



**Tree Canopy Cover in Baltimore County:
Recommendations to the Baltimore County Council
from the Baltimore County
Commission on Environmental Quality**

December 2013

Commission Members:
Valerie Androutsopoulos
Jim Burkman
Linda Davis
Russell S. Donnelly
Brian Fath
Mary Gruver-Byers
Eric Hadaway
Lois Jacobs
Andy Miller
Joan Norman
Kathy Reiner Martin
Nell Strachan
Jeff Supik
Rex Wright

EXECUTIVE SUMMARY

In response to the charge in Baltimore County Resolution No. 72-13, the Commission for Environmental Quality (CEQ) has prepared a report providing feedback on the County's new tree canopy goals. The term 'tree canopy' means the crown of the tree, and in this report, the percentages refer to the percent of surface area under the tree canopy. Tree canopy includes both forested areas and urban trees around houses and other buildings.

The report is structured around four primary issues: 1) recommendations for successful implementation of the tree goals, 2) current tree canopy practices in the County, 3) feedback from residential and business groups, and, 4) review of tree canopy goals in other jurisdictions.

BACKGROUND

Baltimore County has set a goal of achieving and maintaining a tree canopy of 50% County-wide and for reservoir watersheds and 40% within the Urban Rural Demarcation Line (URDL) and Census-designated places by 2025. Currently, the tree canopy levels are 48% and 39%, respectively. While existing canopy is close to the goals as a percentage of cover, meeting these goals would add thousands of acres to the tree canopy, assuming that the current rate of tree loss is constant. The greater future challenge will be maintaining the canopy goals in the face of constant development pressure and other causes of tree canopy loss.

Baltimore County has done an excellent job in maintaining its rural areas and to a lesser extent its natural areas. The URDL, introduced in 1967, was a forward-thinking and effective policy management tool that has targeted development closer to Baltimore City and saved taxpayer money by not extending infrastructure and services into all parts of the County. As a result, about 87% of the 817,000 Baltimore County residents reside on just one-third of the land area, largely contiguous around Baltimore City.

Healthy forests and undeveloped natural areas have significant environmental benefits that contribute to the overall well-being of citizens living in Baltimore County. Forests and the tree canopy provide market and non-market values, which are measured in overall ecological services, such as timber harvest, water purification, climate regulation, and aesthetic and cultural benefits. Trees around buildings offer aesthetic pleasures, lower the cost of air conditioning and heating when properly oriented, and provide important habitat for birds and other wildlife. The CEQ applauds the County's efforts to achieve and maintain a healthy tree canopy in the County.

FINDINGS

Overall, the CEQ is impressed with the activities within the Baltimore County Department of Environmental Protection and Sustainability (DEPS) and the coordination with other agencies to implement the County's tree canopy goals. DEPS has developed and is implementing thoughtful and appropriate policies and programs to achieve the tree canopy goals, and is well aware of the need to both implement those goals with other environmental goals and strategies and to work to be sure other county agencies support and implement the same goals. With continued effort and support, the goals appear achievable and manageable. A few key policy priorities will help ensure success of this initiative.

1.0 RECOMMENDATIONS

The CEQ makes five main recommendations to facilitate establishing a healthy tree canopy in Baltimore County:

1. Develop clear guidelines to address tree removal, tree replacement, and evaluation of alternatives to tree removal. The removal of street trees remains controversial, highly visible, and of concern to many community groups. The CEQ recommends a review of the State's "Roadside Tree Law" and recommends that the County specify who is responsible for replacing street trees following street tree removal. Specifically, four items could help maintain the character and quality of neighborhoods:
 - a. Amend the tree removal permits to include specific language highlighting that the requesting homeowner is responsible for replacing any tree removed by the County.
 - b. Provide a list of recommended tree species, appropriate for planting as street trees and widely available locally, to every homeowner requesting a permit.
 - c. Provide information explaining the process of replacing a tree as well as a contingency for what can be done if the tree cannot go back in the original space.
 - d. Continue and enhance the newly-established coordination between the Baltimore County DEPS and the DPW regarding street tree removal.
2. Promote the case for long-term design and maintenance of planted trees. Water and other care in the first two years after planting are crucial to the success of the tree. Many tree-planting projects have failed after several years due to lack of maintenance to address water needs, drought conditions, vine intrusion, deer browsing, and other issues. Regarding project design, consider the natural function of the forest and what will it look like in 25 years, not what it will look like in 3-5 years. Replanting should focus on a diversity of native trees with a mixed inventory that complements ecological function.
3. Support education of homeowners about conservation landscaping and 'designing with nature.' For example, over 7,000 acres of excess lawn (defined as mowed area per lot beyond one acre) have been identified in the County, which would be more economically and environmentally sustainable as forest, the natural ecosystem for the Baltimore County region. Meeting the tree canopy goals will restore some of this most valuable land cover. Large lawns require constant maintenance through mowing, invite the use of fertilizer, which poses runoff problems, and do not provide the habitat needed for beneficial wildlife. Educating homeowners about the negatives of large lawns and the value of alternate plantings is important. The County should also explain to homeowners that the storm water tax directly funds implementation of the County's tree canopy goals.
4. Facilitate communication and coordination among all County agencies to support the tree canopy goals. Be sure all agencies understand and support the goals.
5. Anticipate coming threats to the Baltimore County tree canopy. In addition to development, less typical threats—natural and human—could disrupt progress toward the tree canopy goals. For example, the Emerald Ash Borer (*Agrilus planipennis*) is migrating on the doorstep of Baltimore County and it is estimated that it will destroy all 300,000 ash trees in the County. Sea level rise and climate change also provide challenges to 'business as usual' strategies to maintain tree canopy cover.

