Sustainable Growth Team Progress Report
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Introduction

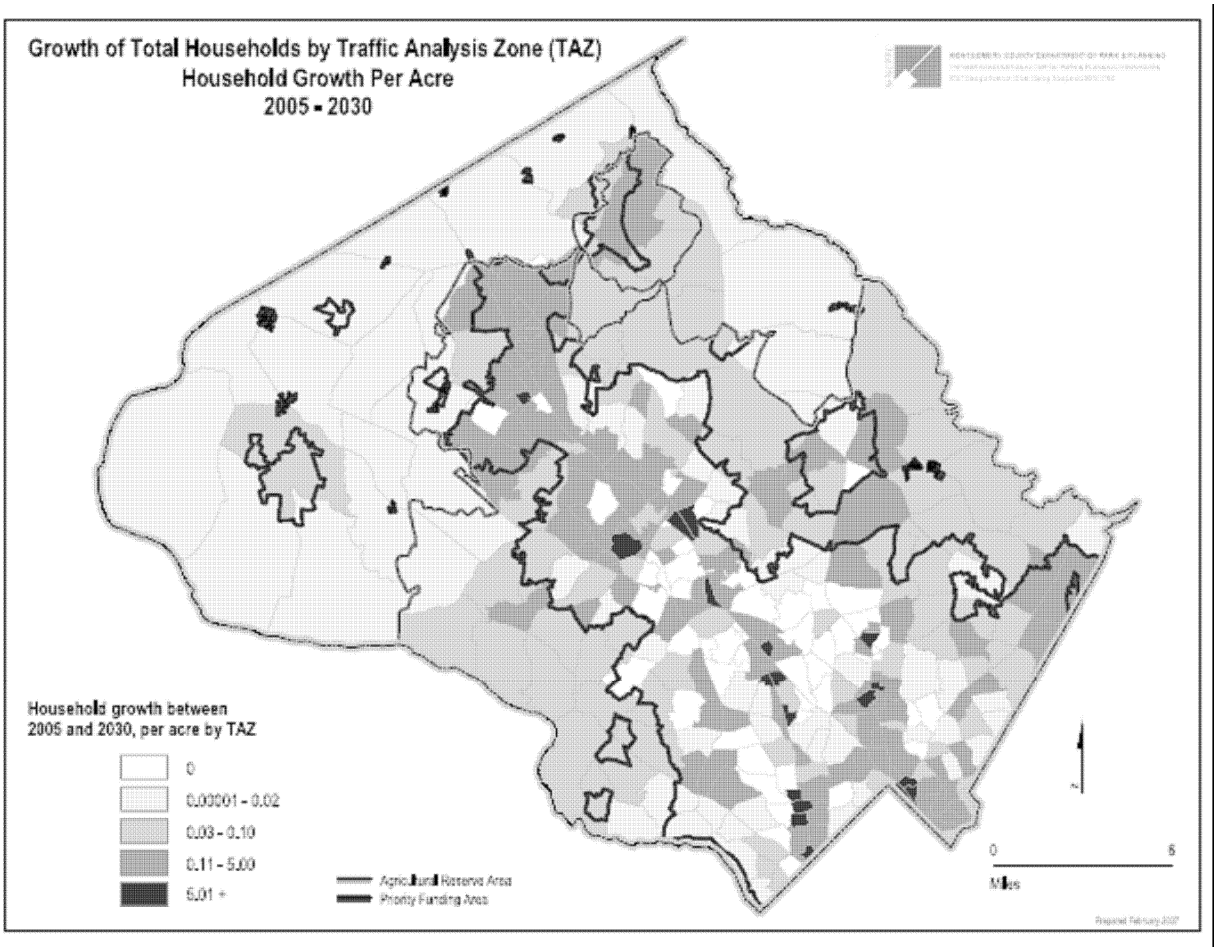
Any growth management policy in Montgomery County should be sustainable. The growth it guides must contribute to the sustainability of the County's environment, economy and social well-being, and it must be updated regularly to account for better information as well as changes in people's concerns and priorities. Sustainability must deal with both growth and existing development.

Sustainable development accommodates human needs in a way that does not compromise the needs of future generations. Sustainability should be a goal independent of growth, but is probably easier to achieve if the pace of growth is not too rapid. The preferred term is "sustainable development" which does not pre-suppose growth, but looks at all changes in a built environment to improve sustainability. Regardless of growth, sustainability requires changes to existing development as well. Just regulating new development cannot attain improvements in sustainability. New development and redevelopment should be in the vanguard, demonstrating principles of sustainability and forming the foundation for the future.

