

Strategy for a Sustainable Rockville

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Introduction

The purpose of this document is to present a comprehensive strategy that will, over the next three to five years and beyond, make Rockville more sustainable and environmentally-sensitive. While this strategy primarily targets city activities and actions, we intend to promote and encourage similar actions by individual businesses and residents. Together we can make a huge difference that will assure that Rockville residents enjoy a high quality of life well into the future.

Background

A combination of forces, including unprecedented population growth, economic expansion, upward urbanization trends, and ever-higher energy prices, particularly for fossil fuels, are stressing the earth's resources and society's economic ability to maintain our current standard of living. Further, it has become increasingly clear that many of these challenges are falling to local government to solve. Cities that act with innovation, creativity, foresight and successfully address these challenges will likely enjoy economic advantages over other communities, and lead the way for others to follow.

Rockville is the third largest city in Maryland. It occupies over 13 square miles within the metropolitan Washington, D.C. area. A major portion of the prestigious I-270 commercial corridor is within the City's corporate limits, and the community is blessed with an educated and informed population. In 2006, Money Magazine ranked Rockville No. 26 in its 2006 list of "best places to live in the United States."

In May 2006, the Mayor and Council committed to making Rockville a sustainability leader among Maryland communities. Since that time, the Mayor and Council and staff have been working to fulfill the ambitious vision for the City by 2020. Specifically, the vision calls for Rockville to be:

“[A] leader in environmentally sustainable development that protects and enhances our community's quality of life, and will continue to do so for future generations. Rockville residents, its local government, and the business community foster and apply sound environmental practices. High technology, energy conservation and recycling are employed appropriately at every opportunity.”

Each day, Rockville staff, residents and businesses make thousands of small decisions that relate to the overall sustainability of the City. Consequently, no single City department or division can achieve the Mayor and Council's vision alone. Rather, the vision requires a coordinated and strategic examination of current practices and procedures across the City. A quick review of the City's past accomplishments set out in Appendix C, should indicate that Rockville has already made substantial progress toward achieving this vision. To a large extent, the City's programs and activities to date have already resulted in major progress toward transforming Rockville into an environmentally sensitive and sustainable community. However, much more can be done and the City does not intend to rest on its laurels.

What is a Sustainable Rockville?

At the outset, Rockville acknowledges that we are a part of the greater Metropolitan Washington area and that our actions interrelate with, and, to a large degree, depend on the rest of the region. Rockville is not entirely masters of our own fate. However, Rockville should not let its size and interdependence on other local, state, and federal government agencies interfere with our advance toward sustainability. Rather Rockville should identify those elements over which it has either direct control or significant influence and move them in a sustainable direction. In fact, Rockville's level of education and affluence positions us to assume a greater leadership role for other Maryland and Metropolitan Washington communities.

So what does a sustainable Rockville look like? The dictionary defines *sustainable* as "capable of being maintained or remaining in existence; and to supply with necessities or nourishment." The term's common usage in the context of "sustainable communities" grows out of the natural resources conservation ethic of the 19th and 20th centuries where water, air, soil and wildlife resources were used, harvested and managed for multiple and sometimes competing purposes (food, fiber, recreation, aesthetics); at a rate that could be naturally replenished and "sustained" over many generations. Therefore, being "sustainable" means the City is achieving economic prosperity while protecting the planet's natural systems; and meets the needs of the present generation without compromising the ability of future generations to meet their own needs.

Sustainability becomes a way of organizing and managing a City to create a healthy environment, vigorous economy and vibrant community. Sustainability encourages both public and private organizations to be better stewards of the environment, and in turn glean positive economic benefits for residents. In other words, pursuing sustainability will stimulate technological innovation, advance Rockville's attractiveness and competitiveness, and improve our overall quality of life.

Why do We Want to be Sustainable?

As a sustainable community, Rockville residents will enjoy a variety of benefits including:

- Residents and businesses pay no more for energy than necessary. This will become increasingly important as the price of heating, cooling, electricity and fuel continues to climb during the next decade.
- New investments in technology and process efficiencies create more jobs and sales revenues for area green merchants.
- The City will continue to enjoy an adequate supply of pure drinking water.
- A variety of transit options ease resident commuter congestion.
- Rockville streets, parks and waterways are trash-free and attractive to residents and visitors.
- Residents are paying no more than necessary for solid waste disposal.
- Recycled products and materials are less expensive as the volume of recycled materials rises.
- The air and water will be nearly free of toxic pollutants.
- The City's potential regulatory liability for environmental violations will be reduced if not eliminated.

- More trees and vegetation will make the City more attractive to residents and visitors, will have a cooling effect on the City; and reduce stormwater disposal costs.
- Public health threats from vermin, bacteria and toxic pollutants are reduced if not eliminated.
- As Rockville attracts more residents to the City, urban sprawl will be prevented from occurring elsewhere in Montgomery County and the greater Metropolitan Washington region.
- Rockville’s flood risk is reduced through routine maintenance and enhancement of the City’s storm drain system. Wherever possible, stormwater is redirected to pervious areas that allow percolation to the water table.
- The City does its part to reduce climate-changing carbon emissions in the area.
- Rockville enjoys an enhanced reputation and notoriety as a sustainability leader, thereby, reinforcing a greater sense of civic pride.

A Strategy for a Sustainable Rockville

For Rockville to realize its vision, the City must have a strategy or action plan to follow that ensures steady progress towards sustainability. To succeed, the approach must be comprehensive and coordinated across the City’s own activities and behaviors, and eventually reach out to individual homes and businesses. As noted above, each incremental decision, from designing new or renovated buildings, to purchasing copy paper, to buying fuel for City vehicles should be viewed through a “sustainability lens” before committing resources to a particular course of action. Of course, sustainability considerations do not trump all other important City goals or interests, but sustainability should be viewed as equally important as other factors. In other words, everyone who works or volunteers with the City, from the police, to land use planners, to purchasing agents have an important role to play.

