's business. "The goal of this self-conscious and strategic approach is to elevate Green to the same level of importance in City of Milwaukee action and planning as other traditional, core municipal values—public money management, neighborhood improvement, employer success, family satisfaction and civil liberties preservation" (Milwaukee Green Team's Report to Mayor Tom Barrett, October 2005, p.7).

Key Lesson: Teams, not committees: Committees have meetings, teams get things done.

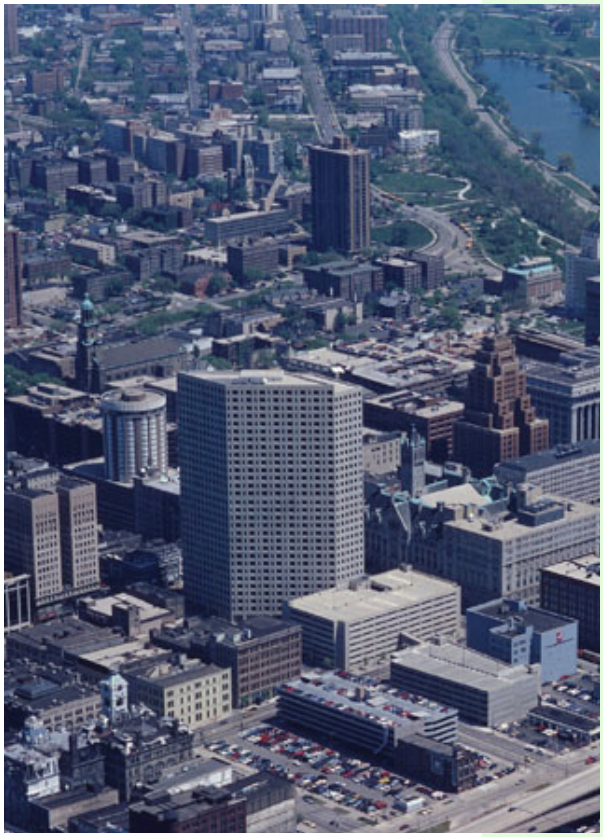


Figure 5 — Milwaukee Skyline. Photo: Getty Images

CHICAGO SOLAR ENERGY PARTNERSHIP (CSP)

The Chicago Solar Energy Partnership is a consortium of public and private organizations organized under the auspices of the Illinois Solar Energy Association (ISEA), to promote solar energy in Chicago. CSP operates by leveraging "the collective expertise of members and affiliate organizations which include: municipal governments, electric utilities, organized labor, solar manufacturers, solar service providers, the financial community and educational institutions as well as aligned professional and advocacy organizations" (http://www.chicagosolarpartnership.org).

Figure 6 — Solar Powered Chicago: Solar energy produced in photovoltaic cells during the day helps to power Chicago's world class skyline at night.

Photo: Getty Images

Partnering to Save. Growing out of a multimillion dollar 1999 contract between the City of Chicago and Commonwealth Edison to develop solar capacity, CSP now involves active collaboration with state government, the Chicago Department of Environment, the International Brotherhood of Electrical Workers and the Chicago Public Schools. Since its inception, the Partnership has installed over 750 kW of photovoltaic solar equipment, largely on the roofs of public buildings such as museums and schools. Installations include 100-kW solar arrays on the roofs of both the Chicago Art Institute and the Field Museum, as well as smaller units on the roofs of public schools and other buildings. Even the smallest of these arrays produce significant electrical savings for their host institutions, on the order of 12,000

kWh annually. The estimated electrical savings for the eight schools where this equipment was installed over its effective lifetime are at least $150,000 (Gabriela Martin, "Renewable Energy Gets the 'Green' Light in Chicago," *IEEE Power & Energy Magazine,* November/December 2003.)

Economic Benefits. Besides pioneering renewable energy use in the city and producing photovoltaic electricity, the Chicago Solar Energy Partnership has also resulted in the creation of a Chicago unit of Spire Corporation, one of the leading suppliers of solar energy generating equipment.

Environmental Education. One of the key goals of the Chicago SEP is to create the largest school-based solar generating system in the country. These "solar schools" have in turn developed a curriculum that integrates renewable energy education directly into the math and science classes. (For more information on this award-winning curriculum, visit www.chicagosolarpartnership.org).

The Bigger Picture. The CSP is also integrated into both the United States Department of Energy's initiative to add another million roof-top solar arrays by 2010 and broader efforts to promote renewable energy of all types. In 2001 the City of Chicago entered into a partnership with the Chicago Transit Authority, the Park district and dozens of metro area municipalities to purchase increasing percentages of power certified as green by the Environmental Resource Trust (ERT). In the first five years of operation this effort resulted in the saving of over 115,000,000 kWh of electrical power and reduced greenhouse gas emissions by 45,530 tons (Apollo Alliance, *High Performance Cities: A Guide to Energy-Saving Policies for Urban Areas*, Apollo Alliance and ICLEI Local Governments of Sustainability, 2005, p.1).

Key Lesson: Use of new technology can energize partners, save money and broaden participation.

3

THE PARTNERSHIP FOR A GREEN CITY & BLUEGRASS PARTNERSHIP FOR A GREEN COMMUNITY

ORIGINS OF LOUISVILLE PARTNERSHIP

The Partnership for a Green City began with the University of Louisville and Jefferson County Public Schools working together to strengthen environmental education, supported by a grant from the Center for Environmental Education. The Louisville Metro Government—the merged city/county regional government—was then invited to join the effort and an initial focus on environmental education and public health was widened to include the greening of the institutions themselves.

The collaborative dialog and exploratory process among the representatives from the three institutions resulted in an ongoing project named the Louisville Partnership for a Green City. What has emerged from the conversations between these three organizations is a vision for a greener Louisville, a working structure with partner teams and a set of goal-oriented projects.

As the wide range of successful environmental collaborations featured in Chapter 2 suggests, there is no one right way to build a functioning green partnership. In this section, however, the focus will be on a particular style of partnership: a broad-based, permanent partnership between public institutions designed from the ground up, and supported from the top down, to promote green policy and green practice as a way of life within the partner institutions and beyond. The foundation of such partnerships is based on the conviction that partnering on green practices can yield better results and contribute to the economic and cultural health of a city, improving the ability of the public entities to meet their mandates, and helping to ensure the sustainable prosperity and quality of life of its citizens.

Both of the projects featured in this chapter—Louisville's Partnership for a Green City and Lexington's Bluegrass Partnership for a Green Community—are based in Kentucky.

The Louisville partnership emerged first, in 2003, and is therefore further along than the project in Lexington. Officially unrelated to each other, the Lexington partnership nonetheless took Louisville as a model to iterate, learn from and adapt to its own circumstances and needs. Each of the projects has its own strengths, along with attendant challenges, and metropolitan regions interested in starting their own green partnerships can learn from both.

Louisville's Partnership for a Green City was initiated in 2003 by the Kentucky Institute for the Environment and Sustainable Development at the University of Louisville. The University conducted a series of facilitated meetings between three of the metro region's most prominent public institutions: Louisville Metro Government (Metro), the University of Louisville (U of L), and Jefferson County Public Schools (JCPS). These meetings, motivated by a common understanding that Louisville faces significant cultural, economic and environmental challenges in the coming decades, took as their point of departure the premise that through collaboration the participating institutions will be better positioned to meet these challenges.

Table 1 - Approximate Combined Resources of Louisville Partners

Employees:	25,900
Land (Acres):	25,000
Buildings:	500
Students:	120,000
Vehicles:	7,000
Energy Expenditures:	$33 million (annual)

As identified in a recent Brookings Institute study (*Beyond Merger: A Competitive Vision for the Regional City of Louisville*, Center on Urban Metropolitan Policy, 2002), the two major challenges facing the city are a workforce lacking in both skills and size, and a fragmented and decentralized growth pattern that undermines opportunity and threatens quality of life. The partners recognized that a key ingredient in the recipe for meeting both of these challenges is a green vision that includes an emphasis on environmental educa-

Louisville, Kentucky: At a Glance

According to the most recent available population estimates, Louisville (including the merged Jefferson County metropolitan region) is the twenty-sixth largest city in the United States (www.infoplease.com).

Located on the banks of the Ohio River, it has traditionally been a center for shipping and distribution. Louisville has had a merged city-county metro government since 2003.

Basic Statistics:

Louisville/Jefferson County Population:
699,827

Land area:
385 sq mi.

City-owned parks:
122 (14,000+ acres)

Per capita personal income:
$32,485

LEXINGTON, KENTUCKY: AT A GLANCE.

Lexington-Fayette County is the sixty-fourth most populous city in the United States (www.census.gov). Located in the central "Bluegrass" region of Kentucky, Lexington is home to the state's land grant institution of higher education, the University of Kentucky. The city and county governments have been merged since 1973.

Basic Statistics:

Lexington-Fayette County:
260,512

Land area:
284.5 sq mi.

City-owned parks:
101 (4,000+ acres)

Per capita personal income:
$29,549

tion, energy efficiency, waste-reduction, pollution control and the creation of a green infrastructure.

The Lexington-based Bluegrass Partnership for a Green Community was founded in the second half of 2005. While aware of the Louisville project—and intent on learning from that example—Lexington was also determined from the beginning to go its own way. The initial call for the Bluegrass Partnership came from the Tracy Farmer Center for the Environment and the Sustainability Task Force at the University of Kentucky.

As in Louisville, the University of Kentucky issued invitations and was joined by representatives from the merged city-county government (Lexington-Fayette Urban County) and the public school system (Fayette County Public Schools). Recognizing that the benefits of partnering can extend beyond the urban boundary, the Lexington partners decided to be as inclusive as possible and work to create a unified environmental vision for the entire Lexington/Bluegrass region of Kentucky. Thus, unlike Louisville, the Lexington partners involved additional organizations from the onset, most visibly Bluegrass Pride, the Kentucky Division of Renewable Energy and Energy Efficiency, and the Kentucky Environmental Education Council. The Bluegrass Community and Technical College, part of the University of Kentucky when the project started, is now independent and is considered one of the project's original partners. Formal partnering agreements are proposed for each additional

TABLE 2 - APPROXIMATE COMBINED RESOURCES OF LEXINGTON PARTNERS

Employees:	18,350
Land (Acres):	6,800
Buildings:	601
Students:	58,180
Vehicles:	2,773
Energy Expenditures: (annual)	$40,000,000

In both urban areas—Lexington and Louisville—there was a recognition among the partnering organizations that the significant environmental challenges facing the respec-

tive regions could best be met by working together. But the same factors that make partnerships work so potentially powerful—the size of combined labor force, purchasing power, and community impact—also make such collaborations a challenge.

In the case of the Louisville project, the partnering institutions employ 5 percent of the labor force in the metro area, teach more than 75 percent of its students, own 10 percent of the land, and use a proportional amount of energy and other consumables.

The numbers for Lexington, though slightly smaller in absolute terms, amount to an even larger proportional share of key factors. The Partners have a labor force accounting for as much as 12 percent of those employed in Fayette County, 90 percent of the students, and own 3.7 percent of the land, excluding road and utility right of ways.

Figure 7 — Louisville skyline. Photo: Courtesy of www.gotolouisville.com.

Thus the collective environmental footprint of each of the partnerships is significant enough that change *within* the organizations, particularly coordinated change, has the potential to make a real difference.

Prior to the origin of these projects, there were already many important environmental efforts underway in the two cities. Even the best of projects, however, suffer from an impairment of effectiveness caused by the lack of established venues for communication and cooperation. To an extent, the better the project, the more is *lost* to the larger community when institutions fail to share expertise and coordinate efforts. Thus this factor—the added benefit that comes from coordinated efforts and active cooperation among institutional partners—in itself goes a long way to justify the effort required to make green partnerships a reality.

Additionally, neither partnership developed in a vacuum. Even as principal institutions negotiated and imagined the scope of Louisville's Partnership for a Green City, the National Science Foundation (NSF) was creating a new Environmental Research and Education section and is publishing its much-anticipated assessment of human-environmental interaction (*Pathways to the Future: Complex Environmental Systems: Synthesis for Earth, Life and Society in the 21st Century*, 2005). During this same period the

Figure 8 — Lexington, Kentucky. Photo: Courtesy of Lexington-Fayette County government .

National Environmental Education and Training Foundation (NEETF) released an important ten-year assessment of environmental literacy (www.neetf.org), and the California High Performance Schools (CHPS) released a national study of issues related to environmental education (www.chps.net). Concurrent with these efforts, the National Institutes of Health (NIH) launched a major initiative to ameliorate and eliminate environmental threats to children's health. Thus both the Partnership for a Green City and the Bluegrass Partnership for a Green Community were not only in a position to take advantage of insights gleaned from all of these studies, but to promote themselves as a crucial factor in the health, well-being and quality of life of their respective communities.

As the partnerships evolved, it quickly became clear that environmental education, sustainability and quality of life could not be considered separate issues. The Partners began to see the possibilities that arose from considering the powerful ways these entities could be linked—and by linking them each of the participating organizations could better meet their core mandates to educate students and protect public health. Such opportunities arise when sound environmental practice is treated not as an institutional burden, but as a unifying theme through which rock-bottom organizational goals such as improving student achievement, reducing costs and creating performance accountability can be met and they can be better met through inter-organizational collaboration.

Goals and Assessment

A shared vision for environmentally sustainable practices is key to mobilizing support both within and beyond the various partner institutions. Both partnerships have emphasized goal-setting and self-evaluation. Inter-institutional teams, composed of those actually doing the work, developed concrete goals and performance expectations. The priorities, however, emerged from facilitated meetings of the individual project participants. The Louisville group initially identified three priority project areas:

1. holistic environmental education;

2. environmental research, particularly as it relates to children's health; and

3. stewardship and expansion of a sustainable public green infrastructure.

Within each of these three categories, participants brainstormed potential projects which they prioritized and selected a total of ten (see sidebar). A team was formed for each of the different projects, and each team had representatives from each of the three partnering organizations.

The Louisville Partnership is composed solely of public organizations. They decided not to include outside groups for the first few years of the Partnership. This was done in part to concentrate on changes within each of the three partner institutions. Such changes, it was decided, would be facilitated if accountability came primarily from peers in the other public organizations. Inertia is difficult to counter, but it can be overcome when the changes are incremental in nature, supported by all levels of management, and developed by employees or their peers. Peer pressure has been instrumental in the adoption of new programs developed by the partnership.

Louisville Partnership Priority Projects

1. Adoption of Environmental Standards and Principles
2. Create an Energy Use Partnership
3. Community Recycling
4. Green Purchasing
5. Environmental Education Collaboration
6. Outdoor Classrooms
7. Green Professional Development
8. Environmental Public Health Registry
9. Asthma Monitoring and Reduction

Table 3 - Louisville Partnership for a Green City Sample Survey Results

1. How successful has your project been to date?

Very successful – 20 percent
Meets expectations – 48 percent
Could be better – 20 percent
Not very successful at this point – 12 percent

5. Do you feel the Partnership Project is a priority for your organization?

Yes, it is a high priority – 26 percent
Yes, it is a priority, but not the highest priority –56 percent
No, project is not a priority – 18 percent

10. Do you think the project is being adequately communicated with top management?

Yes – 32 percent
No – 17 percent
I don't know – 51 percent

More specifics on how the partnerships and the teams were developed and implemented can be found in chapters 4 and 5.

The survey process establishes communication between the participating institutions and identifies specific barriers.

For the complete set of questions and results of the Louisville survey, see Appendix C.

At a certain point, the leadership felt the need to assess the partnership by a survey of participants designed to gage green organizational awareness, project commitment and progress. The anonymous 23 question survey, administered by an outside consultant, was sent to 49 project participants. There were 39 responses. Key questions included assessment of the project success to date, prospects for future success, institutional priority of the green partnership, team member understanding of the their respective projects within the partnership, and communication between project teams, teams and management, and teams and institutional leadership. Some of the most important recommendations that followed from the survey involved the importance of communication, both laterally between project teams and participating institutions working on related issues, and vertically between project participation, management and institutional leadership.

The Bluegrass Partnership in Lexington is still in the process of setting its priorities, but is moving forward with a general understanding that the Partnership's main goals are:

1. To sustain and preserve regional quality of life;
2. To protect the environment and conserve resources; and
3. To minimize waste and prevent pollution.