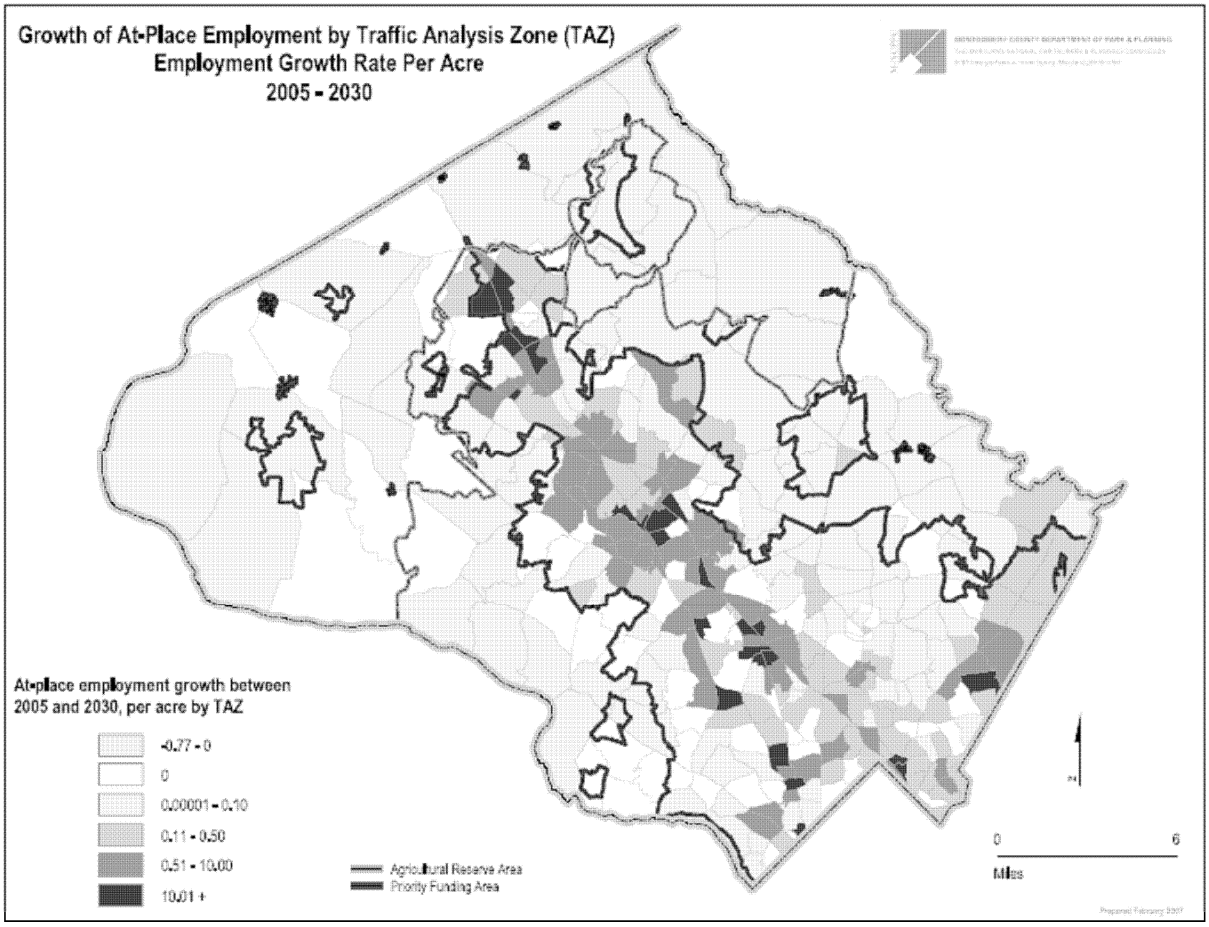
Global warming is one consequence of unsustainable growth. If society continues to use nonrenewable resources at its present rate, dramatic changes in global and local climate will result. Reducing the production of greenhouse gasses will minimize these changes, but planning for the changes is also part of the sustainability picture. All growth should produce the least amount of greenhouse gasses possible through energy conservation, use of recycled materials and use of renewable energy sources.

