

# SHADE

HEALTHY TREES • HEALTHY CITIES • HEALTHY PEOPLE

**BUSINESS BLOOMS**  
Under Trees

**A CANOPY FOR**  
Good Health

**TREES BOOST**  
Societal Well-Being

**GUFC CONFERENCE**  
Key Findings

**URBAN AND  
COMMUNITY  
FORESTRY**

**Benefits of Urban Trees**

# SHADE

HEALTHY TREES • HEALTHY CITIES • HEALTHY PEOPLE



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## Georgia Urban Forest Council (GUFUC)

### MISSION

To sustain Georgia's green legacy by helping communities grow healthy trees.

### VISION

To be a broad based leadership resource in promoting the importance of trees throughout Georgia by leveraging user-friendly technology, influencing the policy-making process and providing cutting edge programming.

### ACKNOWLEDGEMENTS

USDA Forest Service  
Georgia Forestry Commission  
Georgia Urban Forest Council

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# TREES MATTER in Georgia

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Dear Community Forestry Friends,

Over the past two decades the USDA Forest Service's Urban & Community Forestry Program, in concert with state and local partners, has raised awareness nationwide about the benefits of community trees and forests, developed a national decentralized network of cooperators and matched federal funding more than threefold through state and local contributions. I applaud your efforts to build upon this success in the great state of Georgia by organizing "Healthy Trees, Healthy Cities, Healthy People," a top-notch, innovative conference that introduced urban forests to health care partners for the first time, and increased the forestry community's understanding of tree benefits related to public health.

The USDA Forest Service Urban and Community Forestry Program is a proud sponsor of SHADE. We support your efforts to educate decision makers in your community so that we can continue to improve the condition and extent of community forests in urban, suburban and rural areas nationwide. On behalf of the entire Washington Office staff, thank you for all of your hard work.

Sincerely,

Mark Buscaino, Director

Dear Forestry Community:

This year represents a milestone for public health and urban forests in Georgia as the GUFCA has, for the first time, united the two critical causes as one. Indeed, as our state grows and our cities become more and more "super-sized," our urban forests and the sidewalks and bike paths that complement them are diminishing, increasing the traffic on the road and the smog in the air and, ultimately, leading to the "super-sizing" of us as a population.

I encourage you to learn more about the indisputable relationships between public health and urban forests in the pages that follow and share what you learn. Together, we can protect the health of our trees, our cities and our people.

Sincerely,

Kathleen E. Toomey, M.D., M.P.H.  
Director, Division of Public Health  
Georgia Department of Human Resources



# SEEKING A FORMULA For Good Health

Leaders from around Georgia gathered in Atlanta recently to discuss the connection between urban development and the benefits of trees. The 14th Annual Georgia Urban Forest Council Conference and Awards Program, *Healthy Trees, Healthy Cities, Healthy People* held November 17–19, 2004, offered latest research, raised questions about community priorities, and inspired positive changes to promote human health and societal well-being.

Experts from Georgia and the nation presented alarming statistics on the effects of urban development on our environment and our health. Some of those key findings, along with other statistics, are highlighted on these pages.

The Conference was sponsored in partnership with Emory University and the Centers for Disease Control and Prevention.

Trees absorb and trap pollutants from the air. In one year, one acre of trees produces enough oxygen for 18 people to breathe every day and absorbs as much carbon dioxide as is emitted by driving 26,000 miles. Atlanta's current tree cover saves the city more than \$15 million per year in pollution control.

— *Trees Atlanta*

Georgia ranks **45th** out of **50** states in public health, mostly because of obesity.

— *Kathleen E. Toomey, M.D., M.P.H., Director, Division of Public Health, Georgia Department of Human Resources*

**60%** of Atlanta's natural tree cover has been removed over the last 20 years, and metro Atlanta is losing trees at a rate of 50 acres a day.

— *Jessica Roth, Planning and Development Director, City of Snellville*

**23** million acres of Georgia's total 37 million acres are covered in forest. That means two-thirds of the state is forested. These forests provide numerous benefits for the state's environment, including improved air and water quality.

— *Kenneth C. Stewart, Jr., Director, Georgia Forestry Commission*

An average Atlanta household spends hundreds of dollars annually on air conditioning. Strategically placed shade trees can cut cooling bills in half.

— *David Nowak, Ph.D., USDA Forest Service Project Leader, Northwestern Research Station*

Asthma has become the leading serious chronic illness among children. The Centers for Disease Control and Prevention reported that **20.3 million** Americans suffered from asthma in 2001, nearly one-third — **6.3 million** — are our children. The American Lung Association reported in 2003 that the number of children suffering from asthma increased by 37% to 8.6 million in just two years.

— Jessica Roth, *Planning and Development Director, City of Snellville*

In the Atlanta area, a 20% loss of forest due to urbanization has led to a 14% increase in ozone concentrations.

— David Nowak, *Ph.D., USDA Forest Service Project Leader, Northwestern Research Station*

American Forests has found that each person in the U.S. generates about 2.3 tons of carbon dioxide each year, almost half of which is generated from driving a car. One acre of trees can absorb approximately 2.6 tons of carbon dioxide in the same time period, which is equal to the amount of carbon dioxide produced by driving a car 26,000 miles.