Rockville’s Environment and Sustainability Goals are summarized in the following table:

Topic	Goal
Air	Maintain clean, healthy air and contribute to regional air pollution solutions.
Ecosystems	Protect and restore ecosystems and their functions.
Energy	Maximize energy efficiency and purchase renewable sources of energy. Generate energy as opportunities present themselves.
Land	Maintain and enhance open space as we continue to develop, redevelop and grow the community. Support ecologically-sensitive land use and management practices. Improve property values and eliminate trash and debris from the landscape.
Materials	Use and reuse raw and purchased materials carefully and responsively. Shift to environmentally-friendly (biodegradable or recyclable) materials wherever economically feasible.
Drinking Water	Ensure availability of adequate drinking water supplies for all desired uses, including fire suppression, commercial uses and landscape irrigation needs.
Water Quality	Restore and maintain high-quality water resources in the City’s three watersheds. Fully implement effective and efficient SWM controls. Reduce or eliminate blockages in sewers and storm drains.

Financial	Support the area’s burgeoning “green” economy by ensuring costs of water, sewer, solid waste, energy, and materials are as low as feasible.
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An Eleven Point City Strategy

In striving for sustainability, Rockville intends to incorporate the following strategy into its standard processes and activities:

1. Get the Residents Involved

Engage residents in an ongoing dialogue, including continuous outreach and awareness events and activities, designed to communicate that everyday individual actions do matter. Provide useful and actionable information through Rockville Reports and the City’s website. Explore sustainable opportunities and assist residents in living a more sustainable lifestyle at home and at work. Establish a series of awards such as a Green Development Award, a Sustainability Award, a Sustainability Volunteer Award, and a Sustainable Operations Award to be presented to residents and “green” business each year. The Rockville Commission on the Environment should play a prominent role in organizing and facilitating this community dialogue as well as the award process.

2. Limit Natural Resource Consumption to the Extent Possible

Use no more water, fossil fuels, electricity, natural gas, minerals, wood fiber, paper products, plastics, pesticides, herbicides, chemicals or other resources than it needs to in order to accomplish its mission of delivering excellent customer service to our residents and visitors. The City should meter and track energy usage and incorporate proven energy-saving technology and staff behavioral measures whenever feasible.

3. Reduce Pollution Sources as Opportunities Present Themselves

Use a combination of technology and product or process substitution to rework all City activities to ensure they release as little pollution into the air, water, and land as is economically and technologically feasible.

4. Avoid Adverse Environmental Consequences

Protect remaining wildlife habitat and physical environment in Rockville by examining the delivery of City services and activities holistically to ensure that residents are getting the best value for their tax dollars and that adverse environmental consequences are reduced or eliminated. Anticipate and prevent or minimize pollution and waste *before* they happen.

5. Evaluate the True Cost of Goods and Services

Before committing resources, compare the life cycle cost of products by factoring the product’s useful life, any operation and maintenance costs over time, and the ultimate disposal costs into the cost comparison. When other considerations are nearly equal, support burgeoning “green” industries by using a preference for contractors and vendors that use or offer energy-efficient or reused or recycled products and materials. Ensure that materials purchased are of high quality, durable and as energy-efficient as feasible.

6. Reuse and Recycle

Keep unused, unneeded, or waste materials out of landfills and incinerators by reusing and recycling as much of the City's wastestream as is technically and economically feasible. Support green industries and help create a market for City recyclables by purchasing recycled products for our own use. Improve residential and commercial recycling rates by making continuous efforts to improve the public's understanding of the importance of recycling as well as the ease of recycling their own unused, unneeded or waste materials. Make it easy for residents and businesses to recycle and reuse; and challenge them both to ratchet up their own level of recycling to reflect the highest residential and commercial recycling rates that are economically achievable. Once that goal is reached, continuously reset the bar over time as technology and recycling processes are improved.

7. Impervious Surfaces

Avoid installing additional impervious surfaces to the maximum extent feasible. Where such additional impervious surfaces are unavoidable, try to find an offset where existing impervious surfaces can be removed or reduced. Where opportunities exist, consider replacing impervious surfaces with pervious ones to allow storm water to reach the water table.

8. Alternative Transit

Reduce automobile dependence and traffic congestion. Continue to build and enhance alternative transit options into all new or redevelopment plans. Encourage residents to avail themselves of walkways, bike paths and mass transit options.

9. Participate in Partnerships

Seek out and partner with other public, private, and non-profit organizations having a mutual interest in pursuing similar sustainability agendas, including common regional issues and buying products, materials, or services in bulk quantities. The City should encourage and support the establishment of regional composting, bio-diesel, and other similar innovative facilities.

10. Leverage City Resources

Be vigilant in identifying external funding opportunities (local, state, federal, and private dollars) that advance or accelerate the City's sustainability agenda.

11. Network With Other Maryland and Metropolitan Communities

Share our experiences and expertise with other Maryland and other metropolitan communities and be open to the wisdom gained by others. Rockville aspires to be a leader in this area and leadership means exporting our understanding and knowledge once we have acquired it.

Two Critical Program Areas

Two program areas that will be critical to initiating Rockville's long-term sustainability initiative are the policy choices supporting land use and purchasing decisions made by the City. The following two sections briefly explain why these areas are particularly key to our success.