The *General Plan Refinement* (1992) has many goals that are aimed toward environmental health, social equity and economic vigor, the three pillars of sustainability. Yet our water and air remain polluted, affordable housing scarce and budgets strained to serve all our residents well. The first step in examining how growth and sustainability in Montgomery is to look at the pattern of anticipated growth in the next 25 years. The two maps below show Montgomery County's Round 7.0 Forecast household and at-place employment growth between 2005 and 2030. The 25-year growth forecast is shown in household growth per acre and employment growth per acre within the County's 318 traffic analysis zones. The distribution is based on growth remaining in land use based on zoning capacity.

Household growth is spread out over much of the County but most of the higher density growth is inside the Beltway, along the I-270/MD355 Corridor, along MD 29, and to a lesser extent along Georgia Avenue. The highest densities are in the Central Business Districts and Metro Station areas. Much of the growth is still within the Priority Funding Area, although there is some spillover into areas outside. This is probably a function of the growth occurring where there is still vacant land near the major transportation corridors. Residential growth remains very low in the Agricultural Reserve.



Employment growth is more concentrated than household growth. Most of the higher density employment growth is along the I-270/MD355 Corridor and along MD29. The Central Business Districts and most of the Metro Station areas show high-density employment growth. But there is also high-density employment growth in other areas: the Food and Drug Administration consolidation site in White Oak, Rock Spring Park, Tower Oaks, the King Farm, the Washingtonian, the Germantown Employment Corridor, and Clarksburg's Cabin Branch Neighborhood and Transit Corridor District.



What does this mean for the County?

When employment and household growth in the County are compared, it shows that much of the projected growth in households will be farther away from employment and transit. This development pattern, if continued, could affect the County's long-term policy to grow sustainably.

Overview of Literature

In an effort to identify lessons-learned and best practices of sustainable development, the Sustainability Team conducted a nationwide literature review to examine the costs of growth and how communities develop and apply the concepts of sustainability. Growth, especially lower-density growth, strains infrastructure (such as overburdening roads), reduces usable public open space, environmental quality, and sense of community. To address these issues, communities across the country, ranging in size from smaller municipalities such as Santa Monica to larger cities like Seattle to entire urbanized counties, now pursue sustainable development. In general, these jurisdictions utilize or build on the most commonly cited definition of sustainable development posed by the 1987 United Nations' report, *Our Common Future*[1]. That report defined sustainability as development… "that meets the needs of the present without compromising the needs of future generations to meet their own needs." Over time, sustainable development evolved to include three "interdependent and mutually reinforcing pillars": (1) economic development; (2) social development; and (3) environmental protection.[2]

Many of the definitions advanced by other jurisdictions either directly cite or are similar to the above definition. Jurisdictions translate this broad concept into specific principles and goals that address a broad range of issues within the confines of economic development, environmental protection, and social development. Examples include preserving of open space and historic buildings and sites, balancing jobs and housing, stimulating economic activity, conserving energy and natural resources, and the promotion of social justice.

While some communities espouse a vision of sustainability expressed broadly through specific principles, other communities move a step further to employ performance indicators and specify targets to evaluate progress toward achieving sustainability. Our research found examples at the city level exhibited by Santa Monica and Seattle. King County, Washington and Marin County, California apply performance indicators at the county level to track progress. Many indicators have specific targets (i.e., percent of energy to be obtained from renewable sources, number of beach closures due to pollution, etc.). Goals for other indicators are often limited to an upward trend in positive measures (higher percentage of transit use) or a downward trend in indicators of pollution or use of fossil fuels (vehicle miles traveled, generation of solid waste).

The U.S. Green Building Council's *Leadership in Energy and Environmental Design – Neighborhood Design* offers measures to evaluate attributes at the neighborhood level.

[1] Source: United Nation's World Commission on Environment and Development. The report is also commonly referred to as the Brundtland Report, named after Commission Chair Gro Harlem Brundtland.
[2] United Nations *2005 World Summit Outcome Document.*

In 2006, the County Executive issued a report entitled *Environmental Protection: 1996-2006, The Path to Sustainability* that documented the progress toward achieving environmental objectives.