— Jessica Roth, *Planning and Development Director, City of Snellville*

**Automobile traffic** is a major contributor to global climate change, comprising approximately 26% of U.S. greenhouse gas emissions. During the decade of the 1990s, greenhouse gases from mobile sources increased 18%, primarily a reflection of more vehicle miles traveled.

— Howard Frumkin, *M.D., Ph.D., Professor and Chair, Dept. of Environmental and Occupational Health, Rollins School of Public Health at Emory University*



# BUSINESS

## Goes for the Green

**Y**our parents were wrong. Money does grow on trees. Or at least, it grows along with them. Businesses all over Georgia are beginning to realize that investing in trees provides far reaching and ever growing returns. And we're not talking about intangible, aesthetic returns — we're talking about the quantifiable, cold-hard-cash variety. Indeed, studies have shown the following interesting facts:

- ◆ The presence of trees increases a property's value between 3 percent and 7 percent.
- ◆ Shoppers are willing to pay up to 11 percent more for products purchased in shops along tree-lined streets than they would pay for the same items in a barren setting.
- ◆ Strategically placed trees can cut summer air conditioning costs for businesses by as much as 50 percent or more.
- ◆ Trees can intercept between 7 percent and 22 percent of storm water runoff from impermeable surfaces.
- ◆ Employers report greater employee productivity, satisfaction and retention at properties endowed with trees and other vegetation.

In other words, going green can help keep your company in the black.

Here's a look at three Georgia businesses that have gotten this message loud and clear. At first glance, they don't have much in common. One is an up-start developer, one is a car dealership and one is the regional headquarters of a \$30 billion company. One is located near downtown Atlanta; two are in its suburbs. One is situated in the middle of an urban forest; one had to plant all the trees on its property, and one fell somewhere in between.

All three of these businesses, however, share a strong commitment to the environment in general and to trees in particular. Each of them incorporated trees into their planning and budgeting from the beginning. And each has begun to reap the benefits of what they have so carefully sown.

## Glenwood Park

**T**wo years ago, if you had gone two miles east of downtown Atlanta, you would have found a 30-acre wasteland. Formerly the location of a building material supply center, the site had become an abandoned brownfield. It was devoid of anything living, covered largely by concrete and marred at its



Glenwood Park renderings

center by a sewer flowing into an extremely polluted open ditch. Today this site boasts a handful of houses and townhomes, two mixed-use condominiums and trees — lots of trees.

Welcome to Glenwood Park, recipient of the 2004 Outstanding Community Award by the Georgia Urban Forest Council. When the development is totally built out in late 2006, it will feature nearly 400 residential units, ranging from small apartments above shops to detached single family homes, office space, retail shops and public parks. And more trees.

“Our goal is to create a wonderful, walkable, green community,” says Walter Brown, vice president and founding partner Green Street Properties, which is developing Glenwood Park.

Trees were an integral part of the plan from the beginning. “We know trees significantly increase the value and desirability of property,” says Brown. “We also understand their value from a pedestrian perspective. Trees make sidewalks and trails more inviting and beautiful, so people are more likely to use them. And finally, we are drawn to trees for their environmental benefits — their ability to reduce storm water runoff, cool the community and reverse the heat island effects.”

Trees were used to help clean up the site. Green Street Properties planted 100 trees and a host of wetland plants around a large pond it created at the center of the

site, where the polluted stream had run. “We designed the plants and ponds for biofiltration,” Brown explains. “The trees and plants help remove the pollutants from the water, and then we treat the water further and use it to irrigate our site.”

Brown estimates that Green Street spent nearly \$2 million on landscaping overall. “Landscaping was close to 5% of the total infrastructure cost, and trees were a big part of that.”

Trees will help Glenwood Park attain its goal of being a walking community. In fact, by virtue of its proximity to downtown, its direct access to MARTA and its pedestrian-friendly design, its developers expect Glenwood Park residents to drive about 20 percent less than their suburban counterparts. This is the equivalent of removing over 100 cars from the roads of Atlanta.

And trees will make Glenwood Park — and the region — more livable. “Trees, in combination with good landscape design, bring people closer to nature every day, and people need that for their health and for their sanity,” says Brown. “It behooves all of us to recognize that we can play a part in creating a healthier climate with better air and water quality. Trees are a big part of that.”



## American Honda Motor Company's Environmental Learning Center

“Trees” might not be the first term that pops into your mind when you hear “car dealership.” American Honda Motor Company is working to change that.

At its southeastern corporate headquarters in Alpharetta, Honda has recently opened an Environmental Learning Center. Neatly kept dirt trails wind their way through the 15-acre site, over hills, through trees and across a stream. The Center's unique purpose — to teach real-world off-road riding techniques and environmental responsibility at the same time.

“Whether on foot, on horseback or on wheels, people are abusing our trails in this country,” says Don Wilson, administrator of the Rider Education Department at Honda. “We wanted to educate people, particularly riders, about respecting the trails and leaving them like they found them.”

The Alpharetta center is the second such facility Honda has built. It opened its first several years ago in Colton, Calif. At the time, Honda had been operating a limited training facility in Colton for off-road motorcycle and ATV (all-terrain vehicle) riders, but the trails were flat and free of rocks or trees. Honda trainers wanted to create an environment that more closely resembled the trails the riders would actually be using, so they trucked in 7,000 yards of dirt and planted more than 2,500

plants to replicate five distinct ecosystems. Builders of the Alpharetta center didn't have to go to quite so much trouble. About two-thirds of the site was already forested, and the hills were already there. “We just had to plant the remaining third of the site with native plants and trees,” says Wilson. They selected such favorites as oaks, elms and pines. “We spent in the neighborhood of \$350,000 for the whole learning center,” Wilson adds.