Land Use Patterns

Perhaps the heart of sustainability is the land use patterns we pursue as we develop and redevelop the City. Sustainable development and redevelopment marry two important concepts: A) a city need not sacrifice economic development for environmental protection, and B) economic development must be ecologically viable now and into the foreseeable future. Truly sustainable development incorporates energy and environmental protection goals into the early planning process rather than interjecting them as an add-on or after-thought at the end. When incorporated into original building designs, energy and environmental features are more effective and less costly than a redesign, retrofit, or add-on effort. Therefore, the City needs to lead by establishing clear expectations for energy use, green building and landscaping design, and environmental effects in new or renovated development. The City has initiated a process to revise our zoning code to incorporate these considerations.

Sustainability Purchasing Screening Criteria

The following full-cost accounting inquiry should be used by City staff, residents and the business community contemplating the future purchase of goods and services. The answers to these questions should serve as the basis for making those hundreds and thousands of daily decisions that either move us toward or away from sustainability:

- 1) Do I really need this service or product?**
- 2) Is one variety of the product more environmentally friendly or "greener" than others?**
- 3) Can the product be obtained using reused or recycled materials?**
- 4) Does it cost more to purchase the environmentally friendly product? How much more?**
- 5) Do the environmental or sustainability features of the product justify its additional cost?**
- 6) Does the less environmentally friendly product ultimately cost more than the "greener" product over time (e.g., due to higher maintenance, more frequent replacement, or ultimate disposal costs)?**
- 7) Will the product or its use(s) be visible to the public or the business community?**

8) Even if the “greener” product costs more, does the City want to pay a reasonable premium to be more sustainable, particularly if the product or its use is highly visible to the public?

9) Even if the product is not available in an environmentally friendly variety, is the manufacturer or the vendor’s operation run in a sustainable manner such that it warrants support or patronage by the City?

10) If there is no satisfactory “green” product available and the vendors are not using “green” practices, is one more local than the other(s)? Where all other considerations are equal, Rockville should support local vendors and, thereby, minimize transportation costs.

TTracking Our Sustainability Progress

Rockville has identified a number of potential short and long-term actions it intends to take to move our community closer to sustainability (see Appendices A and B). We intend to track our progress in achieving these actions over time. Therefore, performance measures will be adopted and monitored to inform the public, the Mayor and Council, the City Manager, and department directors of progress across the ten topical areas identified below. Information to measure progress will be obtained through revisions to the biennial Citizen Survey, internal statistics gathered, and analyzed by City staff, and by occasional ad hoc polls and surveys of businesses and residents. In addition, the City will periodically benchmark itself against the sustainability initiatives other communities of our size.

The ten topical areas are as follows:

- 1. Air Quality, Noise, and Transportation**
- 2. Environmentally Sensitive Development**
- 3. Interdepartmental and Interagency Collaboration**
- 4. Environmentally Preferable Purchasing and Contracting**
- 5. Public Dialogue, Education, and Outreach**
- 6. Natural Resources Stewardship**
- 7. Water Protection and Conservation**
- 8. Waste Minimization, Reuse, and Recycling**
- 9. Energy and Climate Protection**

10. Community Aesthetics

Conclusions

As demonstrated in Appendix C, Rockville is well on its way to becoming a leader in municipal sustainability. Making significant additional progress will require determination, commitment and resources by elected officials, senior city management, and all staff. Residents also will need to support this initiative by actively engaging with staff, and identifying creative solutions. Success will require selective investments along the way. However, we are confident that we will succeed, and that Rockville will be an even more desirable place to live, work, and raise a family.

Appendix A

Rockville's Proposed Short-Term Initiatives

This Appendix describes a significant number of additional actions that Rockville intends to take over the next 1-3 years that will move us closer to sustainability. For the reader's convenience, we have identified the lead City department(s) for each initiative. The short term actions are:

1. Air Quality, Noise, and Transportation

- 1.1. As City vehicles are replaced, consider purchasing new vehicles (e.g., both on-street and off-street vehicles) that operate on ultra-low sulfur diesel fuel, biodiesel, alternative fuels or hybrids prior to purchasing conventional gasoline-powered vehicles. When practical, purchase vehicles with state-of-the-art pollution control technology too. With advancements in technology, diesel vehicles now emit less pollution, including greenhouse gases, than gasoline-powered vehicles (Public Works).
- 1.2. Purchase alternative fuel vehicles for the city fleet as these technologies become proven and cost-effective (Public Works).
- 1.3. Identify priority City vehicles that could be retrofitted with pollution control technology to reduce air pollutants during operation (Public Works).
- 1.4. Study the street vehicle usage in the City fleet and consider moving more vehicles to a citywide vehicle pool system rather than assigning vehicles to specific Departments. Roll any savings back into replacing more energy efficient vehicles (Public Works).
- 1.5. Connect approximately 64 miles (570 separate disconnected links) of sidewalks adjacent to City streets thereby enabling residents to safely walk along those routes (Public Works).
- 1.6. Adopt and implement a comprehensive transportation noise policy (Public Works).

2. Environmentally Sensitive Development

- 2.1. Build sustainability, smart growth, and environmental sensitivity into the City's zoning ordinance, comprehensive master plan, and neighborhood redevelopment plans as they come up for renewal or re-issuance. Adopt the American Planning Association recommendations for preserving ecological integrity, land and water conservation, biodiversity, balanced energy policies, green building design and construction, and protection of water supplies (Community Planning and Development Services and Public Works).

2.2. Adopt standards for erecting “green” buildings and landscaping in Rockville (Community Planning and Development Services, Public Works and Recreation and Parks).

2.3. Explore the expanded use of conservation and forest easements to ensure that some suitable parcels or portions of parcels are maintained as natural areas or “green space” well into the future (Recreation and Parks and Community Planning and Development Services).