Preliminary Lessons Learned

The definitions of sustainability in our reviewed materials generally offer an overarching vision, an end-state, to which communities strive. That vision addresses all aspects of a community: the built and natural environment, economy and community. These three broad areas provide sufficient breadth to include the multitude of aspects determining community quality of life. But the specific policies and mechanisms to achieve these goals vary. For example, while San Mateo County provides broad policy statements to achieve sustainability, King County explicitly includes housing, and historic preservation, transportation, and environmental protection as part of its growth management policy. The research also suggests that measurable and incremental indicators play an important role as communities embrace sustainability, providing the opportunity to establish specific targets and evaluate progress in meeting specified goals. But the indicators employed necessarily vary depending on the scale of application. In other words, the sustainability indicators relevant at the County level may be broader than those used at the city or neighborhood level.

Our research to date hasn't identified, at the County level, any policies or plans that consistently apply the concepts of sustainability to the full range of applicable policies. Though King County offers the most comprehensive growth policy by addressing such topics as transportation, environment, land use, affordable housing and design, and includes performance indicators, it does not explicitly pursue its goals under the concept of sustainability. And while many jurisdictions pursue smart growth, focusing on the location and design of development, this doesn't necessarily reflect the broader vision of sustainability, examining concepts such as whether or not suitable employment opportunities exist or whether housing remains affordable.

In summary, sustainability addresses the environment, economy and community. Effectively balancing these three results achieves sustainable development. But what that balance means in real terms varies from community to community. Montgomery County's growth policy could be framed within that context, to clearly articulate that growth affects a wide range of interrelated issues that determine quality of life. This could be done through an expanded growth policy, as done in King County, that covers a broader range of issues. Or sustainability could be developed as the overarching vision guiding several policies, each addressing distinct and interrelated issues (such as historic preservation, preservation of agricultural space, and housing)

Next Steps

Our remaining work program will:

- Develop a definition of sustainability applicable to Montgomery County that builds on our reviewed case studies as well as international examples such as those underway in the European Union and its member states
- Study what other jurisdictions have done to promote sustainable growth
- Examine how sustainability can be incorporated into the growth policy in Montgomery County
- List the potential benefits or disadvantages of growth with respect to sustainability
- Determine how growth be directed to areas that can accommodate it more sustainably
- List the various indicators used by other local governments to measure the success of sustainable growth initiatives
- Use the findings of this effort to inform the work program for the Environment and Energy Conservation Functional Master Plan, "Growing Wise, Growing Green"

Summary of Literature Reviewed to Date

The Costs of Growth: A Brief Overview

A community with moderate planned growth will experience substantial capital costs. Conventional methods to address these costs, under rapid growth scenarios, don't fully cover the true costs of development. There are fiscal advantages of planned, compact and contiguous development. Growth can be quantified by *calculating the costs required to serve a new development vs. the anticipated revenues it will generate.*

Current ways to address capital costs (developers pay for capital improvements or the use of bonds to finance improvements) don't recoup some of the costs associated with off-site repercussions. Impact fees are one of the fastest-growing capital funding sources for local governments.

Costs of leapfrog development patterns are significantly higher than high-density contiguous development. Fiscal Impact Analyses can be used to quantify the effects of growth.

The Costs of Growth - Economic Research Service/USDA

Local governments always incur costs with development. These costs can be insurmountable if low-density, leapfrog development, even at the urban fringe, occurs.

Negative effects of sprawl

- Infrastructure costs
- Transportation
- Impacts on taxpayers
- Impacts on landscape, open space and sense of community
- Environment, and
- Quality of Life issues.

This Is Smart Growth - the Smart Growth Network

The Smart Growth Network (SGN) is a network of private, public, and non-governmental partner organizations seeking to improve development practices in neighborhoods, communities, and regions across the U. S. The report explains that growth presents a tremendous opportunity for progress. Frustrated by development that requires residents to drive long distances between jobs and homes, many communities are challenging rules that make it impossible to put workplaces, homes, and services close together. Many communities are questioning the fiscal wisdom of neglecting existing infrastructure. And in many communities where development has improved daily life, the economy, and the environment, smart growth principles have been a key to that success.

Smart Growth Principles

- Mix land uses
- Take advantage of compact building design
- Create a range of housing opportunities and choices
- Create walkable neighborhoods
- Foster distinctive, attractive communities with a strong sense of space
- Preserve open space, farmland, natural beauty, and critical environmental areas
- Strengthen and direct development towards existing communities
- Provide a variety of transportation sources
- Make development decisions predictable, fair, and cost effective
- Encourage community and stakeholder collaboration in development decisions

The main part of the publication is a series of 10 2-page chapters each focusing on an aspect of Smart Growth, giving 3 or 4 examples of successful Smart Growth developments. The examples run the gamut from big city neighborhoods, suburban neighborhoods, to small towns, and rural areas. Of local interest, there is the Kentlands in chapter 1, Barracks Row, DC in chapter 3, and Arlington County in chapter 6.