Though it began with the same core institutional partners as the Louisville project, a key element of the Bluegrass Partnership has been an eagerness to invite additional organizations, including local environmental advocacy groups, to the table. Eight teams have been formed to identify, prioritize and implement approved partnership projects and programs. The eight teams are:

- Green Buildings
- Waste Minimization
- Green Purchasing
- Environmental Education
- Transportation
- Outreach and Communication
- Water and Storm Water
- Food, Lands, and Sustainability

Additional teams may be formed if approved by the project steering committee.

In order to assess the interests and concerns of these varying organizations, the Lexington group opted for a simple web-based survey as an *initial* evaluation instrument (http://www.uky.edu/sustainability/greencities/).

Table 4 - Lexington Bluegrass Partnership for a Green Community Sample Survey Results

1. Which institution are you affiliated with?

University of Kentucky – 32.7%
Lexington Fayette Government – 21.2%
Fayette County Public Schools – 19.2%
Interested unaffiliated party – 23.1%

2. In terms of policy and practices, how green is the institution with which you are affiliated? (Sample Responses)

No apparent interest at all, either on individual or organizational levels – 0%
Individual interest in green issues, but no organizational interest – 7.7%
Slight organizational interest in green issues, but no attempts to implement policy – 13.5%
Very green, with committees and/or individuals responsible for design and implementation of environmental practices – 7.7%
As green as possible in all areas – 1.9%

6. What is the most important thing the Bluegrass Partnership can do to improve the quality of life and protect the environment in the Bluegrass? (Choose up to 3) (Sample Responses

Clean water – 21.2%
Clean air – 15.4%
Energy conservation – 23.1%
Safe and waste conserving management of waste products of all sorts – 17.3%
Land conservation and promotion of sustainable development – 51.9%
Environmental education of all ages – 21.2%
Environmental advocacy and leadership – 23.1%
Transportation solutions that reduce petrochemical usage and pollution – 34.6%
Growth management, including effective partnering among counties – 40.4%
Other – 9.5%

Survey Results

For complete results of the Lexington survey, see Appendix D.

ENERGY EDUCATION

According to the Kentucky Energy Education Project:

- Public schools in the U.S. spend in excess of $6 billion per year on utilities.
- Nationally, schools spend $151 per year per student on electricity, fossil fuels, and water.
- In Kentucky, the 2004 average amount spent per student was about $158.
- In California, public schools where staff and students have been trained to conserve energy use about 30 – 40 KBT/sq ft., in Kentucky the range is from 60 to nearly 100 KBTU/sq ft.

This suggests that Kentucky schools can save as much as 25 percent of their energy costs by training teachers, students and staff to conserve energy and providing incentives for them to do so.

IMPORTANCE OF ENVIRONMENTAL EDUCATION

Environmental education is a stated priority for both Kentucky partnerships. Environmental learning, at its best, layers the sciences, mathematics, history, language arts and social studies with a hands-on, experiential approach to study. By using the outdoors as the context for learning, many different subjects become personally relevant to the students and educators. Standardized test scores improve. Young people are prepared for the responsibilities of citizenship, which increasingly require an understanding of many public issues affecting health and the environment.

One highly-valued result of environmental education for students is environmental literacy, which consists of four parts (North American Association for Environmental Education, *Environmental Literacy in the United States: What Should Be, What Is, Getting from Here to There*, 1998):

1. Developing inquiry, investigative, and analysis skills;
2. Acquiring knowledge of environmental processes and human systems;
3. Developing skills for understanding and addressing environmental issues;
4. Practicing personal and civic responsibility for environmental decisions.

Numerous projects and programs for environmental education and teacher development were in place before the Partnership began. However, these opportunities have not been systemic in nature and so reach only a fraction of the student population. The Louisville partners understand the potential future benefits of quality environmental education for students and teachers. Already the partners have, through collaboration, doubled the number of professional development classes available in one year, relying heavily on University of Louisville researchers and Metro Louisville professionals to conduct the sessions. The Partnership created a joint position between the University and JCPS in the area of public health to improve services to school children and provide new research opportunities. And the Partnership is working to refocus Metro Louisville's environmental educational programs to meet the school district's core content and sequence requirements.

Most Americans agree with the Louisville and Lexington partners about the importance of environmental edu-

cation, recognizing the economic and quality of life consequences of the environment. In fact a 2004 NEETF/Roper poll revealed that 95 percent of Americans (and 96 percent of parents) believe that environmental education should be taught in the schools. Additionally, about 90 percent believe that adult environmental education should be readily available in the workplace and the public sphere (*Understanding Environmental Literacy in America*, NEETF, 2004).

Environmental Education

Environmental solutions are not only scientific—they include historical, political, economic, and cultural perspectives. Thus, the environment is not only forests and wetlands, but office buildings and highways.

- Environmental Education (EE) rests on a foundation of knowledge about both social and ecological systems.
- EE includes the affective domain—the attitudes, values, and commitments necessary to build a sustainable society—as well as the prejudices, habits and misunderstandings that prevent it.
- EE incorporates a human component in exploring environmental problems and their solutions.

The role of educators in addressing the affective domain can be complex. Teachers should make it clear that differing personal values exist, that these values can color facts, and that controversy is often motivated by differing value systems.

EE includes opportunities to build skills that enhance student problem-solving abilities in realms such as:

- Communication: listening, public speaking, persuasive writing, and graphic design
- Investigation: survey design, library research, interviewing, and data analysis
- Group process: leadership, decision making, and cooperation

(*Understanding Environmental Literacy in America*, NEETF, 2004).

IMPORTANCE OF ENVIRONMENTAL MANAGEMENT

Environmental management for the green city partnerships encompasses all of the activities, facilities and programs that relate to the properties and responsibilities of the partners. It is keyed to a philosophy which seeks to make sustainability as central to organizational mission as education is to schools and universities and fiscal responsibility and public safety are to municipalities, precisely because the health and quality of life of all citizens ultimately depend on environmentally sound policies and practices. In a short time, Louisville and Lexington have made excellent progress toward creating a green infrastructure within the partnering organizations. New projects have been started dealing with recycling, energy use, and green buildings. The list of future projects and possibilities is extensive and mainly limited only by the ability of the partners to coordinate and implement change while continuing to meet—and exceed—their various organizational missions.

The easiest and lowest-cost environmental stewardship practices, if implemented in Lexington and Louisville with the same enthusiasm as in greener cities, could result in 10 percent or more energy reduction and significant savings for the budgets of the partners. These savings can be achieved solely by individuals within the partner organizations changing the ways in which they use fuel and electricity. Applying state-of-the-art green building and fuel-efficient fleet technologies to the hundreds of buildings and thousands of vehicles controlled by the partners in the two cities could result in another 5 percent to 10 percent savings.

For example, in Lexington one team is devoted to storm water issues. Working with all three partners, this team is focused on how the partnership can improve storm water runoff practices at the facilities of the three partners as well as influence community awareness of runoff and what can be done. An early project already in progress targets public education and overlays a state-funded education program. This is part of a more extensive team-led effort to use communication/education to encourage green practices in the partner organizations and beyond.

One of Louisville's most successful projects to date is an energy audit program that targets institution-owned buildings. The goal is to audit all 600 plus buildings us-

ing trained and supervised student teams, thus integrating environmental education and best practice green management. After the first group of buildings was audited, the partners recognized that many of the recommendations had applicability to all of their facilities (use of energy efficient motors, for example). The result has been adaptation of policies and retrofit initiatives that will be incorporated into all three partner facilities management practices.

Other successful projects in Louisville include a joint purchasing agreement between the partners for purchasing recycled white paper and increased recycling at the University supported by an agreement with Louisville Metro to pick up U of L recyclables. The agreement allows future joint purchasing to be done in all areas without the need for additional special agreements.

Sustainability of facilities is one of the biggest challenges and most important long-range targets for partner projects in both cities. Both Lexington and Louisville have aging buildings with few or none of the green building enhancements that LEED promotes. Environmental issues related to legacy pollution including lead paint, asbestos and inefficient HVAC systems will continue to challenge managers for many years. But both partnerships are identifying LEED standards as a goal and identifying opportunities to begin or accelerate the change process. Performance contracting and advanced energy monitoring are just a few of the tools being used or considered to set priorities and improve older facilities.

Other significant efforts are looking at transportation, fleet management, green campuses, outdoor classrooms, waste avoidance, and responsible recycling of electronics. The partnerships realize that public agencies must lead by example to be successful in promoting green practices.

LEED Standards

LEED stands for Leadership in Energy and Environmental Design, a program run by the U.S. Green Building Council which sets industry standards for rating buildings for energy efficiency.

(For more information see http://www.usgbc.org).

CHILDREN'S ENVIRONMENTAL HEALTH

According to a recent report from the Kentucky Environmental Quality Commission: "Kentucky's children face a myriad of environmental health hazards including radon, solvents, asbestos, mercury, arsenic, sulfur dioxide and ozone, to name a few. They fall into categories such as neurotoxins (certain pesticides and solvents, mercury, lead), endocrine disrupters (PCBs, dioxin), carcinogens (radiation, asbestos, arsenic, dioxin) and respiratory irritants (sulfur dioxide, ozone). Any child can be affected by environmental hazards, however, low-income families are likely to be at greater risk for environmental diseases. For example, children from low-income families are eight times more likely to have high lead blood levels than those from higher income families. These families are more likely to live in substandard housing and in polluted communities, increasing their risk of childhood lead poisoning, asthma, cancer and other diseases. In Kentucky, more than one in five children lives in a family with income below the federal poverty line *(Children's Environmental Health in Kentucky*, 2000, p.3).

IMPORTANCE OF PUBLIC HEALTH

Freedom from unnecessary exposure to environmental pollutants is one of the most basic tenets in defining quality of life. The impacts of exposure manifest themselves in terms of restricted activity, increased susceptibility to disease, decreased cognitive capacity, birth defects, and premature deaths. In addition to the direct impact on individual health and well being, the public health costs for additional health services, lost productivity, and absenteeism are a significant and largely avoidable drain on the regional economy.

Like many cities, Louisville and Lexington are threatened by a number of public health risks from a contaminated environment:

- According to the Louisville Metro Air Pollution Control District, the city does not meet national air-quality standards for ozone and fine particulates and the metropolitan area has been identified as having some of the highest concentrations of airborne toxins in the United States.
- Lexington-Fayette County fails to meet the PM 2.5 standard for airborne particulates, according to the Kentucky Division for Air Quality.
- According to the 2003 *Waters Report* issued by the Louisville Metropolitan Sewer District, none of the city's major streams and waterways, including the Ohio River, consistently meets body-contact recreational standards.
- As detailed in *Children's Environmental Health in Kentucky*, the Kentucky Environmental Quality Commission reports both Jefferson and Fayette counties have experienced high numbers of pediatric hospitalization for asthma.
- Contaminated and potentially contaminated lands exist through the Louisville metro area. According to the Louisville Metro Brownfields Task Force, 25% of the downtown area is classified as brownfields. Although Lexington has fewer, it still has some significant brownfield sites.
- The Louisville Metro Department of Health reports elevated lead levels in 6 – 8 percent of the city's children, and that childhood asthma rates have been rising.

BENEFITS OF COLLABORATION

Participants in the two green partnership projects have identified many benefits that their organizations could achieve through collaboration:

- Improved education of students and community
- Economies of scale in coordinated purchasing, contracting and environmental management
- Joint studies, research, academic studies
- Coordinated fund raising
- Shared expertise
- Capacity building in each of the three organizations

Accomplishments to Date

What follows is a brief summary of some of the most significant accomplishments of the two projects.

• **Green Purchasing.** In late 2005, Louisville Metro Mayor Jerry Abramson, the Superintendent of Jefferson County Public Schools, Dr. Stephen Daeschner, and the President of the University of Louisville, Dr. Jim Ramsey, gathered to announce a memorandum of agreement by which the partner institutions agreed to pool their purchasing power to buy recycled paper. According to Mayor Abramson, "We formed the partnership for a green city... to improve the quality of life in this community, increase environmental education in this community, conserve resources in this community, and save taxpayers' dollars by combining our purchasing power. We'll open bids next week to combine our recycled copy paper contract. This could save the partners up to $45 thousand just by increasing the use of recycled paper" (http://php.louisville.edu/news/multimedia/multimedia.php?id=67).

• **Waste Management.** In its first year, with most projects still in their infancy, the U of L saved over $8,000 in disposal costs through partnership efforts. Each partner had separate waste disposal contracts with varying costs per ton. The University was able to use Metro Louisville's contract to reduce its costs, and by hauling waste to the city's transfer station rather than to the landfill was able to save additional transportation and labor costs. The JCPS District plans to use the lower cost city contract as soon as their current waste management contract expires.

• **Energy Audits.** An ambitious project for the Louisville Partnership is to conduct environmental and energy audits of all public buildings as a way to benchmark usage and identify potential savings. Ten buildings have been audited

by trained student teams and audit report recommendations are in the implementation phase.

The audits recommended changes to more energy efficient electric motors, lighting fixtures and bulbs, windows, building insulation, and Energy Star appliances. JCPS is entering into Energy Performance Contracts to implement some of the audit recommendations. The University of Louisville in response to the audits has changed its purchasing requirements for all electric motors to improve its energy efficiency and has begun installing more energy efficient T-8 lighting fixtures.

Figure 9 — Plastic recycled through the Lexington Recycling Center. Approximately15,622 tons of material was recycled in 2005. This saved over $340,000 in landfill tipping fees and generated over $866,000 in revenues from sale of these materials.

The Bluegrass Partnership will build on successful existing programs to broaden the scope and reach of recycling programs.

Photo: Bluegrass Partnership for a Green Community.

• **Expanding Education.** Through partnership efforts, public school teachers in the region have increased opportunities to learn the most effective environmental education techniques. In addition, outdoor classrooms have been established at six local schools. A K-12 Environmental Education curriculum was developed and linked to required educational outcomes and available resources. Outdoor classrooms have been established at fifty-three schools. The Lexington and Louisville Partnerships collaborated to more than double the number of Professional Development classes on environmental education offered to teachers in the state.

• **Student Health.** The Louisville partners have created a joint position dedicated to the improvement of student health in the Metro area, and are working to link university research more directly to community health issues especially environmental health and green space fitness activities including walking and biking.

Energy Management. The Louisville partners worked together to select and purchase an energy data management system to track energy use and cost. Previous to this project, collecting data on energy use proved to be insurmountable for the University and Metro Louisville. What data was available was scattered and largely hidden. In some cases, the use of Master Meters for multiple buildings made energy costs for individual buildings unavailable.

Figure 10 — Environmental education in action.
Photo: Bluegrass Partnership for a Green Community.

JCPS had tracked its energy use for the past 20 years, but its data system had limited capacity to conduct analysis. Together the Partners purchased a utility data management system, Energy Watchdog Pro, and worked with local utilities to provide use and cost data electronically. Previously each of the entities received monthly multiple paper bills (over 600 a month for the 3 partners). The utility companies are now billing electronically under a pilot program for the Partnership. The electronic billing saves accounting and billing expenses for both the utility and the Partners and allows use and cost data to be automatically uploaded to the Energy Management data system.

Solar Energy. The Partnership is working to install solar energy systems. Under a US Department of Energy grant to the University of Louisville, the Partners are installing solar hot water systems and light harvesting systems into several schools, PV powered street lights, and solar hot water systems for swimming pools. The University is conducting research on each system to document performance and cost/benefit analyses.

• **Waterfront Cleanup.** Working with the non-profit organization Living Lands and Waters, in March 2006 the Partners helped to organize a month long cleanup of the Ohio River along Louisville's waterfront. Over 250 volunteers helped to pull more than 20 tons of refuse from the river.

"Living Lands and Waters provided us tools we have never been able to use before to remove some of this trash that has been in the water for years," Louisville Metro Mayor Jerry Abramson said. "Our community is now a cleaner and greener place to live thanks to all the hard work of our volunteers" (http://www.louisvilleky.gov/Mayor/News/2006/Month-Long+River+Cleanup+Nets+18+Tons+of+Trash.htm).

• **Online Survey.** While still in the organizational and goal-setting phase of its project, the Bluegrass Partnership for a Green Community has completed an online survey of participating organizations and interested parties and is preparing to move forward with leadership meetings that will review the survey results, set priorities and project goals. (http://www.uky.edu/sustainability/greencities/)

• **Community Gardens.** The Lexington partners have identified the renewal and expansion of the community gardens as a priority project and have initiated the project as part of the communities Food Lands program.