2.4. Build energy efficiency, waste minimization and sustainability considerations into city-administered, contractor licensing process (Community Planning and Development Services).

2.5. Re-examine the minimum number of parking space requirements in the zoning code to determine if they are an unintended obstacle to smart growth, stormwater controls, and sustainability (Community Planning and Development Services).

3. Interdepartmental and Interagency Collaboration

3.1. Join with over 660 other local and regional governments representing 68 countries and 300 million people around the world interested in climate change and sustainability by becoming a member of the International Council of Local Environmental Initiatives (Public Works).

3.2. Incorporate sustainability measures into the City’s performance measurement system, including the biennial citizen survey (Mayor and Council, City Manager).

3.3. Promote and encourage public participation in the City’s planning, water quality, stormwater, urban forestry and energy-efficiency programs (Public Works, Recreation and Parks and Community Planning and Development Services).

3.4. Develop effective, comprehensive “green” messages, tips and advisories to employees and the public including recycling opportunities and steps to curb energy use at home and at the office (City Manager, Public Works, and Recreation and Parks).

3.5. Brief new employees on the City’s sustainability strategy and residential recycling opportunities during the New Employee Orientation Program already implemented by Rockville (City Manager).

4. Environmentally Preferable Purchasing and Contracting

4.1. When other considerations are nearly equal, express a preference for using “green” products or vendors when purchasing goods and services (Finance).

4.2. Explore whether technically and economically viable recycled products are available before buying products made of original, new, or raw materials (Finance, and Recreation and Parks).

4.3. Purchase alternative fuel vehicles such as gas/electric hybrids, biodiesel, electric, and hydrogen-powered vehicles when these vehicles become economically viable (Public Works, Finance).

5. Public Dialogue, Education and Outreach

5.1. Rockville's Commission on the Environment should take a prominent role in sponsoring and facilitating community dialogue and discussion on sustainability and environmental issues (Commission on the Environment).

5.2. Co-sponsor an April 2008 Eco-Fair (with displays and information on energy efficiencies, environmental solutions, local green vendors, climate change, watersheds, and low impact development stormwater actions) with the Commission on the Environment (Commission on the Environment).

5.3. Issue, post, and distribute an annual Environment and Sustainability Report on Rockville's progress toward reaching the recommendations and goals of this strategy (Public Works).

5.4. Establish a "green building features" award to recognize architects and developers who voluntarily incorporate green features into Rockville residential and commercial buildings (City Manager, Public Works).

5.5. Publish a green article, message or consumer tips in every edition of the *Rockville Reports* (City Manager).

5.6. Sponsor a "green" art exhibition and green art workshops as a means to promote conservation and sustainability messages (Recreation and Parks).

5.7. Work with neighborhood associations, civic organizations, the Chamber of Commerce, and schools to develop and promote a sustainable, environmentally-friendly set of outreach information and education materials for residents (all city departments).

5.8. Use Rockville Cable Channel 11 and the City's Web site to produce outreach materials on sustainability. These materials and resources should be brought to resident's attention through *Rockville Reports* and by the neighborhood liaisons (City Manager and Public Works).

5.9. Designate and place a historical marker in the Watts Branch Watershed commemorating the stream geomorphology pioneer Luna Leopold of USGS (Community Planning and Development Services, Recreation and Parks).

5.10. Develop and present a community lecture series on recycling, installing rain barrels and gardens, building backyard habitats, sustainability at home and work, and other related topics (Public Works, Recreation and Parks).

6. Natural Resources Stewardship

- 6.1. Complete a tree canopy assessment and establish an urban tree canopy goal (Recreation and Parks).
- 6.2. Expand the urban tree canopy by implementing 2007 revisions to the tree ordinance; and continue to plant street trees consistent with the street tree master plan (Recreation and Parks, Community Planning and Development Services).
- 6.3. Remove diseased trees promptly to maintain a healthy urban forest (Recreation and Parks).
- 6.4. Pursue grants for the removal of invasive species on both public and private lands (Recreation and Parks).
- 6.5. Consider using recycled rubber sidewalk panels around tree wells and pits around town which prevent damage to street trees, allow for growth, and reduce sidewalk damage from roots (Recreation and Parks, Public Works).
- 6.6. Reduce the need to produce or store hard copy documents by increasing the number of document scanners thereby allowing electronic storage in the City's document management system (Information and Technology).

7. Water Protection and Conservation

- 7.1. Implement and enforce the water quality protection ordinance to minimize or eliminate the discharge of grease, paints, oils, and other incompatible substances into streams, groundwater, sanitary sewers, and drains (Public Works).
- 7.2. Adopt a stormwater utility fee to establish a sustainable income source for storm drain system maintenance and National Pollutant Discharge Elimination System (NPDES) permit implementation (i.e., the federal and State Clean Water Act requirements). This fee also may serve as a disincentive to unnecessary impervious surfaces that prevents precipitation from reaching the soil and the water table below, resulting in larger stormwater flows into streams (Public Works).
- 7.3. Install new "radio read" water meters for approximately 14,000 residential properties in 2008-2009. These meters will more accurately report water usage and, therefore, lead to water conservation measures. Offer "on-line" bill paying to customers that will reduce the amount of paper involved in the program (Finance and public Works).
- 7.4. Increase inspections of private stormwater management facilities in the City and ensure compliance with current standards (Public Works).
- 7.5. Eliminate illegal dry weather discharges into the City storm drain system (Public Works).