Honda's Environmental Learning Center is available to schools, scout groups and clubs for field trips and environmental studies. A workbook is being printed that identifies the plants and trees on the site, along with interesting stories about each species. There are also several study stations, such as a worm ranch, a soil window and a planned beehive.

“We've created the center for a couple of reasons,” says Wilson. “We want to position ourselves as a green company because we think that's good for business and it's the right thing to do. We want to take the lead in protecting what we have, and we think educating people who use our trails and our wilderness areas is a good way to do that.” For the Environmental Learning Center, American Honda Motor Company was selected for the 2004 Business Award by the Georgia Urban Forest Council.



# United Parcel Service

When UPS moved its corporate headquarters to Atlanta from Greenwich, Conn., in 1991, it wanted to replicate the wooded, hilly landscape it was leaving behind. Since no existing office space fit the bill, the company started looking at land. It found a 36-acre heavily forested track in Sandy Springs, a northern Atlanta suburb.

“From the beginning, we were committed to using the environment as an element of our design,” says Susan Rosenberg, public relations manager for UPS. “We wanted to maximize the benefit we got from the trees, such as energy savings from their shade in the summer and the opportunity for relaxation, reflection and exercise for our employees.”

Toward that end, UPS hired a landscape design firm and an arborist to be part of the site planning team. The result was an extensive “tree save” program designed to preserve as many trees as possible. Construction workers parked off site and were shuttled back and forth, and power cranes were positioned on top of the buildings as they were constructed to diminish the amount of land that was disturbed during construction. Walks and drives were diverted around mature trees, and the health of the site’s trees was monitored throughout the construction process.

“We had a very rigorous program to train the general contractor and the subcontractors about the tree save pro-

gram,” says Rosenberg. “About three to four weeks into the construction, someone felled a tree. We imposed a \$5,000 fine, and we never had another problem again.”

When construction was complete, UPS planted an additional 900 magnolias, oaks and dogwoods to fill in any sparse areas.

As a result of this diligence, the three buildings on the UPS campus appear to have been dropped into a forest. The buildings’ footprints consume only six of the site’s 36 acres, and the tallest building is level with the treetops. The natural topography of the site, which includes a ravine with a stream and marsh lands, was maintained.

“We believe preserving the environment makes practical sense,” says Rosenberg. “Our buildings were designed with very tall windows, so we minimize the amount of additional lighting we need. The tree canopy keeps the buildings and the grounds cooler in the summer, reducing our energy bills. And we believe an environment like this stimulates creativity and thinking differently about solutions. This is by no means a sterile environment.

“I can’t tell you how much our tree save program added to our construction costs, although it definitely added quite a bit,” Rosenberg continues. “But we considered it good stewardship of the land and a smart investment for our employees’ benefit.”



UPS campus in  
north Atlanta

# A Canopy for Good Health

**I**f you want to stay healthy, eat well, exercise and get plenty of rest. And, yes, surround yourself with trees. Indeed, an apple tree a day may do as much to keep the doctor away as the fruit it bears.