• **Sustainability Task Force.** The University of Kentucky has created a task force to identify areas of possible improvement and to create goals for the University in the areas of Communications, Land-Use and Buildings, Business Operations, and Transportation, especially at the city-campus interface.

• **Green Technology.** Fayette Count Public Schools have initiated several energy conservation measures, including: the incorporation of daylighting design in the Athens-Chil-

esburg school, geothermal-based HVAC in Vet's Park, Rosa Parks, EJ Hayes & Athens-Chilesburg schools, and high-efficiency lighting in the new Bryan Station High School.

• **Energy Savings.** The Lexington-Fayette County Government has worked with the Kentucky Department of Highways to upgrade all the traffic signals in Fayette County to the light emitting diode (LED) type. This has reduced electricity usage by approximately $10,000.00 per month. Since these LED signals last significantly longer and are brighter, this also reduces maintenance costs and enhances public safety. This upgrade was accomplished through a performance contract, meaning that the cost of the upgrade will be paid for out of the energy savings. The Division of Traffic Engineering and the Energy Management Team helped coordinate this upgrade.

Louisville-Metro is currently conducting a pilot project, testing solar-powered traffic lights, with research help from the University of Louisville, that could eventually provide significant energy savings to the city.

• **Sustainable Education and Research.** The University of Kentucky's Tracy Farmer Center for the Environment acts as a comprehensive and interdisciplinary center that focuses on sustainable solutions to environmental challenges through scientific, cultural, humanistic, legal, and political research, education, and service.

In collaboration with the Office of the Provost, the Farmer Center has established an internship program which has funded seven undergraduates and a student coordinator for eight different projects, ranging from recyclable mugs to campus loaner bikes to green roofs.

4

THE CREATION PROCESS: HOW TO ESTABLISH A SUCCESSFUL PARTNERING PROJECT

This chapter outlines the process by which the partnerships were created and reviews the process at key points in greater depth. A recommended approach is presented for forming a successful partnership.

KEY ELEMENTS IN ESTABLISHING A PARTNERSHIP

Project Buy-in From Leadership. Partnering of big institutions is unlikely to be successful without support from executive leadership. The leadership needs to actively support the project, and the project participants need a clear understanding of what their leaders expect from the partner relationship.

Leadership interviews. As a way to get leadership support and understanding of the partnering project, a valuable step is to conduct leadership interviews. The results of these interviews can be used to align expectations of the leaders and project participants and to identify the critical needs of the partners that may be unique to their mission. A good example is the need to coordinate and align

environmental education in classrooms facilitated by other partners with curriculum and expected learning outcomes. *These interviews can reveal critical needs within the partnering organizations.*

Selection of Participants. Each partnering organization should be asked to identify key managers and other individuals who could effectively represent their organization. Flexibility is important in that not all invited participants will be able to attend initial orientation meetings. Those invited to the organizational meeting should be allowed to send representatives or substitutes. Potential partners should decide at the outset if they want to invite representatives from outside organizations, such as community or environmental groups, to attend the organizational meeting.

Organizational Meeting. Once leadership interviews have been conducted and appropriate participants from each organization have been invited, the partnering organizations will need to hold an organizational meeting. Project participants should get an overview of project goals and have the opportunity to voice general expectations. Participants should also identify "best practice" examples of successful partnering in advance of the next phase of the project, the facilitated focus meetings.

Facilitated Focus Meetings. The bulk of the nuts and bolts work involved in identifying potential projects and collaborative opportunities should be done in a series of day-long facilitated focus meetings. These meetings should be centered on broad areas of environmental concern, e.g. environmental health, education, and management, that are appropriate to the community. Overlap between the various meetings will be common and facilitators should encourage participants in each cluster to define their own approach and integrate similar recommendations where appropriate.

Draft Report and Feedback. Following the cluster meetings, the project facilitators should draft a report to be distributed to all participants for review and feedback. Since the participants establish the recommendations and priorities, it is important that the report accurately reflect the consensus of the participants.

Implementation Phase. In this phase, participants begin to develop and implement the project goals and recommendations that emerged from the facilitated cluster meetings, working through project teams.

LEADERSHIP INTERVIEWS—WHAT WAS LEARNED

Leadership interviews were conducted in both Lexington and Louisville. These interviews targeted the executive leaders and key upper management personnel from each of the participating organizations. The leaders answered questions concerning the environmental priorities of their organizations, their views on the possibilities for change, and the ways in which they assessed community support for change and partnering. The discussions covered the ways in which education, quality of life, and economic development are linked to the environment. Some of the key findings from these interviews include the following:

- **Support for Partnering.** All leaders interviewed expressed strong support for partnering with the other organizations, consistent with the project goals. Many had examples of ongoing efforts intended to increase partnering and communication. Most were very open about identifying the current strengths and weaknesses in their organization's approach to managing environmental issues.
- **Strengths.** The interviews revealed that all partner organizations had examples of partnering, environmental education and management that have been recognized at the highest levels. Leaders showed positive support and enthusiasm for improvement. There was a general confidence that the community would support changes, especially if they were likely to result in better services, a cleaner environment, and improved educational outcomes. All the leaders felt they had people within their organizations with the talent and desire to do things better. Probably the most significant shared value was a universal vision of a better Louisville and a better Bluegrass Region.

Leaders of public entities faced with limited resources have increasingly recognized the importance of partnering in order to meet their mandates. In both Louisville and Lexington, local school districts faced with meeting state mandated testing and pressure to produce students with skills to meet 21st century job markets were already partnering with the business community and universities to improve educational programs. Public university presidents are expected to document how their educational systems are leveraged into improving the quality of life and economic growth and vitality of their service areas. And cities have recognized that partnering with other public and private entities is necessary to meet the mandated duties imposed

on them. It is within this context of a growing need for partnering that a partnership for environmental sustainability can be initiated and supported.

 Weaknesses. Leaders were asked about their organization's environmental practices and policies, as compared to a theoretical green ideal. All interviewees were open and reflective about how they assessed their organizations. Similar results emerged from leaders in both cities:

1. None of the partners had an environmental position at the cabinet or executive management level. All had dedicated personnel at some level committed to environmental programming and regulatory compliance, but in general these efforts were not focused and were not integrated with executive management. This is one of the recommendations that has been implemented in other green cities.
2. None had a strategic organizational plan focused on environmental issues.
3. None had a clearly articulated (written) set of environmental principles and policies that could be shared with employees and the public.
4. None had performance indicators and measures at a level that would promote best environmental practices. *This emerged as the single area the leaders hoped most to impact with the Partners Project.*
5. There was no focal point for communication between the partners, and there was no way to identify environmental issues common to each partner, or any discussion to create a partnering office.

All of the partners were aware of activities going on within their organizations to address some of these weaknesses, but none had a current commitment to address all of them. All of the interviewees expressed some interest and most expressed strong interest in improvement.

 Green Assessment. The leadership interviews included questions asking how "green" did they view their organizations to be, their city to be, and themselves personally. The responses gave a good indication of the current situation and the potential for positive change.

On average and with a few notable exceptions, the leadership among all partners viewed their current environmental practice as average or slightly below average. They also agreed that this reflected the current community standard, although Lexington respondents generally viewed their community as "greener" on a 1–10 scale. The leaders saw themselves as generally being "greener" than the organizations they represented. None of them viewed this project and re-

lated efforts to make their organizations greener negatively. A few people identified potential barriers and constraints, but overall nothing was identified that would limit success if the partners committed to change.

The general message emerging from the leadership interviews for the project participants can be summarized as follows:

- At best, we are average in our environmental performance.
- We can do better and partnering is a way for us to do better.
- We (the leaders) want our organizations to do better.
- We recognize that being green can help us to achieve community goals relating to education, quality of life and economic development.

COMMON THEMES FROM THE FACILITATED SESSIONS

The partner group meetings in both locations were high energy and the participants appreciated the challenge of identifying possible projects. Central themes emerged from both groups that were very similar:

1. Coordinated purchasing and contracting to obtain economics of scale.
2. Collaborative efforts to educate students and the community
3. Collaborative environmental management programs to obtain economies of scale and to share expertise
4. Development of an annual environmental strategy and budget
5. Development of performance indicators to promote best environmental practices
6. Formal partnering structures and staff to facilitate and coordinate collaborative projects

Louisville had more of a focus on research and the use of university assets, reflecting the University's role in initiating the partnership. Lexington had more focus on land preservation and sustainability as those issues were reflected in the participant survey as most important by over half the participants.

Foundations for a Successful Partnership

Four recommendations were so important that they were identified in some form within each group. These four recommendations are critical to successful implementation of the project goals:

1. Interagency Coordinating Committee. A high-level cross-functioning team of partner representatives can take the Partner Project through the implementation phase, champion projects and programs, and help secure permission and funding for recommended initiatives. All partner organizations have huge responsibilities, are large and complex, and ultimately are governed by elected officials and legislative priorities. Commitment and communication must be continually renewed. The leaders of each organization, by creating and supporting a Partner Project oversight committee, can do much to make possible the implementation of many of the green city initiatives described in this guide.

2. Matching Peers. Critical to the success of a partnership is to match peers in the partnering organizations to act as catalysts for change. Public entities chronically are understaffed, have limited resources, and too often do not have the time to step back and assess their programs. They also have broad, sweeping mandates to protect health, the environment, improve the quality of life, promote economic growth and sustainability, etc. Successfully pairing managers and employees with similar responsibilities allows the partnership to exchange and internalize new ideas, realize economies of scale, and to promote internal changes within the respective organizations. Each participant in working with its peers in the partnership can take back to their organization new approaches that allow them to meet with mandates more efficiently and effectively. It is through this that participants find value in the partnership. The value is less when the working teams are composed of individuals with diverse responsibilities that have been pulled together to work on a goal or issue only remotely related to their job responsibilities.

3. Commitment and Incentives. The success of efforts to improve the environmental performance of the organizations will require both top-down commitment and bottom-up participation. Interviews with key leaders from each of the three organizations indicated that general support, at the least, exists for improved environmental performance

PREAMBLE TO THE LOUISVILLE PROJECT'S STATEMENT OF ENVIRONMENTAL PRINCIPLES

As stewards of Louisville Metro and of all its resources, we understand the interdependence of humans with the environment. We must apply thoughtful and creative planning to achieve a thriving economy built on the principles of sustainability. We must foster conservation, pollution prevention and restoration of ecosystems with both public policy and personal behavior. We must promote a common agenda for Louisville as a green city, preserve and enhance the quality of life for our citizens and future generations, and widen recognition of the importance of good stewardship of the community's natural resources. (See Appendix B for the complete text of the Partnership for a Green City Statement of Environmental Principles.)

within each organization. There must be specific support and commitment from the upper management of each organization for improved collaboration. Even with upper leadership support, the full benefits of partnering will not be achieved without the broad support of the employees and managers at all levels.

Even before this project began, each of the organizations was already implementing innovative environmental programs—but these programs were isolated and incomplete. The recycling program best exemplifies this. Such programs existed in all agencies, but implementation did not extend to giving feedback to students and employees on program effectiveness as measured in amounts recycled or the value of recycling. The potential expansion of the programs to cover additional recyclables was often ignored because it was no one's responsibility to oversee efforts to minimize the waste generated by the entire organization.

To obtain the support of employees, managers, students, and the general public, the Partnership project is urging each organization to

- Maintain continued awareness of environmental programs.
- Provide incentives for full participation.
- Ensure accountability in implementing programs.
- Improve access to programs.
- Position for grants and other funding and resources.

4. Partnership Principles. As a shared vision and understanding of what it means to be green is crucial to reaching a meaningful partnering agreement, the partners should seek to develop and internally distribute a set of principles affirming the shared agreement. These principles then act as a guide for the partnering process, affirming the commitment of the public entities to sustainability.

BARRIERS TO COLLABORATIONS

Project participants identified barriers and constraints to additional collaborations. Major barriers identified include:

- Lack of a formal partnering agreement with a leader ship structure

- Limits that make even internal coordination efforts difficult
- Turf protection behavior that is common to all large organizations
- Sheer size of the organizations
- No budget identified for collaborative projects
- Cultural limitations and conflicting organizational priorities
- No clearly defined environmental outcomes

Although not particularly emphasized as an issue in the facilitated team sessions **communication** issues have emerged as the biggest challenge and key to successful partnerships.

Developing Green Principles: How to Do It

A set of guiding environmental principles is an enormous asset to a partnering effort; such a set of principles can guide and inspire and are enormously clarifying for the partnering institutions and the general public.

It is important that these environmental principles not simply be cut and pasted from other partnering efforts. In one of the case studies, in Louisville, the principles were painstakingly developed via a facilitated consensus building process. The group worked word by word, beginning from a very rough draft provided by an outside facilitator. The special group convened for this purpose consisted of among others a school board member, a city council person and several faculty members from the partnering university. After the group reached consensus on the principles, the document was then formally approved and endorsed by each of the partnering organizations, and widely disseminated via posters and .pdfs available online (http://www.jefferson.k12.ky.us/Departments/EnvironmentalEd/GreenCity/greencityprinciples.html).

5

How to Manage and Sustain a Green Partnership

What follows is a how-to guide for managing and sustaining a green partnership once established, drawing on lessons learned from Louisville and Lexington and considering models provided by other green partnership efforts.

Management Structure

As the kinds of collaborative projects described herein evolve, so does their complexity. For all but the simplest of projects, a structured approach to management and particularly communication becomes necessary. Formal communication structures protect the projects when informal communications break down, and allow disagreements to be resolved. Project participants retain enthusiasm and commitment because where there is clear direction and resources for addressing the challenges, participants can have justified confidence that their energies are invested to good ends.

In the case studies previously presented, executive managers in each of the partnering organizations correctly emphasized the necessity of performance measurement with demonstrable results. These things are possible only through the development and implementation of a management plan. The partnerships involve large institutions

with different and sometimes conflicting policies and procedures. Even simple and obvious partnering projects need to be thought out with care applied to the needs of each institution.

Typical project participants are generally full-time employees of the partnering institutions. They all have jobs and they are all busy. The projects may relate to their jobs and often do, but not necessarily in any traditional way. As a result, the job successes and rewards for the individual are not usually based on the success of the project. In general the institutions themselves do not have rewards and recognitions built in to how they conduct business and compensate employees.

This latter fact can and in the best cases does change over time as the green partnering efforts become thoroughly integrated into the different institutions. Partners can include project participation and success as part of how they measure job success and rewards. This is likely to be a slow process in most cases, and in the meantime participants need other kinds of feedback to substitute for traditionally-presented expectations and rewards. This feedback should relate directly to their personal interest in and commitment to furthering green practices.

In a real sense, most project participants are volunteers. They have agreed to add the partnership project onto their workload. With a project so reliant on volunteers, conventional traditional management strategies are ineffective. One obviously cannot order, command, demand, or cajole with good results. Volunteer teaming requires respect, good communication and agreement about the desired outcome.

A Good Management Plan for a Partnering Project

In our two case studies, all of the partner project teams were set up from the start to require participant involvement from each of the partnering organizations. This is a basic principle for the partnering effort, and a strong management plan will encourage and reward participation from all partnering organizations. This strategy produces exciting and unforeseen "cross-fertilizations". Interdisciplinary teams can find solutions not available to groups of tightly-clumped specialists.

Other elements of the management plan are included to address the sometimes simple but profoundly frustrating

Environmentalists at the Table

Environmentalists contribute tremendous energy and a sense of possibility. They typically do not accept "no" and they push for solutions to problems that seasoned agency personnel may no longer consider solvable. On the down side, they may not have a real sense for the sometimes glacial pace of organizational change in large institutions.

There are few quick strategies for drastic improvement in large organizations—for lasting change, people must be educated and organizational cultures patiently shifted in positive directions. Such are the magnitude of the resources used by partnering agencies—local governments, universities and the like—that even small increments of change can have considerable environmental impacts. If groups are invited to participate that have active issues with one of the participants they should only be invited if all partners are in agreement. There is no place in the partnering projects for adversarial issues to be resolved and partnerships can quickly dissolve over sidebar disputes.

limitations of governmental structures, the limitations that might thwart participants attempting to do the right thing quickly. Most participants in the pilot projects were familiar with the bureaucratic and procedural requirements of large institutions, the vagaries of grant funding, and governmental contracting inflexibility. The participants are mostly a self-selected group committed to overcoming these obstacles, and this commitment is a key to the success of the partner projects. Management acts in support of the partnering professionals making this commitment.