- 7.6. Replace older plumbing fixtures at City facilities as warranted with new water-saving fixtures (Recreation and Parks).
- 7.7. Work with streamside property owners to maintain trash-free, vegetated buffer strips along City waterways (Public Works).
- 7.8. Promote voluntary resident participation in the City's *Adopt-a-Stream* program to ensure that City waterways are kept trash free (Public Works).
- 7.9. Establish a voluntary resident water-quality monitoring program for City streams, and track stream conditions to ensure that environmental activities and programs are having a beneficial effect over time (Public Works).
- 7.10. Organize an annual stream cleanup event by City employees in conjunction with Earth Day (Public Works).
- 7.11. Promote the use of rain barrels, rain gardens and other techniques to minimize neighborhood stormwater impacts as much as possible (Public Works and Recreation and Parks).
- 7.12. Conduct an infiltration and inflow study of the City sewers. Prioritize and repair any cracks or breaks in the lines that are allowing precipitation or groundwater to enter the sewer system (Public Works).

8. Waste Minimization, Reuse, and Recycling

- 8.1. Increase the frequency that recyclable materials are collected from City facilities. Expand the program to include events at Glenview Mansion and the F. Scott Fitzgerald Theatre. Distribute collection boxes in high-traffic public areas where visitors may make use of them for unwanted newspapers, papers, bottles, and cans. Consider expanding to batteries and compact fluorescent light bulbs (Public Works and Recreation and Parks).
- 8.2. Move to a single stream recyclables collection effort. Promote residential participation in recycling. Achieve a 40 percent recycling rate goal and move toward achieving 50 percent thereafter (Public Works).
- 8.3. Conduct outreach to commercial entities, including developers and construction firms to participate in a similar recycling program. Discuss reuse possibilities for the construction debris where a property is being redeveloped. Consider establishing a mandatory recycle rate for all commercial entities (Public Works).

9. Energy and Climate Protection

- 9.1. Prepare and administer an “Employee Pledge” for energy savings at City facilities (Recreation and Parks).
- 9.2. Meter the City’s use of electrical power and track over time using EPA’s *Energy Star* Facility Portfolio Manager or similar software (Recreation and Parks).
- 9.3. Increase the City’s purchase of wind-generated electrical power from 10-15 percent by 2008 (Finance).
- 9.4. Consider budgeting vehicle fuel by cost center to encourage conservation and car-pooling (City Manager, Public Works).
- 9.5. Purchase energy efficient blade servers to run the City’s computer networks and data systems. Save energy by using storage area networks (SANs) to consolidate 25 existing servers down to 6-7 (Information and Technology).
- 9.6. Recover waste heat generated at the Rockville Municipal Swim Center and reuse at the facility, and study the use of geothermal energy for use at the swim center (Recreation and Parks).
- 9.7. Conduct an inventory of carbon emissions across the City and take action to reduce these emissions over time (Public Works).
- 9.8. Participate in the Governor’s Blue Ribbon Energy Panel process (Public Works).
- 9.9. Downsize additional Police vehicles from 8 to 6 cylinder engines thereby, increasing fuel efficiencies (Police).
- 9.10. Install motion sensors that turn restroom and conference room lights on and off. A similar system can be installed for “after-hours” use of office workstation areas. Consider using for playgrounds, ball courts, and other appropriate lighting situations. Alternatively, post signage reminding staff and visitors to turn off conference room and restroom lights when not in use (Recreation and Parks).
- 9.11. Initiate an energy efficiency campaign that encourages employees to turn off computers, monitors and other office equipment during evenings and weekends unless the system is compiling data or installing an overnight software upgrade (Information and Technology).
- 9.12. Issue periodic energy tips to employees similar to those currently issued for customer service. Consider offering free or low-cost residential energy audits using contract support (City Manager, Public Works).

10. Community Aesthetics

10.1. Expand and enhance open space as the City develops and redevelops properties (Community Planning and Development Services, Recreation and Parks).

10.2. Expand the City's public, community garden program (Recreation and Parks).

10.3. Reduce light pollution from street, parking, and park lighting in appropriate locations around the City (Public Works, Recreation and Parks, Community Planning and Development Services).

Appendix B

Longer-Term Future Options

Rockville will remain vigilant in identifying innovative and creative methods to pursue sustainability.

The following ideas represent examples of long-term (3-5 years or longer) options that the City may consider in the future. Those that are not feasible will be reconsidered should economic circumstances and applicable technologies change. For the reader's convenience, we have identified the lead city department(s) for each initiative.

1. Reconstruct the Gude maintenance facility with improved stormwater management facilities and treatment (Public Works, Recreation and Parks).
2. Achieve a 50 percent recycling rate for residential solid waste (Public Works).
3. Require commercial establishments in Rockville to achieve a certain percentage of recycling (Public Works).
4. Consider eliminating the use of plastic (petroleum-based) grocery and shopping bags at commercial establishments in Rockville. Biodegradable bags, permanent totes, or those made from recycled materials should be encouraged (Public Works).
5. Consider eliminating Styrofoam containers from commercial applications in favor of existing alternative products that are biodegradable (Public Works).
6. Design green building features and technologies into future City-owned buildings and structures (Recreation and Parks, Community Planning and Development Services, Public Works).
7. Install a green roof on one or more city-owned buildings or structures capable of supporting such a feature. Design a green roof into new or substantially retrofitted properties (Recreation and Parks, Public Works).
8. Install off-the-grid energy generation equipment (solar or wind) at one or more city facilities as feasible (Recreation and Parks, Public Works).

Appendix C

Awards, Recognition and Actions Already Taken by Rockville

The actions described in this Appendix have already been completed. For the reader's convenience, we have identified the lead city department(s) for each initiative. We also have described environmental and sustainable awards and recognition the City has received over the past five years.