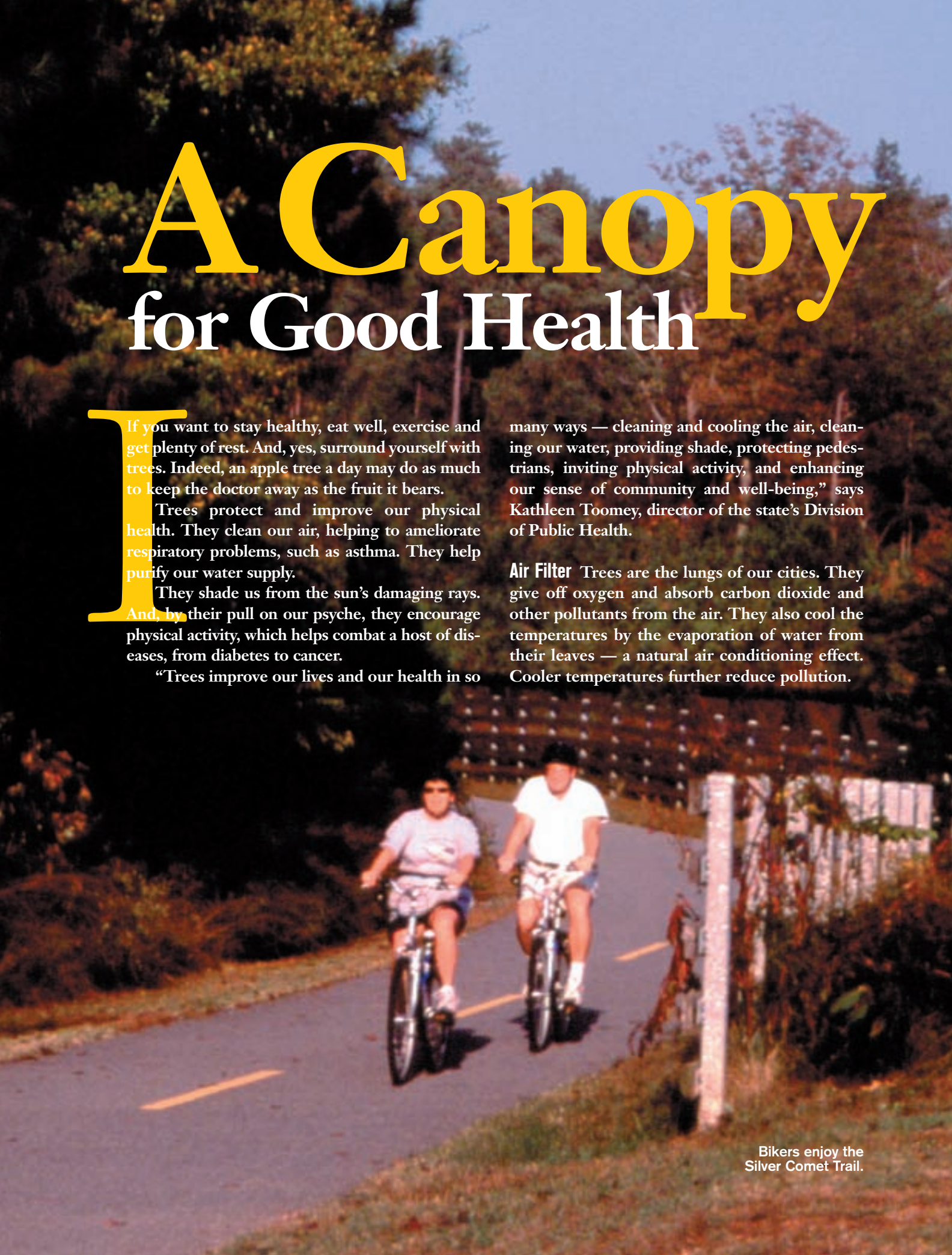
Trees protect and improve our physical health. They clean our air, helping to ameliorate respiratory problems, such as asthma. They help purify our water supply.

They shade us from the sun's damaging rays. And, by their pull on our psyche, they encourage physical activity, which helps combat a host of diseases, from diabetes to cancer.

"Trees improve our lives and our health in so

many ways — cleaning and cooling the air, cleaning our water, providing shade, protecting pedestrians, inviting physical activity, and enhancing our sense of community and well-being," says Kathleen Toomey, director of the state's Division of Public Health.

**Air Filter** Trees are the lungs of our cities. They give off oxygen and absorb carbon dioxide and other pollutants from the air. They also cool the temperatures by the evaporation of water from their leaves — a natural air conditioning effect. Cooler temperatures further reduce pollution.

A photograph of two people riding bicycles on a paved trail. The person in the foreground is wearing a light purple shirt and dark shorts, while the person behind is wearing a white shirt and light-colored shorts. The trail is surrounded by trees with autumn foliage in shades of orange, yellow, and brown. The sky is a clear, pale blue.

Bikers enjoy the Silver Comet Trail.



In Georgia — particularly the Atlanta area — we need all the help trees can offer. Since the Clean Air Act was overhauled in 1977, Atlanta has never been in compliance with ozone standards. The primary culprit — cars. Atlantans drive a total of more than 100 million miles a day — the equivalent of 16,666 trips back and forth across the United States. All those cars are pumping 264 tons of nitrogen oxides into the atmosphere each day.

Exacerbating the problem is our retreating tree canopy. Over the past 20 years, 60 percent of Atlanta's natural tree cover has been removed. That means there are fewer trees to absorb pollutants and to cool temperatures, resulting in a "heat island" effect which alters weather patterns and exponentially increases air pollutants. When pollutants are superheated by increased air temperatures, they become more volatile and more harmful.

All this pollution has contributed to a dramatic rise in respiratory diseases, such as asthma. In 2003, the American Lung Association reported the number of children suffering from asthma jumped 37 percent, to 8.6 million, in just two years. Asthma is now the leading cause of school absenteeism among children and the culprit of nearly 4,500 deaths — among adults and children — a year.

The link between air pollution and asthma was starkly demonstrated during the 1996 Olympic Games in Atlanta. Area drivers heeded urgings to telecommute or take public transportation during the Games to avoid impossible traffic snarls, and traffic volume declined by 30 percent. During the same time, there was a 45 percent drop in emergency room visits for children with asthma.

However, Georgians have typically been resistant to efforts to get them to curtail their driving. Trees may provide an alternate solution. Indeed, one acre of trees can absorb approximately 2.6 tons of carbon dioxide each year, which is equal to the amount of driving a car 26,000 miles, according to American Forests.

**Water purifier** In the U.S., we enjoy plentiful supplies of good drinking water sources, so water-related illnesses, such as typhoid fever, cholera and dysentery, are virtually unknown here. However, especially as we become more urbanized, our water supplies are increasingly

threatened by contaminants associated with urban runoff and discharges from wastewater treatment facilities.

"Water quality can degrade rather rapidly," says Steve Lawrence, water quality specialist in the Atlanta office of the U.S. Geological Survey. "Various parts of the country have seen occasional outbreaks from pathogenic organisms, such as Giardia and Cryptosporidium, in recent years."

Trees, it turns out, don't just make good lungs. They make good kidneys, too.