The management plan must be vetted and modified by the participants. Consensus is vital for all participants to be committed to implementing the management plan. The plan includes, ideally, a set of common *environmental principles* to which all partners have agreed as well. This stage of the plan development may be difficult to implement and resource-intensive on the front end, but nothing is more critical to project success. An early investment of effort here makes for better outcomes and a better (more durable) relationship with project participants.

While a less meticulous process may produce a reasonable set of environmental principles (many cities and organizations have developed similar documents), the value of this process is that each of the participants go on to become high-level advocates of principles that speak directly to local concerns. The cross-fertilization inherent in the development process means that the participants emerge with a new level of understanding of the value of green practices for all the partnering institutions and the city.

TABLE 5 - SOME ELEMENTS OF A GOOD MANAGEMENT PLAN

Role definition of participants and leadership

Functions of committees and teams

Developing accountability and performance measures

Communications

Funding and support

Problem solving

Roles and Structures: Who and How

The following committees, roles and responsibilities are suggested:

Steering Committee. To begin, a steering committee forms, consisting of at least one designated lead representative from each of the partnering organizations. Additional members may shortly be added, as agreed by all existing members, and may include representatives from future significant partners. The steering committee may begin with funding of some sort to launch the collaboration, or not.

The steering committee may have the following responsibilities:

1. Overall recruitment and coordination of the green partnering project, project teams and participants.
2. Project communications as outlined in the Communications section of this plan. This includes tracking and reporting progress of the project teams.
3. Assistance to project teams including assistance in obtaining grant or other funding, securing leadership approvals when needed, and finding student resources/participants when appropriate.
4. Inviting and educating new partners or participants.
5. Conflict resolution.

An overriding and early responsibility of the steering committee is to make sure that each project identifies its goals and tasks, and develops a schedule for implementation. *The steering committee should compile the projects into one overall project plan and use that plan to communicate the projects to all participants and beyond.* The steering committee can identify useful linkages between teams and projects. The steering committee can track progress to ensure that plans are implemented in a timely manner, and provide support to teams as necessary.

The steering committee, as the first committee formed, may stay small and consist primarily of the original project founders and organizers. In this case and possibly as the best case scenario, the executive responsibilities within the project should transfer as quickly as possible to a new committee—see below.

The steering committee recruits **Project Participants** from the partnering organizations via a number of strategies [see sidebar]. The participants have the responsibility to develop projects and commit to their project team, with a focus on consensus and group goals. They must develop

Identifying Project Participants: How to Do It

The primary strategy for finding potential project participants is brainstorming from the personal connections of the steering committee members, using what a sociologist would refer to as the "snowball technique". If every person tapped for the project thinks of, contacts and invites even just one other person to the project, the number of recruits quickly "snowballs", growing larger as the project rolls along. These potential members are developed via participation in one of a series of facilitated sessions. These sessions serve to explain the partnering concepts, to gather more information about established area environmental programs (these are valuable resources and also sources for more project participants) and to allow participants to begin to describe the projects they would like to develop.

project recommendations and find ways to make the project recommendations work. The participants are both the hands and the minds of the projects. They assemble around particular problems or articulated needs in the community and form **project teams**.

Project Teams are promptly tasked by the steering committee to make sure that each project has a clearly articulated goal statement and tasks, and time line for implementation. The Projects are then assembled, reviewed and prioritized by the steering committee and the project participants. Participants will usually generate more projects than can be reasonably attempted in the early stages of a partnership.

The project teams ultimately have the responsibility to implement the approved projects.

It is suggested that the steering committee guide the participants to select a limited number of priority projects—perhaps ten. It is easy for the teams to come up with many potential projects. Too many projects can be a problem when the teams are in the early phases of learning to implement projects via partnering. Participants may underestimate just how hard it is to change three institutions simultaneously in a loosely coordinated fashion.

Executive Committee. The executive committee is drawn from the project teams. It consists of the lead representatives (or their designated representatives) from each partnering organization who are serving on each of the selected/prioritized project teams, one from each team—and others that may be invited by consensus of the group, and/or representatives of future significant partners. Additional members should be added whenever the Partnership adds new projects to the agenda.

The executive committee has these general responsibilities: the communication of team activities, sharing strategies for success, and overall guidance for project teams. Specifics include:

1. Identification of new collaborative opportunities and approval of new projects or activities under the Partnership umbrella.
2. Conflict resolution and elimination of institutional barriers to collaboration.
3. Policy guidance in concert with the steering committee.
4. Develop memorandums of agreement or a master agreement as needed to implement the projects.

This committee may include the formally-designated coordinators between the participating agencies.

Together, the steering and the executive committees should be ready to encourage and reinforce the role of participants in all ways possible.

Executive Leadership

The executive leadership in the partnering organizations must assume the responsibility to support partnership projects, to communicate and celebrate success stories, support organizational participation, appoint and support appropriate representatives for the steering committee, executive committee and project teams, and push for accountability and results.

A Full-Time Director

Overall management of the Partnership is initially handled through the collaborative efforts of individuals from each of the partners, as described above. An initiative on the scale of those in the two case studies cannot long survive if coordinated by people with other full-time job responsibilities. The projects quickly grow in complexity-- and also produce positive results which need to be shared with the participants, the partnering organizations and the general public. A dedicated staff person quickly becomes not only a luxury but a necessity. Eventually it is recommended that the partnerships explore establishing a full-time director for the project. A stable funding source based on the demonstrated tangible and intangible benefits of the project will be needed to support this position. The source of the funding has consequences for the organizational dynamics. Each situation must be considered in its particulars.

Accountability

A system of environmental accountability, measuring the benefits of the Partnership, is an important step in the development of the partnering effort. In the case studies to date, the benefits most measured have been those of individual projects, e.g., energy savings, reduced cost of waste disposal, and lower white paper costs. These benefits are tangible and quantifiable; dollars speak loudly.

The less tangible benefits, however, may prove to be the greatest achievements of the Partnerships. Improved educational achievements, better management of natural resources, and improved public health will have positive im-

pacts, including financial ones, that are more difficult or impossible to measure in six months or a year.

The follow-up, accountability, and feedback efforts devised by the executive committee need to provide measures of how the Partnership has improved environmental sustainability through strategic planning, budgeting, management and educational activities. The services of an independent external contractor can be valuable in facilitating and evaluating the work, results and sticking points of developing Partnerships.

Short-term Administrative Benefits from Project Participation

Partnering builds capacity in each organization. Job performance improves, employee investment in the partnering agency improves, and organizations gain in capacity. This is primarily due to two factors. The project gives employees an opportunity to step back and gain perspective on what they do, and how they do it. They review previously-unconsidered decision-making in terms of energy/resource efficiency and environmental impacts. Secondly, participants become more aware of expertise within their own and other partnering organizations. (The Projects can also bring in experts from the outside to provide information, and this can have a galvanizing effect as well.)

Sharing expertise is good for all Partners

In many if not most cases, other agencies are not aware of local expertise and existing programs. In the case studies, improved energy management was the primary goal of one team and many of the programs pursued by that group had already been implemented by the public school system for three decades. University personnel were practiced in the purchase of environmentally-friendly products, and combined purchasing of such projects for them was a very short step, producing considerable savings. Local government had waste management expertise that was not previously available to the other Partners, primarily because they did not know it existed. Some teaming efforts are simple and become quite obvious in the context of partnering.

Evaluating and Troubleshooting

Each project team needs to be promptly tasked to articulate the goal of the project, the components of that project, and a timetable for the accomplishment of the work. The project teams ultimately have the responsibility to implement the approved projects, with initial organizational support from the steering committee while in the early formative stages and the executive committee as it develops and becomes ready to assume project leadership.

Accountability and measurable results are expectations of executive leadership, and project reporting and tracking should involve finding the right measures and performance indicators for each partner project.

The executive committee can track the progress made by teams, and again (to review) has these support responsibilities:

- Communication of team activities, sharing strategies for success, and overall guidance for project teams.
- Identification of new collaborative opportunities and approval of new projects or activities under the Partnership umbrella.
- Conflict resolution and elimination of institutional barriers to collaboration.
- Policy guidance in concert with the steering committee.
- Develop memorandums of agreement or a master agreement as needed to implement the projects.

On the level of the projects, it is the team members, with recourse to these kinds of supports from the executive committee, that encounter the problems or barriers for the projects and work to resolve them. But what keeps the overall partnership on track?

The Survey

Since the team members are the hands and minds of the project, they are where problems can best be identified. The steering or executive committee must task itself to survey the participants to learn how the projects can be supported for better results.

The surveys (and other valuation efforts) used in the case studies make no attempt to criticize, assign blame, or compare the activities of any one team with any other. The focus is entirely upon eliciting suggestions as to how the projects can be managed and supported for better results.

In the Louisville case study, the return rate on the 2005 survey was over 80%, and the information was extraordinarily helpful. The insight gleaned from the survey about how to make the partnership projects work better forms a major part of this chapter.

First, the survey itself should address:

- The status of the project, as viewed by the participants—including the overall Partnership effort and its sense of the potentials for future success. As the projects are in part carried out by volunteer effort, by busy people who are not necessarily rewarded or credited for completing project responsibilities, it is vital to assess the participants' view of the investments they are making in their projects.

- What the participants know about the developing partner projects, don't know, and want to know. *How well are the issues and successes of the projects communicated*, with the participants and to others?

- The executive committee and an evaluation of executive committee support understood to be available and received.

- Resources**,** available or needed, for project success.

Survey questions should always provide a range of possible answers as well as space for open-ended answers. So, for example, with question 2 below, possible check-the-box answers might include *Yes, it is a high priority*, *It is a priority, but not the highest priority,* and *No, it is not a priority.* The following are some sample questions for the survey:

1. How green is your organization? What green practices are in place, and which are flagging or lacking?
2. Is the Green Partnership a priority for your organization?
3. How would you rate your understanding of the goals of your project?
4. How well has your organizational leadership communicated its support for your project?
5. Do you think it is important to know what is happening with projects other than the ones with which you are involved?
6. How well do you think your project is being communicated to media and the general public?

Experience suggests that blocked communication—both vertical and horizontal—often emerges as the number one obstacle to participant empowerment and project goals. Therefore designing a survey instrument that will assess perceptions in this area, as well as elicit suggestions for possible solutions, is essential. (See appendices C and D for surveys in use.)

Communication

Developing an effective communications strategy is a primary responsibility of the steering committee, with help from the executive committee and executive leadership--because the communications strategies need to be implemented early as the partnership takes shape. The goals are to communicate the successes of the project, to educate policy makers on what it will take to become a green city, and to locate or develop the infrastructure to communicate internally and externally.

The key elements of the communications strategy are as follows:

Communications with executive leadership. The executive committee should communicate with executive leadership of the partnering organizations on a regular informal basis. Formal communications should consist of:

a. Quarterly or semiannual written reports on project progress, with a special focus on what might be communicated to the public/media.

b. Notification of special accomplishments or proposed new green partnership ventures, especially those possibly worthy of a news conference or special event sponsored by the executive leadership.

Communications with project participants. Ongoing communication among, between and to the project participants is vitally important to the success of every team project. The steering committee, working with the executive committee and others as needed, should do the following:

a. Develop, maintain and distribute a project participant list with contact information (phone/fax/mailing address/email address) for all participants and other interested parties.

b. Maintain list serves (e-mail lists) for the project teams as needed and facilitate the use of such lists by team members, providing administrative support as necessary.

c. Prepare, along with the executive committee, the progress reports and summaries described above as well as

reports for distribution to the project participants and other interested parties. Documents intended for the general public should be geared to that audience.

d. Have an annual meeting with participants to celebrate successes.

Communications with employees, students, teachers and faculty. This goal is so important as to merit status as its own project recommendation—perhaps along the lines of: *develop and conduct regular green issues orientations and professional development for employees.*

This project team can consist of both human resources and communication specialists, along with those who can develop the specific environmental content. This can be handled as two working groups under the same umbrella, although initially the groups should meet together to map out strategy. They may decide that working as a unit is a better choice. The use of existing organizational communications channels should be encouraged.

This effort is linked to the development of common environmental principles. (See appendix B for the principles developed by the Louisville partnership.) This project can perhaps be handled by the same team or an enlarged version of the same team.

Communications with potential partners, funding sources, and other organizations. The steering and executive committees should make special efforts to communicate about the partnership to these vital groups and persons, through personal communications, invitations for site visits, presentations at professional and NGO meetings, and articles in appropriate publications. A list should be developed by the steering and executive committees identifying these people and groups, and who can take the lead in communicating with them about the project. Different participants at times will need to step back from partnership duties and teams will need to be refreshed with new people and new energy. A steady effort to attract new individuals and organizations into the partnerships is crucial over the long term.

Communications with the public. Communications with the public about the project accomplishments should almost always be accomplished by or with the specific approval of the executive leadership, and coordinated and approved by all partners before distribution. This will require attention of the executive committee, and occasional lapses are certain and unavoidable. If a partner organization acts without notification, coordination and inclusion of the other

partners, the result can be conflicting messages and potential conflicts. The partners are ideally free to self-promote the project in a general way. When special accomplishments or new ventures are to be touted, it is important that this take place in a coordinated way through appropriate media relations channels. The executive committee should facilitate regular meetings between the communications staffs of the three partners, and work with them to develop a media strategy.

Beyond Communication. With good communications strategies implemented early and often, other kinds of problems are less likely to occur. The following are some things to anticipate which should be approached within the partners structure.

Conflict Resolution. The steering and executive committees should try to anticipate and work to resolve potential conflicts. Conflicts are most likely to occur around differing perceptions of who is in the lead, who is communicating or ought to communicate what to whom, and who is doing or not doing their portion of the project tasks. Emphasize a consensus approach to implementing these projects, as the key element of conflict resolution. The partners project is substantively different from some other kinds of undertakings. It requires trust, good communications and agreement by all parties. Only decisions reflecting a full consensus should be implemented. When any party tries to move a project on the team level without consensus, the efforts of all the other teams may be harmed and the good faith working relationships between the organizations can sustain real damage. Use of the consensus process with support from the steering and executive committees can resolve conflicts and strengthen the partnerships.

Funding and Support. The steering and executive committees should work aggressively to identify and pursue funding opportunities for partnership projects. Many funding organizations will be attracted to the partnering concept, and this gives partner projects an edge in seeking competitive funds. The partners should also identify "self funded" projects that merit support because of the potential savings and strategic importance.