Awards and Recognition Received

Presidential Volunteer Award for the Commission on the Environment (2007)

EPA's PISCES award for innovative use of state revolving fund dollars for stream restoration (2007)

EPA award for Best Workplace for Commuters (2003)

Consumer Choice Initiative Award for Telecommuting (2002)

Actions Already Taken

1. Air Quality, Noise, and Transportation

1.1. The City allows its employees to work a flexible schedule to avoid sitting in traffic or commuting thereby, avoiding substantial vehicle pollutant emissions (Human Resources).

1.2. Rockville encourages employees to car pool and provides employees with mass transit subsidies that serve as an incentive to leave motor vehicles at home. This subsidy also reduces the demand for scarce workplace parking at City facilities (Human Resources).

1.3. The City installed or improved bus shelters to encourage residents to use mass transportation (Public Works).

1.4. Rockville converted all of its diesel-powered vehicle fleet to ultra-low sulfur fuel (Public Works).

- 1.5. Rockville road surfaces are comprised of 15 percent recycled asphalt (the maximum recommended amount of recycled content). Recycled content is also used in new and reconstructed roadbeds as well. Finally, the City uses “perpetual asphalt” on its streets by scrapping or “milling” off only the top layer of old material and replacing it with a new coat, thereby, reducing the volume of old asphalt to be disposed of and reducing the volume of new asphalt used in resurfacing (Public Works).
- 1.6. The City adopted a sidewalk prioritization policy and is connecting miles of neighborhood sidewalks thereby, enabling residents to safely walk to their destinations (Public Works).
- 1.7. In 1998, the City adopted a bicycle master plan and is constructing bike lanes and trails across the City, including completion of a major bike and pedestrian bridge over I-270, giving commuters an alternative to driving individual motor vehicles (Recreation and Parks and Public Works).
- 1.8. The City sponsors an annual “*Bike to Work*” commuter event (Recreation and Parks and Public Works).
- 1.9. The City has purchased a variety of alternative electric vehicles including an enclosed golf cart and several Segways that are used by police to patrol the downtown area. The number and use of these vehicles may be increased when Phase II of Town Center is completed (Police).
- 1.10. The City installed bicycle racks, lockers and showers to encourage employees to bike to work (Recreation and Parks).
- 1.11. City inspectors cluster their site visits together in order to minimize workday driving (Community Planning and Development Services).
- 1.12. The City negotiated “Ride On” shuttle buses to operate from the Metro stations to the downtown areas to encourage residents and other Town Center visitors to take mass transit (Public Works).
- 1.13. The City powers some of its speed limit signs and other electric message boards with solar energy (Public Works).
- 1.14. Rockville has published and distributes maps of the City’s system of bike trails (Recreation and Parks)
- 1.15. The City encourages carpooling to all offsite meetings and functions (City Manager).

2. Environmentally Sensitive Development

2.1. Rockville’s Zoning Ordinance, Master Plan, and neighborhood redevelopment plans incorporate basic environmental concepts and principles (Community Planning and Development Services).

2.2. The City planned and implemented the *Rockville Town Center*, a mixed-use, smart-growth development in downtown Rockville that offers a variety of residential, commercial, entertainment, government services, and food establishments all within walking distance to mass transit (Community Planning and Development Services, Recreation and Parks, Public Works).

2.3. The City has created conservation districts (e.g., Lincoln Park) and uses conservation easements to protect steep slopes and riparian buffers (Recreation and Parks, and Community Planning and Development Services).

2.4. Rockville has adopted policies on deer, beaver, and coyote management that encourage co-existence with the wildlife (Recreation and Parks).

3. Interdepartmental and Interagency Collaboration

3.1. City established an Environmental Management Division to undertake cross-departmental cooperation and foster collaboration on environment and sustainability issues and initiatives (City Manager).

3.2. Form a partnership with the State to plant and maintain street trees along state-owned roads (Recreation and Parks).

3.3. Rockville has been a gold member partner of the Chesapeake Bay restoration initiative since 1998 (City Manager).

3.4. The City, along with other agencies in the Potomac watershed, participates in the “Lower Potomac Tributary Team” sponsored by the Maryland Department of Natural Resources, (Public Works).

3.5. Rockville participates on the “Water Quality Technical Committee” and the “Intergovernmental Green Building Group” of the Metropolitan Washington Council of Governments (Public Works).

3.6. The City participates in a Drinking Water Partnership of state, federal, and local drinking water agencies and utilities sponsored by the U.S. Environmental Protection Agency’s Region III Office in Philadelphia (Public Works).

4. Environmentally Preferable Purchasing and Contracting

4.1. Rockville purchased deicing and snow removal equipment that allows for more precise salt applications to road surfaces thereby reducing the amount of salt needed to respond to a storm and reducing the amount of material that might runoff into local waterways (Public Works).

4.2. The copy paper used by the City is made from recycled materials and purchased from certified Forest Stewardship Council vendors. City copiers are set with a double-sided copy default (Information and Technology, City Manager).

4.3. The 2007 employee picnic featured a “sustainability” theme with information on individual sustainability efforts at work and at home. The event included the use of recycled plates, cups, and napkins as well as potato-based eating utensils that biodegrade quickly in a landfill (Human Resources).

5. Public Dialogue, Education, and Outreach

5.1. Rockville established a nine member resident Environment Commission to provide advice and guidance to the Mayor and Council, as well as staff working on environmentally sensitive and sustainability issues (City Manager).

5.2. The City promotes and participates in the annual Rockville Science Day event (Public Works).

5.3. Rockville was a co-sponsor of the Rockville Library’s “Save the Planet” public lecture and expo series (City Manager).

5.4. The Commission on the Environment held an environmental summit to determine environmental priorities for the City in June 2004 (Commission on the Environment).