"Trees are very important in reducing the amount of runoff from roadways and parking lots that gets into streams," says Lawrence. "They slow down its movement, allow it time to percolate into the ground where sediment and pollutants can settle out before they run into a stream."

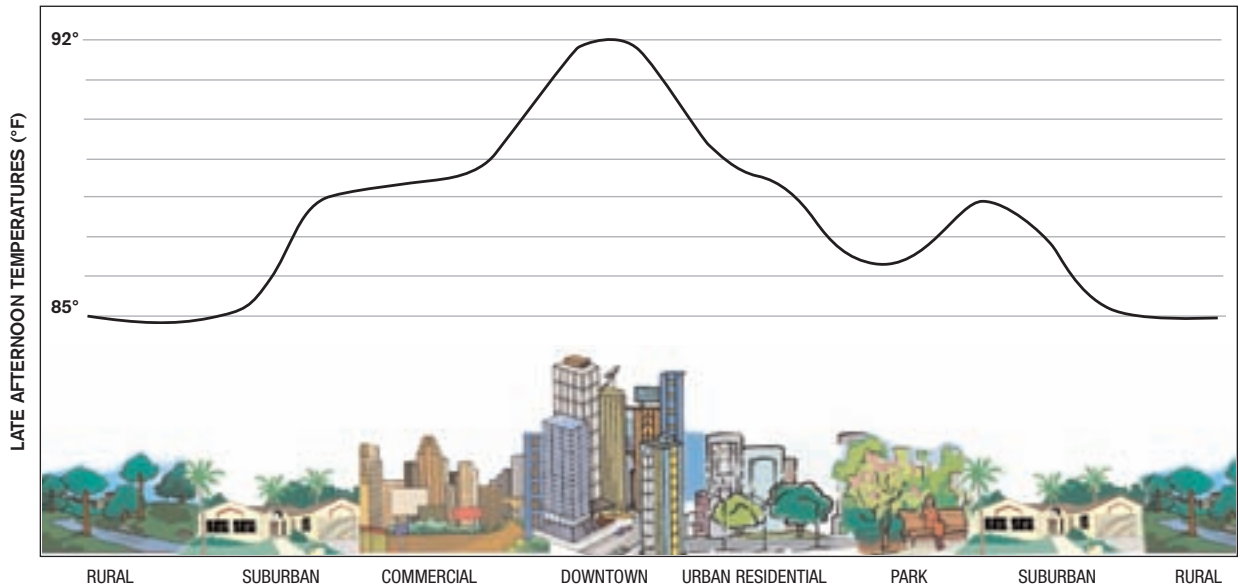
**Nature's sunscreen** Americans have long worshiped the sun, and now we are paying the price. According to the National Institutes of Health, the incidence of melanoma — the most deadly form of skin cancer — has doubled in the U.S. in the last 20 years. More than 1 million cases of all types of skin cancer are reported each year.

Trees can provide some protection against skin cancer. According to a study by Richard Grant, a professor of agronomy at Purdue University, and Gordon Heisler, a researcher with the USDA Forest Service, trees reduce UV-B exposure (the most damaging type of solar radiation) by about half.

"In other words, it will take a person about twice as long to burn in the shade as it would in the direct sunlight," says Grant. "The problem is that people feel like they are totally protected when they are in the shade, and in reality, they are not."

Trees can play a particularly critical role in protecting against the sun in playgrounds and in urban settings, says Grant. In playgrounds, children often don't apply sunscreen and wear protective clothing, as they should, so trees can help shield them from damaging exposure. In cities, buildings are often designed with reflective exteriors to reduce heat, but those surfaces also reflect UV-B rays, amplifying a person's exposure.

Trees make good sun-protection sense in any setting. "You still need to wear sunscreen and hats, but trees are a great source secondary protection," said Grant.



### The Urban Heat Island Effect

**The natural gym** We have become a nation — and a state — of couch potatoes. Only one in four Georgians is regularly active, according to the Georgia Department of Human Resources. That inactivity is contributing to a host of chronic illnesses, such as heart disease, cancer and diabetes. Exacerbating many of these conditions is a growing rate of obesity — also tied to lack of physical activity.

“There is an emerging epidemic of obesity in the country,” says Toomey. “From the 1800s through the 1900s, over 30 years of life were added to the average life expectancy, largely through improvements in public health. If current trends continue, a baby born today likely will have a shorter life expectancy because of complications of obesity. This is a stunning example of our nation moving backwards.”

Indeed, says Toomey, in the last 10 years, obesity rates have increased by more than 60 percent, to 59 million adults. The Environmental and Energy Study Institute reports that health care costs associated with obesity exceed \$100 billion per year, even higher than the costs of health care associated with smoking.

How can trees help? By luring people outdoors to walk, hike and bike among them. “We have reviewed published studies, and they suggest that attractive streetscapes and parks, which include trees, can lead to an increase in physical activity,” says John Librett, a health scientist with the CDC. “People are drawn to trees and to green settings. If you build walks in attractive outdoor

settings into your lifestyle, you are much more likely to stick with it. It’s just a more pleasant experience.”