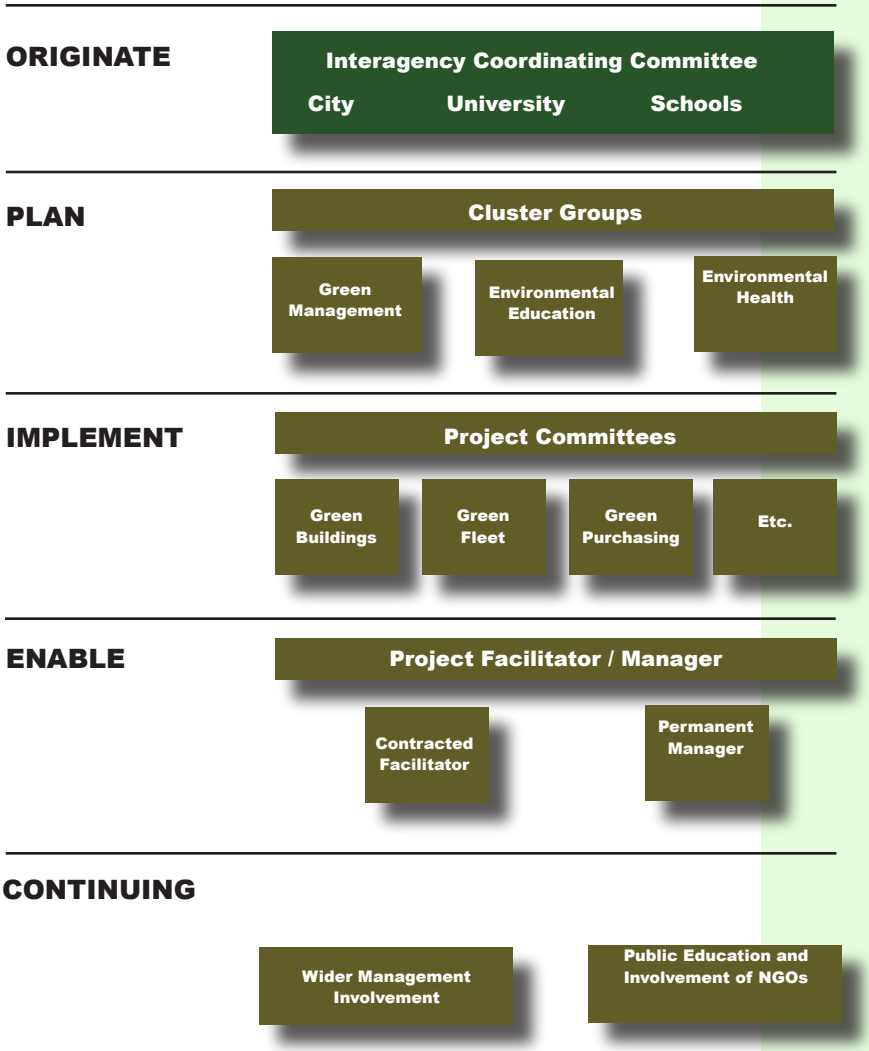
Accountability and Measurable Results. Accountability and measurable results are expectations of executive leadership. Project reporting and tracking should emphasize finding the right measures and performance indicators for each partner project. This is often more difficult than it seems. Make this an agenda item at every steering and

executive committee meeting. Much of the work of finding those right measures and performance indicators is the responsibility of the related teams, but the steering and executive committees should strongly encourage and support teams to track and communicate results.

Other Special Challenges. Periodically the steering and executive committees should review how students are involved in the projects. Are environmental education priorities fully recognized and implemented? There are many barriers and limitations to overcome to develop environmental education opportunities and provide them not just for a few students or a few schools. The goal is to to involve all students and all schools. Environmental education too often tends to depend on the presence or absence of individual highly-motivated teachers. The benefits however are too great to neglect some or any schools and students.

Similarly, it can be difficult to translate projects into funded research when research is identified as a project need and/or opportunity. A research working group may be required to advance the research component of the partnership project. Given the timetables and other vicissitudes of funded research, an aggressive early effort to identify and involve researchers and research opportunities can result in big payoffs for the projects.

On an ongoing basis, teams should drop non-participating team members, and bring in new members with fresh energy, ideas and enthusiasm. Performance standards help teams reach goals. Establish and communicate clear and reasonable expectations. Volunteers benefit particularly from this sort of management support, as traditional performance measures and rewards may be lacking. The volunteers in the Louisville and Lexington projects have been motivated, insightful professionals with genuine interest in seeing their organizations improve and their communities benefit.



GREEN CITY PARTNERSHIPS

Figure 11 — Green City Project Sample Organizational Chart.

APPENDIX A – RESOURCES

Bluegrass Partnership for a Green Community.
www.uky.edu/sustainability/greencities/index.htm

Center on Urban and Metropolitan Policy, *Beyond Merger: A Competitive Vision for the Regional City of Louisville*, (Brookings Institute), 2002.

Community-Based Environmental Protection: A Resource Book for Protecting Ecosystems, United States Environmental Protection Agency, Document No. 230B96003, 1997.

Green Seattle Partnership, *20 Year Strategic Plan*, City of Seattle and Cascade Land Conservancy, 2005.
www.ci.seattle.wa.us/environment

Milwaukee Green Team, *The Milwaukee Green Team's Report to Mayor Tom Barrett*, City of Milwaukee, WI, 2005.
www.ci.mil.wi.us/display/router.asp?docid=13213

Partnership for a Green City, *The Partnership Project*, University of Louisville, Jefferson County Public Schools, Louisville Metro Government, 2004.

Appendix B – Louisville Partnership for a Green City Statement of Environmental Principles

PARTNERSHIP FOR A GREEN CITY
UNIVERSITY OF LOUISVILLE
JEFFERSON COUNTY PUBLIC SCHOOLS
LOUISVILLE METRO GOVERNMENT
STATEMENT OF ENVIRONMENTAL PRINCIPLES
PREAMBLE:

As stewards of Louisville Metro and of all its resources, we understand the interdependence of humans with the environment. We must apply thoughtful and creative planning to achieve a thriving economy built on the principles of sustainability. We must foster conservation, pollution prevention and restoration of ecosystems with both public policy and personal behavior. We must promote a common agenda for Louisville as a green city, preserve and enhance the quality of life for our citizens and future generations, and widen recognition of the importance of good stewardship of the community's natural resources.

Leadership Commitment and Measures

We will implement these Principles by demonstrating community leadership, collaborative planning and by adopting best environmental practices. We will establish goals, objectives, and indicators; conduct an annual self-evaluation of our progress; and jointly issue a public report.

Sustainable Use and Protection of Natural Resources

We value and conserve natural resources and will seek to preserve and make sustainable use of our air, water, soils and forests. We will protect and conserve non-renewable natural resources through efficient use, careful planning and collaborative land management programs. We will reduce use of substances that may cause environmental damage to the air, water, earth or its inhabitants. We will safeguard all

habitats affected by our facilities and operations, especially the public lands we manage, while promoting biological diversity. We will conserve open spaces through comprehensive planning.

LAND AND WATER MANAGEMENT

We will promote natural areas for biological diversity, protect areas along streams and water bodies, and plant with native species. We will enhance, enlarge and protect our urban forests. We will practice responsible water use.

REDUCTION AND DISPOSAL OF WASTES

We will combine resources to reduce or eliminate wastes through source reduction, reuse and recycling for our own facilities and operations and for the Metro area in general. We will handle and dispose all waste using safe and responsible methods.

ENERGY USE

We will conserve energy and improve the energy efficiency of our buildings, vehicles, and equipment and the goods and services we use. We will use environmentally safe and sustainable energy sources, while achieving savings. We will increase our use of energy from renewable sources.

TRANSPORTATION

We will build and redevelop our community to minimize transportation demands, while providing pedestrian and bicycle-friendly pathways and an effective public transit system. We will work to reduce vehicle miles traveled in the community while implementing the vision of our organizations using energy efficient vehicles.

PURCHASING PRODUCTS AND SERVICES

We will pool our knowledge and resources to jointly purchase green products and services. We will work with our suppliers to adopt sustainable approaches and solutions. We will partner to create a stronger market for environmentally friendly and regionally produced products and services.

Design and Management of the Built Environment

We will design, build, restore and manage our facilities and neighborhoods in ways that promote and protect health and safety. We will use school campuses, Partner buildings and lands as settings for learning.

Public Health

We will monitor our policies and practices to assess and reduce public health risk. When potential risks are identified, we will identify and implement solutions.

Environmental Education

Through environmental education we are committed to developing and supporting environmentally literate citizens. We will involve colleagues, students and citizens in demonstrating the ability to implement these principles.

APPENDIX C – LOUISVILLE SURVEY

(N=39)

1. How successful has your project been to date?
Very successful – 20%
Meets expectations – 48%
Could be better – 20%
Not very successful at this point – 12%

2. Do you feel that your Project Team has the potential to be successful in the future?
Yes - This project can have a major impact. – 50%
Yes - This project can provide something good. – 41%
No - This project is not likely to be successful. – 0%
No - This project has no chance for success. – 0%
I am not sure yet if this project will be successful. – 9%

3. Does Your Project Team have a good sense of what they are trying to do with the project?
Yes – 62%
No – 25%
Could be better – 13%

4. Do you feel that your Project Team needs more direction?
No, we are doing okay – 77%
Other, no one big thing about direction – 23%

5. Do you feel the Partnership Project is a priority for your organization?
Yes, it is a high priority – 26%
Yes, it is a priority but not the highest priority – 56%
No, project is not a priority – 18%

6. Do you feel like you know what is going on with your project?
Yes, I am well informed – 46%
Yes, I think I know what is going on – 37%
I am not sure – 6%
I definitely don't know what is going on – 11%

7. Do you know what is going on with the other project teams and the overall Partners Project?

Yes, I am well informed – 8%
Yes, I think I know what is going on – 24%
I am not sure – 42%
I definitely don't know what is going on – 26%

8. Do you want to know what other Project Teams are doing?

Yes - I want to see or access on-line detailed project reports – 6%
Yes - Brief summaries ok for me – 77%
No – 17%

9. Do you think the project is being adequately communicated with your managers?

Yes – 48%
No – 20%
I don't know – 32%

10. Do you think the project is being adequately communicated with top management?

Yes – 32%
No – 17%
I don't know – 51%

11. Do you think the project is being adequately communicated with other employees you work with?

Yes – 32%
No – 29%
I don't know – 39%

12. Do you think the project is being adequately communicated with all the employees in your organization?

Yes – 20%
No – 40%
I don't know – 40%

13. Do you think the project is being adequately communicated with news/media and the general public?

Yes – 18%
No – 48%
I don't know – 34%

14. Do you have recommendations about how the project can be more effectively communicated? (Multiple recommendations possible, summary below)

Monthly or quarterly reports on progress of all projects – 66%

Use of existing organizational communications channels – 60%

A dedicated website – 52%

More and frequent press releases about projects and progress – 28%

Better communication about the Partners Project employees and students – 57%

Periodic meetings with upper management – 23%

Periodic email updates – 63%

15. Has your project team encountered problems or obstacles that have limited progress in achieving project goals?

No – 80%

Yes – 20%

- difficulty coordinating meeting times
- I did not know I was to be a committee leader
- need for administrative staff and help with goal setting
- Project goals have not been communicated.
- Time
- We could use more resources of time and people

16. Can you and/or your project team resolve the problem or obstacle or is assistance needed?

We can resolve problems – 85%

Yes – 15%

- JCPS and Metro participate on the committee - need U of L participation Two of the three organizations participate—need the third partner
- Need direction from project leaders
- Need to know the project's expected outcomes.
- Organizational support

17. Has the Partners Steering Committee provided appropriate support?

Yes – 64%

No – 15%

I don't know who or what the Partners Project Steering Team is. – 21%

18. How can the Project Steering Committee better support the work of your team and its project to achieve a more successful end result? (Multiple answers possible)

Improve reporting and communications – 69%

Provide help/facilitation to the project teams to develop a plan – 28%

Find some $$ to help implement the projects – 42%

Get better buy in from my organization – 23%

Get better buy in from the other organizations in the partnership – 20%

No additional help needed/current help is good – 19%

19. Does your project team and supporting organizations have sufficient resources to do the project?

Yes, no question about it – 9%

Yes, but only if it is made a higher priority – 18%

Maybe, can't tell yet – 67%

No, adequate resources do not exist to do the projects – 6%

20. If adequate resources do not exist, what specifically is needed for your project to be successful? (Multiple answers possible)

$$ – 43%

More people – 17%

Better support from Management – 20%

Professional guidance/support to make the team more effective – 20%

Don't know the project goals, so do not know if resources have been adequate – 2%

Don't know yet – 2%

21. Do you think the Partnership should add more projects now?

Yes, we are ready – 2%

No, we are not ready yet – 71%

I am not sure – 27%

22. Most participants expressed strong support for the Partnership Project and the potential for the partnership approach to be successful. Do you think the Partnership is working and moving Louisville greener?

Yes, its very successful and changing how we do business – 18%

Yes, its successful but it can be much better – 29%

Too early to tell if we are going to make the project a success – 47%

No, it isn't working and needs help – 6%

No, its a disaster and waste of my time – 0%

Appendix D – Lexington Bluegrass Partnership for a Green Community Online Survey

(http://www.uky.edu/sustainability/greencities/)

1. Which institution are you affiliated with?

University of Kentucky – 34%

Lexington Fayette Urban County Government – 22%

Fayette County Public Schools – 20%

I am an interested party unaffiliated with the above organizations – 20%

2. In terms of policy and practices, how green is the institution with which you are affiliated?

No apparent interest at all, either on individual or organizational levels. – 0%

Individual interest in green issues, but no organizational interest. – 6%

Slight organizational interest in green issues, but no attempts to implement policy. – 14%

Below average, but interest is building. – 10%

Average, with some initiatives being planned. – 14%

Slightly above average, with some ongoing discussions about improvements. – 12%

Well above average, with many practices (e.g. recycling, purchasing) already in place. – 22%

Very green, with committees and/or individuals responsible for design and implementation of environmental practices. – 8%

Exceptionally green, with support from all organizational levels for environmental policies and practices. – 2%

As green as possible in all areas.

3. In terms of environmental policies and practices, how would you describe Lexington and the surrounding counties?

No apparent interest at all in the community. – 2%

Individual interest in green issues, but no governmental support. – 6%

Slight interest in green issues in government, but no attempts to implement policy. – 6%

Below average, but interest is building. – 12%

Average, with some initiatives being planned. – 14%

Slightly above average, with some ongoing discussions about improvements. – 20%

Well above average, with practices (e.g. recycling) already in place. – 26%

Very green, with constant improvement in design and implementation of environmental practices. – 8%

Exceptionally green, with support from government, corporations, and nonprofits for environmental policies and practices. – 0%

As green as possible in all areas. – 2%

4. How green do you feel you personally are?

Not at all interested in green issues. – 0%

Somewhat aware of green issues but unwilling to adapt my lifestyle. – 0%

Slight interest in green issues, but not taking any steps currently. – 0%

Below average, but my interest is building. – 2%

Average – I am keeping informed and trying to make slow changes. – 14%

Slightly above average, with some attempts to conserve energy and recycle. – 30%

Well above average and taking new steps whenever possible to improve the environment. – 24%

Very green – I carpool, encourage friends to be greener, etc. – 10%

Exceptionally green both personally and professionally, as I encourage both my friends and my organization to become greener. – 10%

As green as possible in all areas. – 6%

5. Who do you know who should be involved in the Green Community process?

Open-ended answers.

6. What is the most important thing the Bluegrass Partnership can do to improve the quality of life and protect the environment in the Bluegrass? (Choose up to 3)

Clean water – 22%

Clean air – 16%

Energy conservation – 24%

Safe and waste conserving management of waste products of all sorts – 18%

Land conservation and promotion of sustainable devel-

opment – 50%

Environmental education of all ages – 22%

Environmental advocacy and leadership – 24%

Transportation solutions that reduce petrochemical usage and pollution – 32%

Growth management, including effective partnering among counties – 38%

Other: Comprehensive Sustainable Cities policy and program – 2%

Other: Foster a conservation ethic in all areas – 2%

Other: Further promoting our excellent recycling program in Fayette County – 2%

Other: Lobby LFUCG Council for continued funding of the Purchase of Development Rights farmland preservation program – 2%

Other: Recycling at Apartments – 2%

7. As a participant or interested party in the Bluegrass Partnership, the one thing I would especially like to see come out of the project is:

Open-ended answers – sample answers:

A greener plan for development in central Kentucky.

A true partnership working toward similar goals and objectives for a greener city.

A widespread metro light rail system. The answer to traffic in Fayette County is access to coordinated public transit system. Not a set of buses that all have to go through a hub downtown to get anywhere.

Demonstrate to citizens and the business community that going green is not only our moral obligation to the community and future generations, but that we will be rewarded for our efforts with greater health, prosperity and satisfaction in our work. There will be some winners and losers in the short term but in the long run, everybody wins.

8. Do you think the draft Principles attached reflect an important, timely, and workable agenda for the Bluegrass Partnership and supporting organizations?