2.0 CURRENT TREE CANOPY PRACTICES IN BALTIMORE COUNTY

2.1 Department of Environmental Protection and Sustainability

The County's tree canopy goal established by County Executive Kamenetz went into effect on April 25, 2013. The overall goal is to achieve at least a 50% countywide canopy cover (currently at 48.7%), maintain at least a 50% cover in reservoir watersheds, and achieve 40% in the URDL (currently at 38.4%) and all census-designated places. This program ties together several ongoing initiatives such as the Chesapeake Bay Phase II Watershed Implementation Plan (WIP) nutrient reduction targets, and at the State level, the "no net loss of forest policy." Baltimore County is one of the first in the nation to use leaf-on (i.e., full foliage) orthophotography and to have it analyzed at the University of Vermont to determine tree canopy. This approach allows accurate measurement of the overall tree canopy cover, which is technically different than forest cover. The scale (1 meter resolution) of the County's tree canopy data layer and State's commitment to update the data periodically mean that the County can adequately track progress toward tree canopy goals.

Baltimore County has several ongoing and proposed programs to help increase the County's tree canopy, including: 1) selling native trees to homeowners through its Big Tree Sales; 2) working with landowners to convert 'excess lawn' of 1 acre or more (this represents more than 7000 acres in rural residential subdivisions alone) to new forests; 3) planting and maintaining trees on County lands, including office buildings and school grounds; and, 4) working with businesses and private institutions to add trees to their properties. Recognizing that the stormwater management requirements, the required reductions in pollutants reaching the streams, and the benefits of expanded tree canopy are all related, DEPS recently hired two new County staff members (supported by revenues generated by storm water fees) to work in the Sustainability and Forest Management section as part of the Bay WIP and Tree Canopy Goal implementation. The tree canopy targets are only a small part of a \$20-30 million per year Bay WIP set of expenditures. These goals complement the longstanding efforts in watershed planning, which Baltimore County started as early as 1995 with the Bird River Plan.

2.2 Department of Public Works (DPW)

The loss of street trees from public right-of-ways may affect how the County increases or maintains its tree canopy goals. Although the law requires replacement trees for those trees that have been removed from the public right-of-ways, often these replacement trees are never planted. There may be a lack of certainty as to who is responsible, both financially and logistically, for replanting, and follow up care is necessary to assure that a replanted tree will survive. Space for planting replacement street trees in the narrow strip of space may be limited, especially in older neighborhoods, although planting 'the right tree' and the use of root barriers adjacent to sidewalks at the time of planting may help alleviate concerns of recurring, tree-related problems. Alternatives (such as pruning or re-aligning sidewalks) should be considered before removing a tree from the right-of-way, and we understand that the DPW is amenable to working with DEPS on this topic. While many of these issues are site-specific and need evaluation on a case-by-case basis, clear guidelines should be developed to address tree removal and replacement, and to evaluate alternatives.