Developers of the Silver Comet Trail clearly had this in mind when they converted an abandoned railway right-of-way into one of the state’s most popular trails for bicyclists and hikers. The Silver Comet Trail, which starts in Smyrna and ends at the Georgia/Alabama state line, threads through forests and past rural vistas. It has worked its magic on many users. Consider this posting to one of the trail’s chat rooms:

“The trail has honestly changed my life, I was a two-pack-a-day smoker and February 6th will mark five years (and eight marathons) since I quit, all because that awesome trail is right behind my house.” — *Dana Greene, Organizer Get-Fit Atlanta*

If more people would follow in Greene’s shoes, the incidence and severity of many of the nation’s most serious health problems could be reduced. Physical activity has been proven to lessen the risk of cardiovascular disease, high blood pressure, diabetes, colon cancer and osteoporosis, according to Librett. In addition, there is substantial evidence that it protects against depression, elevated cholesterol levels, fall injuries and stroke

From encouraging physical activity to providing cleaner air, trees promote our well being in a myriad of ways. Says Toomey: “Trees create a better quality of life, and health, for all Georgians.”

#### Economic Cost of Asthma, U.S. 2002

CATEGORY	COST (in millions)
<i>Direct Medical Expenditures:</i>	
Hospital Care	
Inpatient	4,030.00
Emergency Room	762.30
Outpatient	491.70
Physicians’ Services	
Inpatient	377.30
Outpatient	896.60
Medications	2,841.60
<b>All Direct Expenditures</b>	<b>9,400.00</b>
<i>Indirect Costs:</i>	
School days lost	1,389.10
Loss of Work	
Outside Employment	
Men	208.00
Women	326.60
Housekeeping	776.60
Mortality	
Men	904.90
Women	995.10
<b>All Indirect Costs</b>	<b>4,600.00</b>
<b>All Costs:</b>	<b>14,000.00</b>

Source: *New England Journal of Medicine*

Oakhurst Community Garden



# TREES

## Touch Society

A notebook at the trailhead of the Big Trees Forest Preserve in Sandy Springs, a north Atlanta suburb, invites hikers to record their thoughts after walking through the stand of hardwoods and pines. The entries recount a transporting experience: “beautiful and amazing,” “a lovely refuge,” “a touch of heaven.”

“Other than formal worship, I don’t know of anything else that so readily elicits talk of souls and reverence,” says Howard Frumkin, professor and chair of the Department of Environmental and Occupational Health at the Rollins

School of Public Health at Emory University. “Walking among trees, for many, is a spiritual experience. It touches people in ways that very few things do, in a way that people seem to need.”

Trees soothe our psyche, instill us with peace and restore our spirits. This is more than merely waxing eloquent — scientific studies have shown links between contact with trees and nature and psychological and societal well-being. Yet with each tree that is felled and each new concrete patch that is poured, we are getting further away

from the things that keep us mentally healthy, as individuals and as a community.

“It is widely accepted in the study of animals that unfit habitats lead to unhealthy patterns of behavior and functioning,” says William Sullivan, associate professor and director of the Environmental Council, University of Illinois at Urbana-Champaign. “An unfit habitat leads to physical, psychological and social breakdowns. By deforesting our lands and severing our connection with nature, we are creating an unfit habitat for ourselves — and we are seeing the consequences in social isolation, crime and abuse.”

**The healing power of trees** Humans evolved in a natural setting, so a connection to nature and to trees is at the core of our identity as a species and of our well-being, according to Frumkin. Psychologists and therapists have tapped into this connection as a healing force for patients.

At Wesley Woods Hospital, a geriatric facility in Atlanta, patients, family and staff can work, stroll or sit in one of three horticultural therapy gardens. Kirk Hines, HTR, a horticultural therapist at Wesley Woods, has seen what close contact with the gardens’ trees, shrubs and

flowers can do for patients. He recalls one Alzheimer’s patient who didn’t know her name or where she was, but after planting some flowers in the garden, she looked up at Hines and said, “These are sultanas. These are impatiens. I remember doing this.”

“Even if patients aren’t able to process information, they are able to process the feeling of the garden and how the garden makes them feel,” says Hines. “It touches us on a deep, very spiritual level. Because we feel this innate closeness to nature, we are able to use it as a tool for healing.”

Indeed, a myriad of studies has borne out the healing power of trees and nature. In one such study, hospital patients who could see trees and greenery from their windows recovered more quickly and used fewer pain medications than those who looked out onto a brick wall. In another study, prisoners who could view rolling hills from their cells were shown to have fewer visits to the infirmary than those who looked out onto the interior courtyard.

Trees can protect us against the stressors and adversity that life throws our way. Nancy Wells, an environmental psychologist at Cornell University College of Human Ecology, studied 337 children in rural upstate New York communities. She found that, after controlling for socioeconomic status, children who lived in greener settings suffered less distress from the traumas of childhood — such as moving, death of a grandparent or being picked on at school — than those who lived in sterile surroundings.

“Contact with nature was bolstering these children’s resilience and buffering the effects of stress and adversity,” says Wells. “And the children who showed the greatest difference were those with the highest levels of stressors, so nature offers the most protection for the most vulnerable.”

Contact with nature can improve cognitive functioning, as well — again offering the greatest advantage to those who need it most — children with Attention Deficit Hyperactivity Disorder (ADHD). Researchers at the University of Illinois at Urbana-Champaign found children with ADHD were better able to concentrate, complete tasks and follow directions after activities in green, outdoor settings than after activities indoors or in non-green outdoor environments. Their findings also suggest that the greener the setting, the greater the relief from symptoms. They found that the greener a child’s everyday play environment, the more manageable his symptoms were in general.