5.5. Rockville constructed the Croydon Creek Nature Center to provide educational materials and outdoor experiences for residents, particularly children (Recreation and Parks).

5.6. All City employment opportunities are advertised on the Rockville Web site and applicants can apply for jobs online. Online ads also are placed with Neogov, the Washington Post, Craig’s List, and other similar online classified ads. The City has generally stopped placing ads in hard copy newspapers (Human Resources).

5.7. Most Human Resource related policies and forms are now online and easily accessible to employees (Human Resources).

6. Natural Resources Stewardship

- 6.1. The City has developed an environmental management system (EMS) to ensure that all City facilities and activities comply with all applicable state and federal environmental laws, rules and permits (Public Works).
- 6.2. The monthly *Rockville Reports* publication is printed on recycled newsprint (City Manager).
- 6.3. The City recycles the waste paper trimmed from graphics projects and produces notepads from outdated letterhead (City Manager).
- 6.4. Rockville established an urban forest and tree preservation ordinance (City Code Chapter 10.5) in 1992, with a significant revision in July 2007 (Recreation and Parks).
- 6.5. The City developed a street tree master plan for the City (Recreation and Parks).
- 6.6. Established, in 1999, the *Environmental Guidelines* aid architects and engineers in designing and submitting proposed development projects and building plans as well as assist City staff in evaluating those projects and plans (Recreation and Parks).
- 6.7. The City established “no mow” areas in certain designated City parks (Recreation and Parks).
- 6.8. Rockville carefully manages the use of fertilizers to ensure that excess material does not runoff into City streams, thereby, polluting them (Recreation and Parks).
- 6.9. Maps of the City sewer and storm drain system are online and easily available to City employees who no longer need to access paper maps, which in turn, frees-up storage space at workstations (Information and Technology).
- 6.10. The City print shop uses natural soy inks and the dark room is chemical free (City Manager).
- 6.11. The City print shop recovers and recycles the silver and aluminum from the printing process and recycles the metal printing plates (City Manager).
- 6.12. Rockville uses organic (environmentally-friendly) degreasers and auto parts washers in its motor vehicle maintenance facility (Public Works).
- 6.13. The distilled water needed by the graphics shop is obtained from the City water plant rather than purchased in the market (City Manager).
- 6.14. The City’s outdated electronic equipment (computers, cell phones, etc) are donated or recycled rather than discarded into a landfill (Information and Technology).

7. Water Protection and Conservation

7.1. In July 2007, Rockville adopted a water quality protection ordinance (City Code Chapter 23.5) to protect City waterways and storm drains from pollution, including excess nutrient runoff from lawn irrigation and car washes (Public Works).

7.2. Rockville implements strategies and actions in response to the four separate Clean Water Act National Pollutant Discharge Elimination System (NPDES) permits issued by the Maryland Department of the Environment to the City (Public Works, Recreation and Parks).

7.3. In 1978, the City adopted its first Stormwater Ordinance (City Code Chapter 19). The ordinance was most recently revised in September 2002. This ordinance controls pollution from construction and operational activities anywhere in the City (Public Works).

7.4. The City is in the process of constructing or upgrading many of its stormwater management facilities up to current performance standards (Public Works).

7.5. The City has assessed the health and condition of its three watersheds (Cabin John Creek in 1996, Rock Creek in 2000 and Watts Branch in 2001). These assessments guide stream restoration projects and stormwater management priorities. The assessments also influence capital improvement proposals in the City's annual budget formulation (Public Works).

7.6. The City updates the existing assessments of Rockville's three watersheds every ten years; Cabin John is due in 2009, Rock Creek in 2011, and Watts Branch in 2013 (Public Works).

7.7. Rockville conducts weekly stream (trash) cleanups (Recreation and Parks, Public Works).

7.8. The City performs routine street sweeping to prevent pollutants from reaching storm drains. Street sweeping and storm drain inlet cleanouts routinely remove trash and other debris from the City's storm drain network (Public Works).

7.9. The City established an "adopt-a-stream" program that recruits civic organizations and neighborhood associations to keep the city waterways trash-free (Public Works, Recreation and Parks).

7.10. The City has designed a program to identify and correct illicit (dry weather) stormwater discharges into City waterways (Public Works).

7.11. The Rockville water treatment plant is being upgraded and improved to ensure that residents have an adequate supply of pure water to drink that meets all EPA and Maryland state standards (Public Works).

7.12. Rockville's drinking water utility invoices are structured to ensure that customers who use large amounts of water pay more proportionally than customers with significantly less water usage (Finance).

7.13. The City installed new “radio read” water meters at nearly 580 commercial and government properties. These meters transmit water usage data faster and more accurately. It is hoped that more accurate information and billing will lead to water conservation measures (Finance, Public Works).

7.14. In April 2006, the Commission on the Environment organized a stormwater summit for residents (Commission on the Environment).

7.15. The City uses spot applications and hand-release techniques when applying herbicide and pesticides to control invasive species and weeds in City parks and other public properties. We notify all area residents prior to these applications, do not use these materials on windy days (Recreation and Parks).

7.16. Rockville conducted a pilot study of low-impact development (LID) stormwater controls in the College Gardens neighborhood involving the use of rain gardens and rain barrels (Public Works).

7.17. The City quickly responds to spill events thereby ensuring the spilled material does not reach the storm drain system. This quick action prevents public health hazards and environmental liability from occurring (Public Works).

7.18. Since 1998, the City drinking water plant has provided some of its treatment residuals to the U.S. Department of Agriculture Research Station in Beltsville, Maryland to use in experiments designed to reduce the amount of nutrients discharged to the Chesapeake Bay and its tributaries from farming (Public Works).