Community Indicators, APA Planning Advisory Service Report No. 517, 2003

This report reviews the evolution of community indicators to sustainability since the early twentieth century and examines their implications for planning practice. It defines indicators and how they should be used. The Report then explores the relationship between indicators and citizen participation, quality of life considerations, and sustainable development. The process of identifying, selecting, and developing indicators draws on applications from rural and urban environments, and discusses issues of data sharing and presentation. The Report concludes with a list of annotated resources and links to encourage further exploration of community indicators as land use planning tools.

Examples of Sustainability Plans

Santa Monica Sustainable City Plan, City of Santa Monica, 1994 with updates in 2003 and 2006.

The plan sets forth nine guiding principles and eight Goal Areas with goals and indicators for each. Most indicators have targets set, but some only look for upward or downward trends. The last update took two years with extensive public involvement. The baseline year for many of the indicators is 2000.

The full plan is at: http://santa-monica.org/epd/scp/

The Santa Monica Sustainable City Plan is founded on nine **Guiding Principles** that provide the basis from which effective and sustainable decisions can be made. These Guiding Principles have been revised and updated from the versions initially adopted in 1994.

The Plan has also been expanded to include eight **Goal Areas**:
• Resource Conservation
• Environmental and Public Health
• Transportation
• Economic Development
• Open Space and Land Use
• Housing
• Community Education and Civic Participation
• Human Dignity

Within each Goal Area are specific **Goals** that comprise the core of the community vision and represent what Santa Monica must achieve in order become a sustainable city.

For each goal specific **Indicators** have been developed to measure progress toward meeting the goals. Indicators are tools that help to determine the condition of a system, or the impact of a program, policy or action. When tracked over time indicators tell us if we are moving toward sustainability and provide us with useful information to assist with decision-making. Two types of indicators are

tracked as part of the Sustainable City Plan. **System level indicators** measure the state, condition or pressures on a community-wide basis for each respective goal area. **Program level indicators** measure the performance or effectiveness of specific programs, policies or actions taken by the City government or other stakeholders in the community.

Many of the goals and indicators measure more than one area of sustainability. A **Goal /Indicator Matrix** has been included to demonstrate the linkages between these areas. The amount of overlap shown by the matrix demonstrates the interconnectedness of our community and the far ranging impact of our decisions across environmental, economic and social boundaries.

Specific **Targets** have been created for many of the indicators. The targets represent aggressive yet achievable milestones for the community. Unless otherwise noted, the targets are for the year 2010 using 2000 as a baseline. For some indicators no specific numerical targets have been assigned. This was done where development of a numerical target was determined to be not feasible or where limits on data type and availability made it difficult to set a numerical target. In many of these cases a trend direction was substituted for a numerical target.

Sustainable Seattle: Indicators of Sustainable Community.

This is the third indicators report for Seattle since 1983, each produced by volunteer citizens of Seattle and King counties. The report summarizes results from measurements of 40 indicators of sustainability, categorized under Environment, Population and Resources, Economy, Youth and Education, and Health and Community. It highlights indicator trends, whether each is improving, declining or remaining neutral, as well as those for which data are incomplete or insufficient. The report includes a description, definition, interpretation and evaluation for each of the 40 indicators, as well as graphs and charts.

Greenprint Denver Initiative, Denver, CO

The Greenprint Denver Initiative was launched by the city's mayor and offers a concept of Sustainable Development that seeks to balance economic, social and environmental impacts of human actions. Greenprint Denver is an effort to fully integrate sustainability as a core value and operating principle in Denver city government.

Guiding Principles:

- Communicate sustainability as a public value and expanding the concept of the city as a steward of public resources.

- Support sustainability as a core business value to improve efficiencies in resource use, reduce environmental impact and invoke broad cultural changes.

- Incorporate "triple bottom line" analysis (seeking to balance economic, social and environmental considerations) into all city policy and program decisions.

- Set clear metrics of success and report on our progress moving forward through annual report cards.

- Pursue activities that support environmental equity and health for all citizens.

- Partner with community organizations, cultural institutions and businesses to achieve broad impact.

- Lead by example in City practice wherever possible.