Why? The researchers theorized that the improvement stems from nature’s ability to give our minds a rest. “Everyone who pays attention gets attentionally fatigued at some point,” says Andrea Faber Taylor, a post-doctoral researcher and co-author of the study. “Children with



Gardening at Oakhurst

ADHD may experience attentional fatigue more quickly. Natural settings draw on what is called our involuntary attention, giving our voluntary attention a chance to rest and recover.”

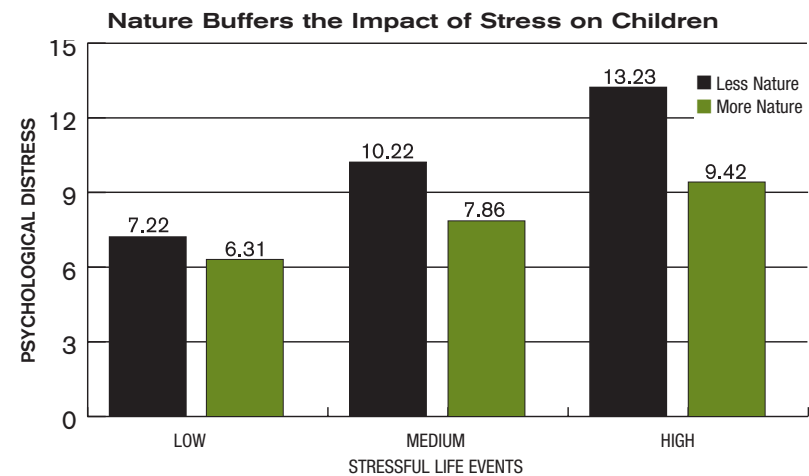
**The communal power of trees** The psychological benefits of trees spill over into the community. Trees, shrubs and flowers can transform a city block into a neighborhood. Consider the Oakhurst Community Garden in Decatur. The current oasis of nature grew out of a complaint by an elderly resident. The modest garden she planted and maintained in the traffic median outside her home was trampled daily by careless school children. The solution: Make the children the caretakers of the garden.

“As soon as it became ‘their’ space, they really took an interest in it,” says Sally Wylde, executive director of the Oakhurst Community Garden Project. “Everyone was amazed at the transformation — in the kids and in the garden.”

The garden has grown to encompass two acres of trees, shrubs, flowers and vegetables. Rabbits and butterflies have taken up residence, and neighbors, from tots to seniors, gather there to stroll, visit and enjoy nature.

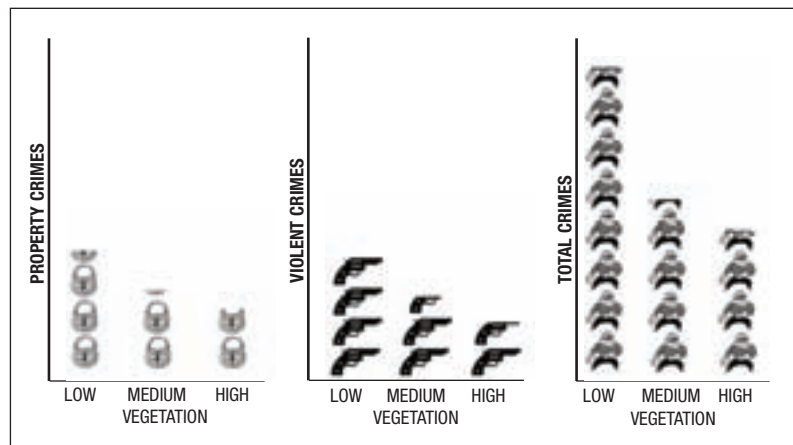
“It’s become one of the focal points of the neighborhood,” says Wylde. “It’s where everyone comes to experience a bit of nature.”

By creating a sense of community, trees help protect against societal ills, such as crime and domestic violence. In two separate studies, researchers at the University of Illinois at Urbana-Champaign looked at low-residents in inner city Chicago neighborhoods. In each study, some of the residents had views of trees, bushes and perhaps a patch of lawn outside their window. Others looked out onto bricks, concrete or dirt. The researchers found that those who had green views were



Source: NEARBY NATURE: A Buffer of Life Stress Among Rural Children; Nancy M. Wells and Gary W. Evans.

**Crime is Less When Buildings Have More Vegetation**



Mean number of crimes reported per building for apartment buildings with different amounts of vegetation (each icon represents one reported crime). Source: Deep Root — Urban Forests & Healthy Communities; William Sullivan, Ph.D.

more likely to know their neighbors and reported a stronger sense of community. They experienced less crime — both personal and property — and less domestic violence. In fact, as density of vegetation increased, crime decreased proportionally — buildings with high levels of greenery had roughly half as many crimes as buildings with no greenery.

By way of explanation, Frances Kuo, assistant professor and lead author of the study, says, “Imagine feeling irritated, impulsive and about ready to snap due to the difficulties of living

in extreme poverty. Having neighbors you can call on for support means you have an alternative way of dealing with your frustrations other than striking out against someone. Places with nature and trees may provide settings in which relationships grew stronger and violence is reduced.”

Sullivan, Kuo’s colleague, agrees. “The social benefits of trees are enormous,” he says. “They cultivate healthier, safer communities. Conversely, living without trees has profound costs — both for individuals and for communities.”