7.19. In 1996, the City eliminated its discharge of residual solids from the water treatment plant to a tributary of the Potomac River and went to a closed-loop recycling stream instead (Public Works).

8. Waste Minimization, Reuse, and Recycling

8.1. The City is an original signatory to the *Potomac Watershed Trash Treaty* (2006) that aims to make the Potomac River watershed trash-free by 2013 (City Manager).

8.2. Thirty five percent of Rockville’s residential solid wastes are recycled. The City has committed to providing a single stream (commingled) method of saving and collecting recyclable materials that eliminates the need for residents to presort these materials. We anticipate that this simpler, streamlined alternative leads to substantial increases from the current residential recycling rate (Public Works).

8.3. Recyclable materials are collected at most City facilities (e.g., paper, cardboard, bottles, plastic, and cans). In FY 2007, we recycled nearly 5,300 tons of household refuse and waste paper, 2,500 tons of green yardwaste, and over 3,400 tons of leaves. The City recycles after all employee-related events (Public Works, Recreation and Parks).

- 8.4. The City collected mercury thermometers and other household hazardous wastes to ensure proper disposal (Public Works).
- 8.5. The Rockville historic preservation program discourages the demolition of historic structures in favor of restoration thereby preventing the demolition debris from going to a construction and demolition landfill, and ultimately making Rockville a more interesting and livable community (Community Planning and Development Services).
- 8.6. Rockville recycles its excavated concrete and asphalt to the extent possible (Public Works).
- 8.7. The City recycles used tires from City operations as well as the tires of any private residents (Public Works).
- 8.8. The City recycles wood chips from its tree pruning and removal operations (Recreation and Parks).
- 8.9. The City has set up an online water utility payment system in lieu of requiring customers to mail a paper bill, check and envelop through the mail to the City (Finance).
- 8.10. The City reuses common recycled materials for craft projects in its Explorers summer camp for children (Recreation and Parks).
- 8.11. The City provides public notice of its activities by postcards and door hangers which refer the reader to the City's Web site for more information thereby saving paper, postage, and wastepaper (Recreation and Parks, Community Planning and Development Services, Public Works).
- 8.12. The City financial records have been automated and no longer require paper forms for purchasing and payment (Finance).
- 8.13. The employee computer and telephone "help assistance" requests are now filed online rather than by paper copy (Information and Technology).
- 8.14. The City's computer training facility also has the capability for large audience web-casts, thereby, saving the City time, money, and energy of commuting to meetings, seminars, and training (Information and Technology).
- 8.15. The City employee phone directory is posted online and paper copies are no longer produced, thereby, saving significant paper resources (Information and Technology).

9. Energy and Climate Protection

9.1. The City is a signatory on the U.S. Conference of Mayors' *Climate Protection Agreement* (September 2006) that also enrolls the City as a participant in the Sierra Club's *Cool Cities* program (City Manager).

9.2. The City currently purchases ten percent of our electrical power from wind-generated providers (Finance).

9.3. The City funds the Rockville Emergency Assistance Program (REAP) making energy more affordable for fixed- and low-income residents. These residents are encouraged to conserve energy and the fund can be used for energy-efficiency improvements to single family homes such as weatherizing of doors and windows, free energy efficiency audits, and improvements to HVAC systems (Recreation and Parks, Community Planning and Development Services).

9.4. All electric signs used during the City's construction activities are solar powered (Public Works).

9.5. All City Hall copiers are energy star rated and have an energy-saving sleep mode when not in use. Copiers are set with a double-sided printing default to save paper (Information and Technology, City Manager).

9.6. The City has installed programmable thermostats and keeps temperatures at energy-efficient heating and cooling levels (Recreation and Parks).

9.7. Rockville has already retrofitted all of its traffic signal lights and the lights in City Hall and other City buildings with light-emitting diode (low-energy demanding) light bulbs. The City has seen a significant drop in its electrical bills since these changes were made (Public Works, Recreation and Parks).

9.8. The City has replaced its computer monitors with flat screens that use approximately one third less electricity to operate than the prior monitors (Information and Technology).

9.9. The City replaced a City Hall boiler and other heating and cooling equipment and, as a result, gained significant energy efficiencies and savings (Recreation and Parks).

9.10. Rockville reuses (burns) waste motor vehicle oil in a heater warming the work areas of the motor vehicle repair shop at the Gude Drive Maintenance Facility (Public Works).

10. Community Aesthetics

10.1. Nearly all of Rockville's community centers and recreational facilities are within walking distance of the neighborhoods they serve. These facilities are continuously updated and improved as funds allow (Recreation and Parks).

10.2. Rockville has preserved a number of historic properties in order to connect the present with the past and retain some of the historic significance and charm of the City. The City also has connected its past with its present through reconstructed or renovated historic structures such as the King Farm hay-drying shed and converted it to a picnic shelter (Community Planning and Development Services, Recreation and Parks).

10.3. Rockville is adopting a comprehensive transportation noise policy (Public Works).

10.4. The City sponsors “Rockville University” which gives resident participants a sense of place, and instructs them on the City and how it is managed (City Manager).

10.5. The City administers an “Art in Public Places” program that aims to make Rockville and its neighborhoods a more interesting and colorful place (Recreation and Parks).

10.6. Rockville implemented a shopping center facade improvement project to update and enhance the appearance of older commercial properties (City Manager).

10.6. Rockville has an anti-graffiti program that prevents and removes graffiti in public places (Police, Public Works, Recreation and Parks).

10.7. Rockville has an effective property maintenance program that ensures that private properties are well maintained and attractive (Police).

10.8. The City sponsors several community garden opportunities for residents (Recreation and Parks).