King County, Washington 2004 Countywide Planning Policies

This document offers a comprehensive and relatively detailed set of policies that is a bit "top-down" as a result of its being mandated by state law. It is something that would take more than six months to develop and adopt but once adopted (in this form and scope) would likely be relatively easy to amend. It would also seem to offer the potential for guiding any overhaul of existing applicable codes.

Marin County, CA Countywide Plan

Marin's Countywide Plan offers defines sustainability as "…aligning our built environment and socioeconomic activities with the natural systems that support life. In the long run, sustainability means adapting human activities to the constraints and opportunities of nature. Central to this definition is meeting the needs of both the present and the future."

The plan offers a graphic representation of a sustainable community as three interconnected rings. The rings represent Environment, Economy, and Social Equity. Each of these rings is connected to, and dependent upon, the others.

Guiding Principles
To design a sustainable future, Marin County will strive to:

1. Link equity, economy, and the environment locally, regionally, and globally. We will improve the vitality of our community, economy, and environment. We will seek innovations that provide multiple benefits.

2. Minimize the use of finite resources and use all resources efficiently and effectively. We will reduce overall and individual consumption, and reuse and recycle resources. We will reduce waste by optimizing the full life-cycle of products and processes.

3. Reduce the use and minimize the release of hazardous materials. We will continue to make progress toward eliminating the release of substances that cause damage to natural systems. We will use a precautionary approach to prevent environmentally-caused diseases.

4. Reduce greenhouse gas emissions that contribute to global warming. We will join other communities addressing climate change by lowering our greenhouse gas emissions. We will increase the use of renewable resources, which do not have a negative impact on the earth's climate.

5. Preserve our natural assets. We will continue to protect and restore open space, wilderness, and damaged ecosystems, and enhance habitats for bio-diversity.

6. Protect our agricultural assets. We will protect agricultural lands and work to maintain our agricultural heritage. We will support the production and marketing of healthy, fresh, locally grown food.

7. Provide efficient and effective transportation. We will expand our public transportation system to better connect jobs, housing, schools, shopping and recreational facilities. We will provide affordable and convenient transportation alternatives that reduce our dependence on single-occupancy vehicles, conserve resources, improve air quality, and reduce traffic congestion.

8. Supply housing affordable to the full range of our members of the workforce and diverse community. We will provide and maintain well-designed, energy efficient, diverse housing close to job centers, shopping and transportation links. We will pursue innovative opportunities to finance senior, workforce, and special needs housing, promote infill development, and reuse and redevelop underused sites.

9. Foster businesses that create economic, environmental, and social benefits. We will support locally owned businesses and retain, expand, and attract a diversity of businesses that meet the needs of our residents and strengthen our economic base. We will partner with local employers to address transportation and housing needs.

10. Educate and prepare our workforce and residents. We will make high-quality education, workforce preparation, and lifelong learning opportunities available to all sectors of our community. We will help all children succeed in schools, participate in civic affairs, acquire and retain meaningful employment, and achieve economic independence.

11. Cultivate ethnic, cultural, and socioeconomic diversity. We will honor our past, celebrate our cultural diversity, and respect human dignity. We will build vibrant communities, and foster programs to maintain, share and appreciate our cultural differences and similarities.

12. Support public health, safety, and social justice. We will live in healthy, safe communities and provide equal access to amenities and services. We will particularly protect and nurture our children, our elders, and the more vulnerable members of our community.

Indicators for Sustainable San Mateo County, 1997

San Mateo County measured a wide variety of significant indicators of communities for their sustainability. They used the same 3 categories as we discussed: Social (equity), Economical and Environmental. The report was a tool to inform decision-makers and the community of the progress towards sustainability. It was used as a benchmark to help judge how well they were implementing sustainable practices. Perhaps the most important results of the study should be whether or not the criteria measured is leaning towards or away from sustainability. Although discussed briefly, the report does not provide a baseline for success. On the other hand, it is useful to combine all the measurable criteria into one document to show the direction the county is going. This concept could be applied to Montgomery County but improved by identifying what our goals are and what we need to do to achieve them.