DPW is responsible for pruning and removing trees that are located within the public right-of-ways (i.e., ‘street trees’). Tree removal may become necessary when a tree is dead or is dying and presents a hazard due to falling limbs, branches, or whole trees. Street tree removal is also often necessary when adjacent sidewalks have heaved (due to root growth) and pedestrians have been, or may become injured from tripping over heaved sections of walk. Both of these circumstances present liability issues for the County. Tree removal is often the fastest and most efficient way of addressing these tree-related problems, and it may be that alternatives that could save the tree are overlooked or discounted in the interest of efficiency. Alternatives to tree removal may include pruning or re-aligning of sidewalks, but they need to be evaluated based on site-specific conditions. DPW has hired an arborist who reviews each situation and makes determinations deemed to be in the best interest of DPW’s short- and long-term goals for maintaining the right-of-ways. However, street tree removal is usually initiated by the homeowner who requests a removal; the homeowner applies for a permit, paying a modest fee, while the County bears the considerable expense of the actual removal. The homeowner is expected to pay for sidewalk repairs, but this cost is added to property tax bills and spread over many years. The homeowner may not know of the benefits of a street tree, and may not appreciate the costs and commitment required to nurture a replacement tree.

Pruning and removal of trees in public right-of-ways requires a permit and is regulated under the State’s “Roadside Tree Law”, which outlines permitting requirements and establishes obligations for replacing trees that have been removed. Due to apparent uncertainty as to who or what entity is responsible for replacing trees, once the dead, dying, or problematic tree has been removed, replacement trees are frequently never planted. Appropriate information on tree selection and siting could alleviate reluctance to replace street trees based on concerns that the tree will eventually grow and cause similar problems. We suggest that a determination needs to be made to confirm who or what party is responsible for street tree replacements under the law, and that a list of acceptable street tree species locally available and procedures for planting those trees be developed so that the ‘right tree’ is planted and methods are employed to reduce, or eliminate the potential for future tree-related problems.

3.0 FEEDBACK FROM RESIDENTIAL AND BUSINESS GROUPS

Two community groups spoke with CEQ in preparation of this report. For both, the priority issue was the removal of street trees. While street trees are not a large overall contributor to the County’s tree canopy, they have important aesthetic, social, and educational value. These community groups are concerned about the removal of street trees from residential neighborhoods, without serious consideration of alternatives or replacement of the trees.

3.1 Tree Rodgers Forge

Tree Rodgers Forge (TRF) was started in 2012 in partnership with Blue Water Baltimore (BWB). Co-chairs of TRF provided statements to the CEQ at its October 2013 meeting. Rodgers Forge residents are concerned that it is much easier to remove street trees in the neighborhood than it is to replace them. Their primary recommendation is to prepare a

countywide strategy consistent with County Executive's canopy goals, and to notify the public about it. As of October 2013, TRF has planted 40 trees, mostly through grant money and limited funds from owners. In fall 2013, it received a grant from BGE to plant yard trees. It set up a website and partnered with BWB on the project (i.e., citizens paid \$25 to plant their own tree or \$75 if done by BWB, and they signed an agreement taking responsibility to care for the tree). Landowners went through a process of site visit, species evaluation, and education about tree maintenance. TRF partnered with Towson University students who inventoried the community's tree canopy using canopy cover maps from 2007; they plan to create an updated version and also perform tree gap analysis. TRF is also discussing a block-level effort to identify the need for trees and the possibility of coordinating with utilities.

3.2 Associates of Loch Raven Village

The Loch Raven Village (LRV) community has seen serious decline in tree canopy over time. Many trees came down due to DPW removing trees to allow replacement of sidewalks. LRV prepared written comments with three goals: 1) An immediate moratorium on continued street tree removal (for healthy trees) until policies and practices are reviewed. It noted that other jurisdictions seem to find ways to avoid minimize street tree removal. 2) Stricter adherence to approved landscape plans, part of the Baltimore County Landscape Manual, and other zoning regulations. Trees are being removed on commercial properties and replanting to match the approved plan is not being enforced. 3) A comprehensive street tree-planting program.

3.3 Baltimore Gas and Electric (BGE)

Wind, ice, snow, and heavy rain can cause power outages, so tree trimming and at times tree removal are necessary to ensure both power reliability and citizen safety. BGE's priority is managing the utility corridor to promote electric system reliability. To this end, they must control what kinds of trees are planted on power distribution 'Right-of-Ways' (R/W). In response to the 2011 Maryland Electricity Service Quality and Reliability Act, the Maryland Public Service Commission developed new regulations through the rule-making process (RM 43) to govern how Maryland utilities manage electric reliability. As a result, BGE is enhancing its vegetation management practices. RM 43 includes requirements about how much of a tree must be trimmed in the utility corridor, and additionally includes other requirements that reduce the frequency and duration of outages. Financial penalties can be imposed on BGE by the Public Service Commission if it fails to meet these goals. In addition to considering reliability, utilities need to manage for public and employee safety, another reason to keep trees away from power lines. For this reason, in addition to reliability concerns, BGE does not allow trees to get too close to electric conductors.