Yes – 68%

No – 6%

No opinion/Don't know – 20%

9. I will participate in the project:

Enthusiastically – I have attended one or more of the day-long sessions and will participate in any follow-up actions necessary. – 32%

Fully – although I was unable to participate in an all-day session, I am.

very interested in the project and want to help implement recommendations supported by the three partners. – 28%

Moderately - my schedule limits my ability to participate. – 26%

Professionally – I will participate as a job duty only. – 10%

Not at all – I have no interest in the project. – 0%

10. My suggestions for making this a successful project are:

Open-ended answers – sample answers:

- Continue down current path and keep looking for hard working individuals to carry projects through.
- Don't committee it to death. Have the patience to deal with the snail like pace of change in each org but the courage to make the changes when the opportunity presents itself.
- Get policy makers/supervisors who are not now "green" involved or educated to the extent they see the tangible benefits and support those who are trying to implement green practices. For example, presentations to city council, school board, etc. on monetary and health benefits.
- Get the community leaders to commit to urban planning and zoning precedents that will put the principles set forth in the agenda. At this point similar groups have been successful at getting the political parties to agree something should be done, but fewer leaders are willing to put money forward or to set policy that puts ideas into action.
- Get the word out in the Herald Leader, Chevy Chaser, Southsider, Hamburg newspaper, KET, etc.
- I would seriously consider hiring a qualified environmentalist to coordinate and devoted to forward thinking, on target and keep all interested parties actively involved in the project all year long, not just in the spring and summer.
- To be successful, participants need to conduct a self-assessment to determine their current practices. They should be provided with a list of guiding principles and best practices to see how many they can reasonably implement in their operations. Finally, a post assessment should be conducted to see how many of the best practices were implemented and continue to be utilized.

Appendix E – Protocols of the United Nations Urban Environmental Accords

Urban Environmental Accords

Signed on the Occasion of the United Nations Environmental Program World Environment Day
June 5th, 2005 in San Francisco, California

GREEN CITIES DECLARATION

RECOGNIZING for the first time in history, the majority of the planet's population now lives in cities and that continued urbanization will result in one million people moving to cities each week, thus creating a new set of environmental challenges and opportunities; and

BELIEVING that as Mayors of cities around the globe, we have a unique opportunity to provide leadership to develop truly sustainable urban centers based on culturally and economically appropriate local actions; and

RECALLING that in 1945 the leaders of 50 nations gathered in San Francisco to develop and sign the Charter of the United Nations; and

ACKNOWLEDGING the importance of the obligations and spirit of the 1972 Stockholm Conference on the Human Environment, the 1992 Rio Earth Summit (UNCED), the 1996 Istanbul Conference on Human Settlements, the 2000 Millennium Development Goals, and the 2002 Johannesburg World Summit on Sustainable Development, we see the Urban Environmental Accords described below as a synergistic extension of the efforts to advance sustainability, foster vibrant economies, promote social equity, and protect the planet's natural systems.

THEREFORE, BE IT RESOLVED, today on World Environment Day 2005 in San Francisco, we the signatory Mayors have come together to write a new chapter in the history of global cooperation. We commit to promote this collaborative platform and to build an ecologically sustainable, economically dynamic, and socially equitable future for our urban citizens; and

BE IT FURTHER RESOLVED that we call to action our

fellow Mayors around the world to sign the Urban Environmental Accords and collaborate with us to implement the Accords; and

BE IT FURTHER RESOLVED that by signing these Urban Environmental Accords, we commit to encourage our City governments to adopt these Accords and commit our best efforts to achieve the Actions stated within. By implementing the Urban Environmental Accords, we aim to realize the right to a clean, healthy, and safe environmental for all members of our society.

IMPLEMENTATION & RECOGNITION

THE 21 ACTIONS that comprise the Urban Environmental Accords are organized by urban themes. They are proven first steps toward environmental sustainability. However, to achieve long-term sustainability, cities will have to progressively improve performance in all thematic areas.

Implementing the Urban Environmental Accords will require an open, transparent, and participatory dialogue between government, community groups, businesses, academic institutions, and other key partners. Accords implementation will benefit where decisions are made on the basis of a careful assessment of available alternatives using the best available science.

The call to action set forth in the Accords will most often result in cost savings as a result of diminished resource consumption and improvements in the health and general well-begin of city residents. Implementation of the Accords can leverage each city's purchasing power to promote and even require responsible environmental, labor and human rights practices from vendors.

Between now and the World Environment Day 2012, cities shall work to implement as many of the 21 Actions as possible. The ability of cities to enact local environmental laws and policies differs greatly. However, the success of the Accords will ultimately be judged on the basis of actions taken. Therefore, the Accords can be implemented through programs and activities even where cities lack the requisite authority to adopt laws.

The goal is for cities to pick three actions to adopt each year. In order to recognize the progress of cities to implement the accords, a *City Green Start Program* shall be created.

At the end of the seven years a city that has implemented:

19 – 21 Actions shall be recognized as a 4 Star City

15 – 18 Actions shall be recognized as a 3 Star City
12 – 14 Actions shall be recognized as a 2 Star City
8 – 11 Actions shall be recognized as a 1 Star City

21 ACTIONS

ENERGY

Action 1 Adopt and implement a policy to increase the use of renewable energy to meet ten percent of the city's peak electric load within seven years.

Action 2 Adopt and implement a policy to reduce the city's peak electric load by ten percent within seven years through energy efficiency, shifting the timing of energy demands, and conservation measures.

Action 3 Adopt a citywide green house gas reduction plan that reduces the jurisdiction's emissions by twenty-five percent by 2030, and which includes a system for accounting and auditing greenhouse gas emissions.

WASTE REDUCTION

Action 4 Establish a policy to achieve zero waste to landfills and incinerators by 2040.

Action 5 Adopt a citywide law that reduces the use of a disposable, toxic, or non-renewable product category by at least fifty percent in seven years.

Action 6 Implement "user-friendly" recycling and composting programs, with the goal of reducing by twenty percent per capita solid waste disposal to landfill and incineration in seven years.

URBAN DESIGNS

Action 7 Adopt a policy that mandates a green building rating system standard that applies to all new municipal buildings.

Action 8 Adopt urban planning principles and practices that advance higher density, mixed use, walkable, bikeable and disabled-accessible neighborhoods which coordinate land use and transportation with open space systems for recreation and ecological restoration.

Action 9 Adopt a policy or implement a program that creates environmentally beneficial jobs in slums and/or low-income neighborhoods.

URBAN NATURE

Action 10 Ensure that there is an accessible public park or recreational open space within half-a-kilometer of every city resident by 2015.

Action 11 Conduct an inventory of existing canopy coverage in the city; and, then establish goal based on ecological and community considerations to plant and maintain canopy coverage in not less than fifty percent of all available sidewalk planting sites.

Action 12 Pass legislation that protects critical habitat corridors and other key habitat characteristics (e.g. water features, food-bearing plants, shelter for wildlife, use of native species, etc.) from unsustainable development.

TRANSPORTATION

Action 13 Develop and implement a policy which expands affordable transportation coverage to within half-a-kilometer of all city residents in ten years

Action 14 Pass a law or implement a program that eliminates leaded gasoline (where it is still used); phases down sulfur levels in diesel and gasoline fuels, concurrent with using advanced emission controls on all buses, taxis, and public fleets to reduce particulate matter and smog-forming emissions from those fleets by fifty percent in seven years.

Action 15 Implement a policy to reduce the percentage of commute trips by single occupancy vehicles by ten percent in seven years.

ENVIRONMENTAL HEALTH

Action 16 Every year, identify one produce, chemical, or compound that is used within the city that represents the greatest risk to human health and adopt a law and provide incentives to reduce or eliminate its use by the municipal government.

Action 17 Promote the public health and environmental benefits of supporting locally grown organic foods. Ensure that twenty percent of all city facilities (including schools) serve locally grown and organic food within seven years.

Action 18 Establish an Air Quality Index (AQI) to measure the level of air pollution and set the goal of reducing by ten percent in seven years the number of days categorized in the AQI range as “unhealthy” or “hazardous.”

WATER

Action 19 Develop policies to increase adequate access to safe drinking water, aiming at access for all by 2015. For cities with potable water consumption greater than 100 liters per capita per day, adopt and implement policies to reduce consumption by ten percent by 2015.

Action 20 Protect the ecological integrity of the city's primary drinking water sources (i.e. aquifers, rivers, lakes, wetlands and associated ecosystems).

Action 21 Adopt municipal wastewater management guidelines and reduce the volume of untreated wastewater discharges by ten percent in seven years through the expanded use of recycled water and the implementation of a sustainable urban watershed planning process that includes participants of all affected communities and is based on sound economic, social, and environmental principles.

APPENDIX F – LOUISVILLE PARTNERSHIP FOR A GREEN CITY, 2006 PROJECT SUMMARIES

In the summer of 2004, following a year of intensive development, the Louisville Partnership identified and prioritized an initial set of ten priority projects. While a number of smaller projects and short-term initiatives have been added since that time, the focus of the Partners has remained on these original ten projects. Some of these original projects, particularly those centered on developing and adopting Environmental Standards and Principles and the creation of a project management structure (the Steering Committee and the Interagency Coordinating Committee) have been completed. Other projects have become ambitious long-term efforts that will take years to complete, e.g. performing comprehensive energy audits on 500 buildings; the creation of outdoor classrooms at all Jefferson County Public Schools (JCPS) campuses; and the development of the registry for environmental public health issues.

In the spring of 2006 the Steering Committee of the Louisville Partnership began a series of discussions designed to assess overall progress, consider new projects and revitalize slow-moving ones. The Partners also heard from the executive leaders supporting the Partnership agenda. These leaders indicated their willingness to help facilitate various projects. The enthusiasm of leadership was in part fueled by the fact that Louisville is beginning to see the benefits of recognition as a green city and that the city's green reputation is emerging at the national level.

During the course of the spring meetings, the Steering Committee decided to engage formally a wider range of participants in the evaluation process. With assistance from the US Environmental Protection Agency (EPA), the Partnership held four day-long facilitated sessions in August 2006. These sessions focused on the original project goals, critical reviews of projects, the identification of barriers and constraints, and the consideration of potential new projects. A major theme of these sessions was the importance of

environmental performance standards which can be used to measure the progress of Partner initiatives and how to effectively report such progress. This appendix overviews these efforts and provides the most up-to-date assessment of the Louisville Partnership for a Green City and a review of new project plans.

TABLE 6 - LOUISVILLE PARTNERSHIP INITIAL PRIORITY PROJECTS

Title	Description
Interagency Coordinating Committee	A high-level, cross-functioning team of partner representatives can take the Partnership Project through the implementation phase, champion projects and programs, and help secure permission and funding for recommended initiatives.
Environmental Standards and Principles	Adopt mutually agreeable principles and standards.
Energy Use Partnership	Use proven strategies to reduce energy use and result in budget savings and a larger level of environmental stewardship.
Community Recycling Project	Combine partner resources and expertise and efforts to recycle, reuse, and reduce waste.
Buy Green/Centralize Environmentally Preferable Purchasing	Pool and jointly purchase green products and services cost-effectively.
Environmental Education Collaboration	Develop a comprehensive, long-term focus for environmental education both in the schools and in the community.
Outdoor Classrooms	Every school should have access to an outdoor classroom.
Green Issues Orientation and Professional Development	Connect and implement partner resources to improve and enhance professional development and training for teachers and informal educators; incorporate environmental priorities and partnership goals into employee and student orientation; and support employee exchanges and/or participation in education.
Registry for Environmental Public Health Issues	Close information gaps that thwart effective public health programs. Assess linkages among health and school attendance and academic performance.
Asthma Project	A coordinated community attempt to address and manage asthma will enhance quality of life and reduce hospital admissions/emergency room visits, and missed school days.

CURRENT STATUS OF PROJECTS

The Partners have been successful in initiating and implementing many of the ten projects originally identified and prioritized, and they plan to revitalize projects that have lagged through leadership prioritization and the provision of administrative support. The goals and key accomplishments of each of the project teams are listed below:

INTERAGENCY COORDINATION

Goal(s). The creation of an interagency coordination team responsible for integrating green efforts by each of the Partners; the facilitation of effective inter-organizational cooperation and a shared environmental vision.

Accomplishments. Members of the Steering Team, representing each of the Partners and constituting the initial leadership of the Partnership as a whole, successfully worked to establish an interagency coordinating team responsible for integrating efforts and improving collaboration.

STANDARDS AND PRINCIPLES

Goal(s). To develop written environmental principles and standards to be used to guide policy, budget and program decisions to incorporate environmentally sustainable ideals in the partner entities.

Accomplishments. The team developed a set of Environmental Principles (Appendix B) that were approved and accepted by all three Partners. These principles have been widely published, both on the Partnership website, and in poster form. They were re-articulated by fourth grade students at JCPS, and then published as a poster in both forms.

ENERGY USE

Goal(s). To reduce energy use resulting in budget savings and a higher level of environmental stewardship.

Accomplishments. The energy use team has initiated several ambitious projects, including the following:

- Teams of students trained in conducting energy audits of buildings have completed such audits on 10 Partner buildings.

• The energy use team has concluded that all 500+ buildings controlled by the Partners would benefit from energy audits, and has begun to implement long-term plans to audit these buildings.

• In order to better monitor energy use in the Partner buildings, the Partners have purchased an energy management data system.

• Working with both the Louisville Metro government (Metro) and the University of Louisville (U of L), the team initiated a feasibility test of solar-powered street lights, installing three such lights on Market Street, which will be monitored by U of L faculty and students and then considered for wider adoption.

• An audit of soft drink machines at the U of L discovered that each machine consumes upwards of $210 worth of electricity each year. As a pilot project the team installed energy conservation equipment—motion detectors that cause the machines to power down when not in use—on 34 machines, with an expected annual savings of $3,000 to $4,000.

• Finally, the energy use team formed a new sub-team to focus on conservation in the Partners' motor vehicle fleets.

WASTE MANAGEMENT AND COMMUNITY-WIDE RECYCLING

Goal(s). To enhance waste management systems including increasing recycling and improving waste disposal efficiencies at the three institutions.

Accomplishments. The key accomplishments of this community-wide recycling effort include the following:

• The waste team facilitated the increased recycling capabilities at the University of Louisville dorms.

• Jefferson County Public Schools have conducted self audits of their waste streams, using the information garnered from these audits to increase recycling.

• The team helped to facilitate joint waste disposal, allowing U of L to utilize Metro's lower-cost contract. In addi-

tion to a lower per ton cost for disposal, the University was also able to save labor and transportation costs by hauling solid waste to Metro's transfer station instead of the longer trip to the landfill, for total savings of $12,000 annually, as well as reduced equipment wear and air emissions. JCPS plans to use the lower cost city contract as soon as its current waste management contract expires.

BUY GREEN

Goal(s). To create the ability to pool and jointly purchase green products and services cost-effectively.

Accomplishments. The key accomplishments in joint purchasing to date include:

• The drafting, negotiation and authorization of a joint purchasing Memorandum of Agreement (MOA) which includes all three Partners.

• Purchasing of recycled white copier paper under the terms of the MOA, promising to save the Partners as much as $45,000 per year in paper costs.

• The team is investigating the possibility of expanding the MOA to include joint purchasing of environmentally sound janitorial supplies.

ENVIRONMENTAL EDUCATION COLLABORATION

Goal(s). To develop a comprehensive, long-term focus for environmental education, both in the schools and in the community.

Accomplishments. The Environmental Education team has been very active and has numerous accomplishments:

• The team significantly expanded professional development opportunities for Louisville-area educators, organizing 85 three-hour and six-hour sessions on environmental education. They also conducted sessions on the use of CityGREEN GIS software and week-long workshops on urban watershed issues and biodiversity.

• The team also produced a bibliography of children's literature dealing with environmental issues, *Wild About Reading: An annotated guide to Children's Environmental Literature*.

Outdoor Classrooms

Goal(s). The team's efforts are designed to make outdoor classrooms available within walking distance of every district school.

Accomplishments. Thus far this team has met with considerable success.

• With funding from the EPA and the Metropolitan Sewer District, the team has helped to establish 7 outdoor classrooms and several more are planned.

• In conjunction with the development of new outdoor classrooms, the team conducted a survey of district teachers in order to identify outdoor environmental education needs and published both a Environmental Education Curriculum Guide for Outdoor Classrooms and a poster series promoting the art and science of outdoor classrooms.

• JCPS Students have used CityGREEN GIS software to collect data on 25 campuses, and subsequently produced maps and analysis.

Public Health Registry

Goal(s). To create a public health registry and inventory of existing data systems that track public health concerns.

Accomplishments. The health registry project is still in the development phase, lagging from lack of administrative support. It is one of the projects slated for additional administrative support and leadership emphasis in the coming year.

Asthma Project

Goal(s). The asthma project seeks to create awareness of asthma as an increasing health risk locally and nationally, and as a leading cause of absenteeism.