Measured Criteria include the following:

- Population
- Mortality
- Communicable diseases
- Maternal health
- Substance abuse
- Community safety
- % living in poverty
- Housing
- Homelessness
- Unemployment
- High school dropouts
- Child care
- Public library use
- Volunteerism
- Voter participation
- City Parks
- Land use
- Transportation
- Agriculture

- Air quality
- Quality of drinking water
- Water consumption
- Biodiversity
- Sustainability (acceptance of idea)

There were many criteria that were not included because they didn't lend themselves to measurement or the data wasn't available. Some things not included are:

- Density and condition of urban trees
- Use of recycled material
- Energy consumption (commercial, industrial, residential, transportation)
- Adult literacy
- Students going onto college
- Volume of waste being diverted from landfills
- Businesses and citizens using "green" practices
- % of citizens taking the metro or driving hybrids
- % of citizens with adequate health care

Leadership in Energy and Environmental Design – Neighborhood Design

- LEED (Leadership in Energy and Environmental Design) is the dominant national standard for sustainable design. Developed by the U.S. Green Building Council (USGBC), LEED quantifies sustainable design into a "scorecard" system. Designs earning a sufficient number of points garner a rating of, in ascending order, "Certified," "Silver," "Gold," or "Platinum."
- Current LEED standards cover new construction, existing buildings, commercial interiors, core-and-shell (for speculative office buildings), homes, and neighborhood design, among others, including several in development.
- LEED-ND (neighborhood design) was developed jointly by USGBC, the Congress for the New Urbanism (CNU), and the Natural Resources Defense Council (NRDC) to quantify sustainable residential community design. LEED-ND is currently only a Preliminary Draft. The USGBC expects to issue a final version in 2007.
- The qualities of an "ideal neighborhood":
    - Legible center and edge
    - Limited in size, typically five minutes average walk from center to edge
    - Mix of land uses, to allow for some basic daily needs to be satisfied within the neighborhood
    - Accommodates a diversity of household types
    - Integrated network of walkable streets
    - Special sites reserved for public spaces and civic buildings.
- Categories of LEED-ND points:
    - Location efficiency
    - Environmental preservation

- Compact, complete, & connected neighborhoods
- Resource efficiency
- Innovation

City of Rockville Issue Paper - City Environment: Natural and Built

The City of Rockville prepared an issue paper examining various elements of both its natural surroundings (air, water, wildlife, trees, etc…) and the built environment (signage, vibrations, lighting, building, appearance, etc…). The issue paper explicitly recognizes that development impacts both aspects of environment. It also clarifies that the zoning ordinance, which applies to only specific environmental concerns, primarily related to the built environment, must work in conjunction with other local, state and federal regulations and policies. More specifically, zoning only applies to: building height, density, location and use; signage, parking; lot coverage, and the size of open space. Options for more expansive zoning include form-based zoning and performance zoning.

In terms of the natural environment, Rockville adopted its Environmental Guidelines in July 1999. These provide guidance on stream and wetland buffers, land protection, species protection, noise and light abatement, and other environmental issues. Rockville also uses additional tools, including the Forest and Tree Preservation Ordinance and the Sediment Control and Stormwater Management Ordinance.

While the document espouses many common themes, including preservation of the environment and the use of LEED-certified design, it does not explicitly frame these issues in terms of sustainability. Instead, the issue paper clarifies the roles and relationships between zoning and other environmental regulations to identify opportunities for Rockville to improve both its natural and built environment.

City of Gaithersburg Environment: A Master Plan Element

The City of Gaithersburg Environment Element fulfills requirements of Maryland's Planning Act. The Element specifically acknowledges that all aspects of the natural and urban environments are interrelated, and that the impacts have regional as well as local implications. The *Environment Element* addresses both smart growth and sustainability. It defines smart growth as: combining environmentally sensitive land development with the goals of minimizing dependence on auto transportation, reducing air pollution, and making infrastructure investments more efficient. A key aspect of smart growth is preserving open space, farmland, natural beauty and critical and environmental areas. The *Element* also includes green building – addressing how buildings are designed, constructed and operated – significantly impacts both the environment and human health.

Sustainability applies to redevelopment, with a goal of "re-naturalizing" the built environment. Infill and redevelopment projects should be designed to protect and enhance natural resources, water quality, and habitat in the constrained setting of redevelopment. The discussion of sustainability also notes historic preservation (which has its own Master Plan Element), recognizing that these buildings are important to the community's legacy.

While the Gaithersburg *Environment Element* goes further to address both smart growth and sustainability, it does not explicitly define sustainability. Nor does it apply sustainability globally to Gaithersburg's other activities. The City's *Smart Growth Policy* offers an umbrella policy to coalesce several existing programs into a unified policy statement.