BGE promotes a 'Right Tree in the Right Place' (RTRP) program for utility spaces to encourage properly sized trees for the location. The idea of selecting the right tree for the intended planting site should extend beyond utility spaces to include other considerations, such as roadside visibility/sight distances and visibility of signs. Transmission lines (> 100,000 volts) are another element as no trees are allowed to be planted on the transmission R/Ws. BGE also manages off-R/W trees adjacent to transmission lines (prunes and removes) so that the trees cannot fall upon

the high voltage facilities. Lastly, BGE does not allow any trees to grow on gas transmission R/W's for safety and reliability reasons.

4.0 TREE CANOPY GOAL EFFORTS IN OTHER JURISDICTIONS

4.1 Baltimore City

Baltimore City has a long-term, 30-year goal to double the city's canopy. The tree planting efforts are coordinated under Tree Baltimore, which functions as an umbrella organization for all stakeholders who have an interest in the City's tree canopy. Tree Baltimore began in 2007 by partnering with the U.S. Forest Service, and it now meets quarterly with the agencies and NGOs that are planting to coordinate activities to avoid conflicts and waste. They first targeted the large land owners, both private and public (school system), for planting projects. They also train and organize citizen tree planters. Through surveys, Tree Baltimore aligns groups with locations that have needs that match a group's interest. The groups use their own expertise to create plans, which are then brought to Tree Baltimore for approval. The groups usually have a Tree Baltimore person on site when they do the planting. With this program the City encourages public involvement in the tree planting initiative.

4.2 Montgomery County

Montgomery County is larger, more populous (>1,000,000 residents), and more urban than Baltimore County, but in many ways it is grappling with similar issues. Montgomery County does not have an explicit tree canopy goal, but they have recently passed two laws intended to protect and maintain trees. The laws were passed in July 2013 and go into effect March 1, 2014. The first (Bill 35-12) will establish an account for shade tree planting projects, including plantings of individual trees groups of trees on private and public property. This account provides for mitigation to offset the environmental impacts of development and address the loss of environmental resources including trees and potential growing space for shade trees. Furthermore, the bill will generally revise County law regarding tree canopy conservation. The second law (Bill 41-12) aims at preserving roadside trees such that certain persons must obtain a 'right-of-way' permit from the Department of Permitting Services for certain activities affecting roadside trees. The law requires that persons must plant certain trees and pay into a roadside tree replacement fund under certain circumstances. The Roadside Tree Law (under their DPW) works in tandem with the recent Montgomery County Forest Preservation Strategy Update. The purpose of Montgomery County's Forest Preservation Strategy is to increase the area of forest canopy, to improve the quality of forest and trees, and to protect and restore forest ecosystems in Montgomery County.

These three laws are managed and enforced by the Montgomery County Department of Planning, which unlike Baltimore County is a separate branch of Government and does not fall under the jurisdiction of the Executive Branch. Interagency Teams and Advisory Committees helped formulate policies forest preservation and tree canopy, which are reviewed by all branches of County Government.

4.3 Chicago, Illinois

Chicago is major urban environment that has led initiatives to maintain and increase urban tree cover. Both public and public/private programs exist. The largest public program is run by Chicago's Bureau of Forestry. The Bureau of Forestry list the benefits of urban tree canopy as:

- Improved Air Quality
- Reduction of Emissions
- Reduction of Smog
- Reduction of Green House Gasses
- Reduction of the "Urban Heat Island" Effect
- Noise Abatement
- Increased Psychological Well Being
- Improved Aesthetics
- Increased Property Values
- Provision for Wildlife Habitat
- Storm Water Attenuation

There is a blanket public/private organization, The Chicago Trees Initiative, which combines the efforts of over 20 community organizations. The mission of the Initiative is "to inspire a social and civic movement that will involve all of us in meeting the goal of expanding Chicago's tree canopy." For example, citizens can request a street tree be planted; the Bureau assesses the site and plants a tree from the Urban Tree Planting List. The Bureau plants in the Spring and Fall. Chicago is just one example of a major metropolitan area making a concerted effort to promote urban tree cover.

Baltimore County's tree canopy goals follow a trend seen throughout the country. Many jurisdictions are not only recognizing the benefits of healthy forests and trees, but also targeting and implementing policies to reach these goals.