Accomplishments. As with the public health registry, the asthma project has lagged behind other projects in implementation and will require additional leadership and administrative support to move forward effectively.

IDENTIFICATION OF OBSTACLES, BARRIERS AND ISSUES

Initial assessment indicates that the Partnership for a Green City has done a good job avoiding partnership-eroding behaviors such as finger-pointing and blaming the other Partners for either obstructing progress or trying to move too fast. This did not happen by accident. The joint, facilitated sessions through which the Partnership was developed enabled the Partners to develop knowledge of and an appreciation for the very different missions of the respective organizations. Something that is easy to do for one or two partners may violate a third partner's core mission, particularly if it involves health information, education/curriculum and children or confidential records. Given that many of the priority projects are intended to change organizational behavior, the Partners must continue to carefully identify strategies and approaches that will be effective.

Several common themes emerged from the project participants in the four day-long sessions. Rather than blame each other for the slow progress of some efforts, participants identified and frankly discussed issues that arose during the implementation phase of the various projects. Most of the "blocking" problems were considered temporary or avoidable or are still under discussion. The focus in the sessions was primarily on ways that barriers could be surmounted, especially where the support of high-level leadership might make a difference.

Key obstacles, barriers and issues identified include:

1. "We are all busy." Virtually all of the Louisville Partnership participants, by design, are full-time employees of the organizations they represent. All have jobs that may include some component of the Partnership project they are working on, but this may be a very minor part of what they do. The most successful project teams meet monthly, or try to, and have staff support to send out notices, create agendas, take minutes and do basic follow-up on the issues identified. Projects lacking such support had more trouble with arranging meetings and follow-through. Leadership emphasis on Partnership projects can affect how participants perceive the projects and their role. Activities designed to refocus the project participants are expected to renew and energize the projects, especially with demonstrated leadership support.

2. Communications. Communication among the Partners regarding project meetings and developments represents the most serious obstacle faced by the Partners. Fortunately, it is also quite possible to remedy. Communication is a major challenge for the Steering Committee which has recognized that managing successful projects is more demanding than anticipated. Even though the Steering Committee meets biweekly to discuss the Partnership and members attend virtually all of the project team meetings, members of the Steering Committee acknowledged that follow up and communication to teams and participants is not as robust as it could or should be. Minutes have only been kept and distributed on teams with staff support, such as Energy Use Partnership, Buy Green and Environmental Health. Staffing, funding and renewed commitment to reporting and communication can have immediate results.

3. Lagging Team Members. Some teams include members who both fail to attend meetings and whose contributions to their projects are minimal. Since the partner initiatives are voluntary, it is unlikely that non-participating members can be made to participate and even if they are directed to attend, they may contribute in a negative manner. The challenge for the Steering Committee and team leaders is to recruit team members who have energy and enthusiasm to replace those who are not helping. Some teams may want to keep "political" members who do not contribute, i.e. those who by virtue of their position have critical decision making authority or influence over partner projects, in general. However, long term success depends on people who want to make a difference and are willing to put in the time even with all of their other job demands. Recognitions for service—even as simple as a t-shirt or thank you letter to the individual and his or her supervisor—should become standard.

4. Money, Resources and Budget Cycles. Funding was an issue for a few projects, especially for the very ambitious Environmental Health Registry, which will require millions to do. Other projects are more dependent on funds now available within the Partners and need simultaneous approval for "shares" from each partner. This means that requests need to be identified and synchronized with the differing budget cycles of each of the three Partners. The Steering Committee and team leaders need to identify this budget cycle time frame, get project findings in early to the key advocates, and be patient. Progress reports back to funding advocates are essential.

5. The MOA problem. The Partners have recognized the need for lead implementers and transfer of funds between each other for partner initiatives. The best success in this area is the joint purchasing Memorandum of Agreement that enables easy partnering on green purchasing priorities (and anything else the three Partners want to buy together). In all other areas the only way "sharing" can happen is through a joint memorandum of agreement or memorandum of understanding. These MOAs are tedious and time consuming to negotiate. They can sometimes delay partner efforts for months as three different law departments must review and make adjustments in the draft agreements. Another difficulty relates to long institutional memories of pre-projects between two of the Partners which went awry when funds promised from one partner to the other did not materialize. New agreements are needed to make possible the routine transfer of funds and other resources between the Partners for the Partnership efforts.

6. Better External Communications/Website. The participants recognize that many of their accomplishments are not known to others beyond the direct participants, and that the community and leadership may suffer from this lack of knowledge. The project website is static and not kept current. Information about the Partnership does not readily appear in internet searches. Details of Partnership activities and progress and all reports, data, and documents should be incorporated into the website, with links from other partner websites easily found and featured. A number of efforts are underway to address communications priorities.

7. Access to Sensitive Information and Political/Socio-Economic Issues. The environmental health initiatives face huge barriers related to the conflict between information privacy and access to the information essential for public health research and public health benefits. The organizations struggle to overcome these barriers and protect privacy but allow access to information.

8. "Scaling Up" Issues. All project teams have challenges in "scaling up" successful pilot projects, because of the sheer size of the organizations and the degree of effort required to make changes across the board. This is especially frustrating for the Environmental Education Team members, who see educational interest and performance success taking place in individual schools but cannot get environmental education generally accepted other than by a small percentage of the total.

9. Not Enough Planning/Lack of Formal Plans. All teams were challenged to develop plans to implement the priority projects. However, most planning was informal rather than rigorous and formal. This is mainly a result of the shortage of time and resources. However several teams, especially the environmental education team, have made plan development a priority for the near future.

Focus on Environmental Performance

An early identified priority from the leadership interviews was performance measurement and results. The leadership within each institution emphasized that Partnership projects and efforts must show results. Some projects have easily identified measures of success. For instance, the environmental standards and principles project has been entirely completed. Other project teams immediately uncovered issues that made immediate and accurate measures a problem. For example, the energy team found that building energy use information was not uniformly available and accessible. For some of the Partners, a great deal of effort was needed to develop baseline energy profiles.

The need to align the projects with the standards and principles (which were developed and finished after the projects were first identified) was also an issue. Without care for this concern, an imbalance can appear among the projects and priorities, which may lead to confusion and incorrect perceptions about the direction and intent of the overall Partnership. In addition, several types of performance measures may need to be developed to communicate the successes and changes which are accomplished within the institutions. Overall measures, such as a reduction in tons of waste, should be combined with process measures, i.e. a communication plan has been put in place. The participants must also pay closer attention to gathering simple statistics, such as the number of participants attending a forum or workshop.

The Steering Committee looked at what others are accomplishing elsewhere in the area of environmental performance. Some noteworthy efforts examined include the following.

On a global level, the *Environmental Sustainability Index* jointly produced by the Yale Center for Environmental Law and Policy and the Columbia University Center for Inter-

national Earth Science Information Network is noteworthy. The 2005 version uses 21 categories of indicators to classify and rank the performance of countries addressing environmental issues and sustainability. A newer Pilot 2006 Environmental Performance Index has just been released, which uses 16 specific environmental policy targets.

http://beta.sedac.ciesin.columbia.edu/es/epi/

A local government effort using an innovative approach to environmental performance measures to drive achievement and improve outcomes is exhibited by King County, Washington Department of Natural Resources and Parks.

http://dnr.metrokc.gov/

The City of Santa Monica, California's *Sustainable City Progress Report* translates eight categories of measures into a report card format for its citizens and acknowledges gaps and issues including lack of information to measure progress.

http://santa-monica.org/epd/scp/goals_indicators.htm

At least two organizations are developing approaches to measure and rank cities for green efforts and support for sustainability. *SustainLane 2006 City Rankings* ranks the top 50 cities by population using 15 easily understood category rankings (http://sustainlane.com/article/895). Louisville was ranked 35 of 50 in their first ranking of 50 cities. *The Green Guide* ranks 251 cities with population over 100,000, via a survey sent to cities, information from US EPA, the Green Building Council, and other independent sources. The top 25 are recognized and the top 10 are given special recognition. *The Green Guide* also rates schools and other initiatives.

http://thegreenguide.com/docprint.mhtml?i=113&s=top10cities

The Sierra Club, National Resources Defense Council and other non-governmental organizations are encouraging good environmental performance by "green city" recognition.

After looking at these various models, the Louisville Partners identified two approaches to measuring progress that will overlap and support each other. One is to develop outcomes and performance measures that align with the standards and principles. The Steering Committee has developed a visual model for measuring the relationship of goals, outcomes, etc. in the form of a pyramid (figure 12).

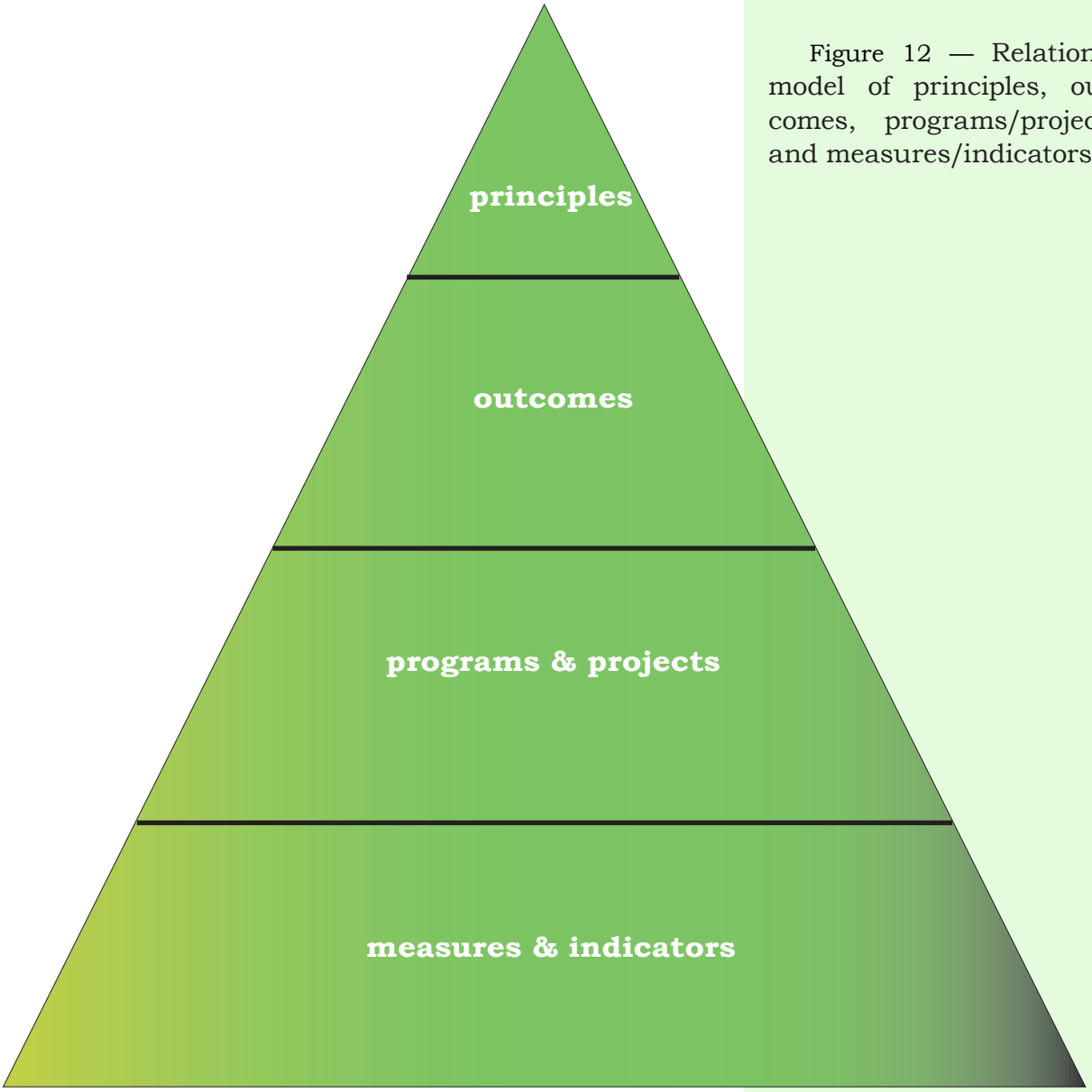


Figure 12 — Relational model of principles, outcomes, programs/projects and measures/indicators.

The partners developed the pyramidal model in which principles, the broad points of philosophical agreement are links to outcomes, which are pursued through team-led programs and projects, which in turn are evaluated through a variety of measures and indicators as a way to visualize the these relationships. Possible outcomes, measures and indicators identified in the focus sessions are listed in table 7.

TABLE 7 - RELATIONSHIP OF PRINCIPLES TO OUTCOMES, PROJECTS AND MEASURES

Principle	Leadership Commitment and Measures
Outcomes	• Partnership has a sustainability strategic plan and performance measures • Partnership has full time staff committed to partner projects • Partnership sponsors annual roundtable environmental education conference • Leaders drive hybrid vehicles
Projects	**• Full time staffing for partnership** • Global Warming Team • Performance measure initiative • Systematic planning
Measures & Indicators	• SustainLane measures and indicators • Green Guide measures and indicators

Principle	Sustainable Use and Protection of Natural Resources
Outcomes	• Land acquired or preserved for parks and open space • Native species used for partner landscaping • Public educated on use of land • Leaders drive hybrid vehicles
Projects	Program developed under Green Issues Orientation to promote land stewardship and use/preservation of native plants
Measures & Indicators	Persons exposed to program

TABLE 7 - RELATIONSHIP OF PRINCIPLES TO OUTCOMES, PROJECTS AND MEASURES (CONT.)

Principle	Energy Use
Outcomes	• SOP's available and understood • Fleet converted to alternate fuel/hybrids over time and as options become available • Comprehensive bike trails accessible in all areas of community • Light rail system • All public buildings audited and recommendations implemented • Non fossil fuels used when feasible and cost effective
Projects	• Energy Team Projects (Building audits; Energy monitoring/evaluation; lighting initiatives; solar demos) • Policy that all electric appliances purchased are Energy Star compliant • Employees/teachers/students all have utility use training
Measures & Indicators	• KWH used per unit (bldg sq ft; per capita; other) • CCF used natural gas • Gallons Water used • # trained in utility use SOP's • Reduced emissions and dependency on foreign oil • Biofuels used • BTU's/GHG's saved •Solar KWH or BTU's

TABLE 7 - RELATIONSHIP OF PRINCIPLES TO OUTCOMES, PROJECTS AND MEASURES (CONT.)

Principle	Land and Water Management
Outcomes	• City is clean, green, aesthetic and healthy • Partners land features managed biodiversity • Partners have innovative storm water management at their facilities
Projects	tba
Measures & Indicators	tba

Principle	Reduction and Disposal of Waste
Outcomes	• Partners have comprehensive cooperative recycling program • Partners have maximized waste diversion and reuse • Ongoing training for recycling
Projects	• Community Wide Recycling and Waste Reduction Team Projects (Joint bid for collection services;) • E-waste recycling
Measures & Indicators	• $$ saved by alternate approach • Recyclables tons or other measure

Principle	Purchasing Green Products and Services
Outcomes	• Partners have Environmentally Preferred Products Purchasing Policy • Partners purchase only Energy Star products when available • Increased markets for recycled content paper

Table 7 - Relationship of Principles to Outcomes, Projects and Measures (Cont.)

Projects	• Green Purchasing Team- EPP policy to be developed • Green Purchasing Team- Energy Star Policy developed • Myth vs Truth (ongoing effort)
Measures & Indicators	• #'s EPP products purchased compared to baseline • Audit/review of Energy Star products • Use of recycled content paper; trees saved; carbon sequestration avoided

Principle	Transportation
Outcomes	• More than 14% of partners fleet is hybrid/ alt fuel by 2010 • No more used Crown Vics in fleet • Louisville is bike friendly • Anti sprawl policies in place • Partners have programs with incentives and disincentives for mass transit/busses/ bikes/carpooling • TARC ridership doubled over current levels in five years
Projects	• Bike lanes added serving partner facilities and community-wide • Bike/Pedestrian Awareness/Education Program (Road sharing; safety; traffic regs; road etiquette) • Bike racks on all TARC busses (done) • Study feasibility and replace fleet vehicles with alt fuel/hybrids when feasible/economic and reduce annual fossil fuel costs

TABLE 7 - RELATIONSHIP OF PRINCIPLES TO OUTCOMES, PROJECTS AND MEASURES (CONT.)

Measures & Indicators	• # bike lane miles added/year • Bike/car and pedestrian/ car accidents • # users of TARC bike racks (currently 8500/month) • % partners fleet alt or hybrid • Annual fleet fuel costs and gallons used

Principle	Design and Management of the Built Environment
Outcomes	• LEEDS buildings supported by policy and action by Partners • Mixed use development standard for building development • Pedestrian friendly neighborhoods • Neighborhoods have easy access to basic needs • Public involved in planning and decisions about neighborhoods • Increased % greenspace
Projects	tba
Measures & Indicators	tba

Principle	Public Health
Outcomes	• Air meets EPA standards • Health registry available (in two years) to enable research and guide public health programs

TABLE 7 - RELATIONSHIP OF PRINCIPLES TO OUTCOMES, PROJECTS AND MEASURES (CONT.)

Outcomes	• Healthy living is part of Louisville culture • Healthy students • Chemical free buildings and grounds • Chemical free and safe parks • Access to health care and healthy lifestyle programs and facilities • Pet friendly parks • Good food programs at/near partner facilities/improved nutritional options/local foods when feasible • Sidewalks exist where needed; well lit for safety
Projects	• Public Health Registry • Asthma Project • Partners unite on "Take Charge " challenge and other programs linked to healthy hometown and fitness for employees, students, and others • Hand wash education linked to partner facilities • Environmental Health Team- Sponsor new team with EE and develop student led "food audits" assessing menus; vending machine options; food options in closest stores • Environmental Health- Create "event" focused EH program (sports events; other events)
Measures & Indicators	• Employees/others enrolled and participating in health/fitness programs • Park visits/survey • Crime rates in parks

TABLE 7 - RELATIONSHIP OF PRINCIPLES TO OUTCOMES, PROJECTS AND MEASURES (CONT.)

Measures & Indicators	• Hand washing notices in partner facilities • Health status of population compared to others (rates of obesity et al) • Reduced absenteeism due to specific health causes • Student BMI's

Principle	Environmental Education
Outcomes	• Partner EE Collaboration has comprehensive EE plan • Unified approach between schools and non-school EE programs • Environmentally literate population • Outdoor classrooms at all schools and all campuses restored "green" • Fully integrated EE curriculum used by most schools • Humane education a component of EE • Inter disciplinary EE professional development available to all teachers • Volunteers involved in EE in structural meaningful way • "Working to scale" issues overcome • Vegetable gardens part of outdoor classrooms • All students (others) have nature immersion experience • EE focus centers available in all areas • Louisville has Nature/EE tour

TABLE 7 - RELATIONSHIP OF PRINCIPLES TO OUTCOMES, PROJECTS AND MEASURES (CONT.)

Projects	• EE Collaboration- Develop strategic plan in 2006/2007 • Co- sponsor new team with EH re: student led food audits with focus on access to good food choices and availability of locally grown foods
Measures & Indicators	• Number students exposed to significant EE curriculum • Comparison of EE schools to others • Number food audits conducted

NEW PROJECTS APPROVED FOR 2006/2007

The Partners approved the following new projects for the year 2006 - 2007.

OVERALL PROJECT MANAGEMENT

I*mprove Communications and Outreach.* A major area of emphasis for the Partnership is improving communication and outreach.

Partnership Staffing. The Partnership needs a full time coordinator and ongoing technical support.

Funding. The Partnership needs to formalize a funding team, and align efforts with the three different budget calendars and processes. Another priority is ramp up efforts to pursue grant funding.

Environmental Performance Measures. The Partnership will continue the efforts begun with the 2006 Focus Sessions to develop performance measures for Partner initiatives.

ENVIRONMENTAL MANAGEMENT

Implement the Climate Change Team. Louisville has adopted the U.S. Mayor's Climate Protection Agreement. U of L

and JCPS have agreed to team with the Metro government to support implementation of the agreement.

Adopt a Policy on Environmentally Preferable Purchasing. Two of the Partners are already in general compliance and the third is close. No formal policy exists, but this is an attainable goal for the Partnership and will give Louisville recognition in this critical area of sustainability.

Implement the new Energy sub-team with fleet focus. A new team has been formed to address fleet management issues and opportunities.

Expand Electronic Waste Recycling. Address partner concerns and fully implement e-waste program that has been developed and operated by Metro for several years.

Continue Energy Use Initiatives. Energy Watch Dog and other energy use initiatives need continued support.

ENVIRONMENTAL EDUCATION (EE)

EE plan linking collaborators. The Environmental Education Team has recognized that excellent award winning programs both within the school district and those funded and operated by Partners have limited value unless more students have access. The need for a formal plan linking the diverse efforts of the Partners and linking curricula with the relevant resources is essential for success. U of L and the new faculty position in environmental education will take the lead in developing this plan with the Environmental Education Collaboration.

Communicating the message. The Green Issues Orientation needs to be implemented with an emphasis not just on professional development of teachers, which has been ramped up in an exemplary manner by the Partnership collaboration. It must include communicating the standards and principles to employees, faculty, and staff. All participants in all sessions emphasized the importance of environmental stewardship and the need to educate at all levels the importance of the environment and consequences of mismanagement and exploitation. A special focus will be on new employee orientation.

*Linking with existing community initiative*s. There are five ongoing community initiatives that could pertain to environmental education. The collaboration should explore these possibilities in developing the Environmental Educa-

tion plan. These initiatives are: Healthy Hometown Movement; Every1Reads; The City of Parks; The GE Foundation College Bound District Program; and the West End Signature Partnership.

Join/support/help implement State Green Schools Recognition program. The Kentucky Environmental Education Council is initiating a new Green Schools recognition program. The EE collaboration will help implement this program for the Louisville area.

Sponsored EE "Nights out" and tours to community EE resources. Evaluate opportunities for expanding access to community EE opportunities like the Zoo, museums, Bernheim Forest, and other resources.

Regional EE Centers. Evaluate possibility to establish EE Centers in areas of Louisville currently underserved.

Environmental Health

Asthma Project. The Asthma Project has been thwarted by lack of funding, particularly difficulty in achieving grants, as well as all the barriers originally identified at conception. The Environmental Health Team has affirmed the commitment to continue its efforts and build on the more modest pilot efforts now ongoing.

Public Health Registry. This project, though stalled, was identified as having the potential to separate the Louisville Partnership from others. No model currently exists for the kind of public health registry envisioned in this project. The scale of this effort requires funding support and significant private sector support in the health care community. Funding for preventive health research lags significantly behind other health research funding, even though potential payoffs are much greater.

Healthy Living and Food. A new team will be formed by the Environmental Health and Environmental Education Teams, to focus on healthy lifestyles. Initial efforts will be targeted to compliance with HB 72 and establishing links to Healthy Hometown and U of L School of Public Health research priorities. The team will explore the possibility of student-led food audits that will look at availability of healthy food and locally grown foods for students, faculty and employees and other projects to support healthy eating. The team might also undertake other activities such as audits to document usage of bikeways, parks, etc., as part of its efforts to encourage/support healthy eating and fitness.

APPENDIX G – BLUEGRASS PARTNERSHIP FOR A GREEN COMMUNITY, 2006 PROJECT SUMMARIES

The Bluegrass Partnership for a Green Community officially began August 24, 2005 with a ceremony at McConnell Springs and the signing of a joint proclamation formalizing the Partnership.

Prior to this event the Partners conducted exploratory meetings regarding the feasibility and structure of a Partnership. In March of that year, key leaders of the three founding Partners met at a Leadership Luncheon and discussed Partnership possibilities and to gain an overview how such a Partnership might be developed. Organizational meetings continued through the spring and summer of 2005 and led to the McConnell Springs kickoff.

The three founding Partners of the Lexington Partnership were the University of Kentucky (U of K), the Lexington-Fayette Urban County Government, and Fayette County Public Schools. The Tracy Farmer Center for the Environment at the University of Kentucky was instrumental both in organizing partner discussions and in providing seed funding to initiate the process.

After the formal project kickoff the Steering Committee began to implement the project through leadership interviews, three day-long cluster meetings and the formation of teams to develop recommendations for projects for the Bluegrass Partnership. They reviewed other partnering environmental projects (Table 1).

In November, 2005, the aforementioned cluster meetings brainstormed project ideas focused in three primary areas:

- Sustainability
- Environmental/Organizational Efficiency
- Environmental Education/Outreach

These cluster meetings encouraged participation from all community sectors and stakeholders, including business and industry, government, education, and nonprofits, as well as other entities and individuals. Approximately

1/3 of the meetings' participants were employed by organizations other than the original three Partners.

After review, the Steering Committee, determining that the project possibilities needed further refinement, mandated project teams to focus more specifically on developing project agendas, schedules, and implementation plans. The Steering Committee ultimately identified nine project teams (expanded from an initial recommendation of eight teams). Team leaders and members with expertise in the identified areas were suggested. At this point, the Steering Committee formally expanded membership in the Partnership to other organizations and invited individuals from those organizations to join the relevant teams.

The Team focus areas are:

- Green Buildings
- Transportation
- Reduce, Reuse, Recycle
- Green Purchasing
- Environmental Education
- Outreach/Communication
- Water/Stormwater
- Sustainable Foods
- Green Space and Sustainability

Over 100 persons are involved on project teams from approximately 20 organizations, including the Bluegrass Community and Technical College (now considered a primary member), Bluegrass PRIDE, Partners for Family Farms, Bluegrass Conservancy, Kentucky Environmental Education Council, Kentucky Environmental and Protection Cabinet, Kentucky Office of Energy Policy, Kentucky Water Resources Research Institute, McConnell Springs Nature Area, New Cities Institute, the Southeast Center for Aluminum Technology, the Kentucky Pollution Prevention Center, Smiley-Pete Publishing, Alltech, University of Kentucky College of Agriculture, WUKY-FM, Appalachia – Science in the Public Interest,and Sayre School. The US EPA has observed and participated as a major funding partner for key activities that have served to develop the Partnership.

The teams worked through the spring and summer of 2006 to develop project recommendations and implementation strategies.

QUESTIONNAIRE

An online questionnaire was sent to project team members and those who had interest in the Partnership. The questionnaire results provide an overview of the Partnership's participants and priorities.

Survey participants:

- University of Kentucky - 17
- Lexington-Fayette Urban County Government - 11
- Fayette County Public Schools- 10
- Others- 16

Generally, the participants viewed themselves and the community as average to above average in being "green" with half the participants seeing themselves as "very green."

The participants identified at least twenty additional organizations or individuals as potential Partners for selected projects.

An emphasis and concern about land and conservation, evident during the November cluster sessions, also emerged strongly in questionnaire responses. When asked to identify the most important things that the Bluegrass Partnership can do, the participants responded:

54%- Land conservation and promote sustainable development

39%- Growth management including partnering with adjacent counties

34%- Transportation solutions

25%- Energy Conservation

25%- Environmental education for all ages

23%- Environmental advocacy and leadership

20%- Clean water

18%- Safe and waste conserving management of wastes

14%- Clean air

Participants indicated that they would participate in Partnership activities and programs enthusiastically (60%) or moderately as schedules allow (30%). Such voluntary participation and support are vital to Partnership success.

RECOMMENDED PROJECTS

Teams met regularly during the spring and summer of 2006 to develop formal project recommendations, as well as to begin implementation of initiatives already approved by the Steering Committee.

On August 10 and 11, 2006, the Bluegrass Partnership conducted a two day conference, *Creating a Greener Blue-*

grass, at which project teams publicly presented recommendations for an initial set of Partnership projects. In addition to team involvement, invited speakers provided information about ongoing regional and national sustainability efforts.

Teams were encouraged to identify projects that are viable within existing resources, that will permit early successes, and that will provide quantifiable outcomes.

Team Leaders presented the following recommendations:

REDUCE, REUSE, AND RECYCLE

US Mayors Cans for Cash Competition. This national competition will take place September 15-30, 2006. Over 40 cities are expected to participate. The Partnership's participation will be a component of an ongoing focus on aluminum can recycling.

Increase recycling rates of cell phones and rechargeable batteries. Nationally less than 3% of consumers recycle their cell phones. The Partnership will collaborate with the nonprofit RBRC *Call2Recycle* Program, which emphasizes reuse of phones in other countries.

Increase recycling at all Partner facilities. All Partners currently recycle, but all acknowledge that improvement is possible. Partners will implement new recycling opportunities and reward programs to encourage recycling by employees and students.

Increase recycling at area businesses. Bluegrass *PRIDE* will have a key role in this project, which will identify businesses that do and do not recycle. Partners will develop programs to encourage and support increased recycling efforts by private businesses in the Bluegrass.

GREEN PURCHASING

Purchasing Inventory. Partners are conducting a purchasing inventory of items with annual expenditures amounting to more than $25,000 in order to identify opportunities for collaborative green purchasing.

Memorandum of Understanding. The Partners have drafted a memorandum of understanding to facilitate joint green purchasing activities.

Used Electronics. The Partners are evaluating participating in used electronics recycling with the federal prisons program.

Policy on Environmentally Friendly Computers, Used Oil,

and Energy Star Appliances. The Partners are drafting/ evaluating purchasing policy for a variety of products and services jointly used/purchased by the Partners.

ENVIRONMENTAL EDUCATION

Special Focus on the Bluegrass. A special environmental education curriculum with many opportunities for activities outside the classroom will be developed using partner resources. The curriculum will emphasize the unique natural resources of the Bluegrass, as well as cultural, agricultural, and other assets that contribute to the quality of life and have special regional significance.

OUTREACH/ COMMUNICATION

Support Team Projects and Programs. This team has the unique mission of providing support to all other teams. The team will serve as a nexus for both external and internal partner communications efforts. As other teams identify projects or programs that have outreach and communication components, this team will facilitate the efforts, using existing communication and community resources whenever possible.

Water/ Storm Water

Focus on Watershed Education. This team will initiate watershed education programs in two or more Bluegrass watersheds (e.g., Cane Run, Wolf Run). These efforts will include stamping culverts, adding watershed identification signage, and using community water education messages from the Commonwealth Water Education Program's "*It's In Your Water*" program. The team will coordinate with community watershed advocacy groups.

SUSTAINABLE FOODS

Community Gardens and Food Education. The team's initial efforts will focus on reviving and expanding community gardens in Lexington, with emphases on partner facilities/ campuses and on linking environmental/food education to the program.

2000 Miles per Bite. The team hopes to develop future projects that address local foods and sustainability by emphasizing the importance of local foods to the economy and healthy living.

Green Space and Sustainability

What Will a Sustainable Bluegrass Look Like? This team was created recently by the segmentation of the original Foods, Land and Sustainability team into the more focused Sustainable Foods and Green Space teams. As such, the Green Space team has not yet developed a specific agenda beyond its general emphasis on land conservation and sustainability.

Green Buildings

Energy Policy. The partners are drafting a broad energy policy addressing energy efficiency, performance measurement, and sustainability. Elements of the policy will include resource conservation, partnering, energy audits and assessments, energy tracking, energy awareness training, and green building standards for new buildings and retrofits.

Training Employees. The partners are reviewing energy training programs for employees and contractors with the intent to implement a comprehensive energy training program.

Energy Tracking Initiative. The partners are evaluating energy tracking software to share and use to track energy performance of buildings.

Transportation

On-road Biodiesel Initiative. The Partners have a large number of diesel vehicles in their fleets, and this project will focus on the conversion to biodiesel.

Off-road Diesel Use. Current regulations allow the use of less clean (higher sulfur content) diesel fuel in off-road construction vehicles. The Partners will require cleaner alternatives for their construction projects.

Create No Idle Zones. The Partners would create no-idle zones in areas where idling is now common—such as long queues of school buses. This effort would model itself upon similar successful projects. The team will research how projects were implemented in other locations.

Lextran/ CATS Services. This project will elevate awareness of Lextran and CATS bus services among students and employees of the Partners by using some or all of the following: general awareness promotion campaign, employee incentives, promoting Lextran Class Pass, and a student mentoring program.

Alternative Transportation Survey. The Partners will develop a survey to elicit information on individual opinions and impressions of alternative transportation in Lexington among employees and students of the partner organizations. Alternative transportation includes any non-single occupancy vehicle mode of transport. The results will guide future transportation team actions.