# SEEING THE FO For the Trees

Sun-dappled trees surrounding the Emory Conference Center Hotel were the perfect backdrop for the closing session of the 14th Annual Georgia Urban Forest Council Conference and Awards Program, held Nov. 17 to 19, 2004 in Atlanta.

More than 100 people crowded into the auditorium to listen to a panel of mayors and other city officials talk about the triumphs and travails of working to make their cities more forest friendly.

They talked about the challenges they face from others in the government, budgetary constraints, and an overall need to educate citizens about the importance of green space.

Here is a roundup of what the seven Georgia panelists had to say:

## **Jere Wood, Mayor of Roswell, GA**

Jere Wood, the mayor of Roswell since 1997, had conservationism and respect for all living things ingrained in his formative years. His father, a wildlife conservationist, and his mother, a biologist, filled young Jere's time with outdoor activities including canoeing, camping, hiking, and fishing in the Roswell area he now protects.

Wood, who showed his sense of humor during his presentation, admits that the most effective thing Roswell did to help greenery in the community didn't cost him a penny. In fact, he has apathy to thank for it. When a meeting was called about protecting 2000 acres of green space, nobody opposing the idea even showed up. "It's very satisfying now to drive through an area where there is a shopping mall with preserved trees in the parking lot," he said.





# REST

Wood's wildlife work doesn't stop there. He has also worked on a tree protection ordinance and has created a tree bank, which has raised more than \$240,000 in only two years of existence. And Wood wants to put into effect a local option transfer tax which, if passed, would give the city of Roswell a million dollars a year to help preserve open spaces.

Wood also discussed an issue that seemed to be on everyone's mind: The Department of Transportation. Wood said he is committed to planting streetside trees, but has continuously run into opposition from the DOT. "We all need to get together and lean on the DOT," he said to rousing applause. "It always amazed me why they put the guardrails on the outside of the sidewalk."

## **Connie Perry, Mayor of Nashville, GA**

Perry, an alumnus of Emory University, is no stranger to Nashville. The grandmother of eight has lived there with her husband Bill for more than 36 years. And keeping it looking nice has always been her prerogative. She

was even involved in founding Nashville's Better Homegrown Program, which has resulted in many improvements for the downtown area.

And it's that area in particular that was the focus of her talk. "Our downtown area is as pretty as any city in Europe, but it looks more like Havana, Cuba, because it hasn't been maintained in 40 years," she said wryly. "Our situation is entirely different."

Perry wanted to clean up the disheveled area but ran into a problem of, what she termed, brain drain. "It's still very rural," she said. "Nashville kids go off to college and don't come back." That results in a bad economy and not enough money — or desire — to pick up the trash.

So Perry decided it was time for a paradigm shift. She came up with several initiatives including a concept called, "Many hands make light work." She told residents to bring their pickup trucks — "We have plenty of those," she joked — and had a caravan going through town cleaning up. "I found out that many of the people who had some of the most pathetic looking properties were disabled and they just couldn't get their stuff to their road."

The plan worked. Now Nashville is an official "Keep America Beautiful" city and they are working on a downtown park with trees and a fountain. "We're becoming very conscious of green space," said Perry. "We're doing better than it's ever been done in our little town, and we have a long way to go."

## **Isaiah Hughley, Deputy City Manager of Columbus, GA**

Due to a scheduling conflict at the Columbus mayor's office, Isaiah Hughley spoke at the conference in the mayor's stead but was more than able to get the city's message across to the participants.

"In 1998, we had a series of vision meetings across our city," he explained. "We asked citizens, 'What do you want our city to look like in 2005?' They all resoundingly said that they wanted neighborhood and community improvement. We heard consistently that they wanted a cleaner, greener city. We love trees in Columbus. We are very conscious of green space."

To get his point across, Hughley told a story about how his city was changed forever. "In 2000, we were about to spend \$4 million to renovate a decrepit 46-acre park." Hughley went on to explain that, to properly fix up the park, they would have to tear down 58 trees, some of which were more than 100 years old. Someone had contacted the media and word quickly spread. "There was a public uproar," Hughley recalled. "They were outraged. One of our city council members told us not to cut down a damn tree."

Forced to go back to the drawing board, the park's

redesign helped spur city officials to create a tree ordinance. “It basically said you don’t cut down a tree on city property,” Hughley said. Trees Columbus was established and they hired an independent firm to conduct a public survey — 98% of the city’s citizens approved of the ordinance.

“We learned a lot of lessons from the process,” Hughley said, adding that Columbus now regulates trees on both city and commercial properties. “You won’t find people in Columbus speaking openly against trees.”

#### **David W. Greear, Mayor of Helen, GA**

Greear, an Atlanta native, moved to Helen in 1972 where he had enjoyed visiting his grandparents in his youth. And it’s a care for history and heritage that drives Greear’s work to preserve the city he loves.

Speaking of history, Helen’s is a checkered past. Ironically, it was started as a sawmill town, named after the daughter of the mill owner. “So we’re remembered for cutting down trees and not preserving them,” Greear acknowledged.

Helen has since become a major tourist attraction, but Greear said he doesn’t want the city to become too impersonal, too corporate, or too sterile. To that end, they are working to create more parks including changing a city parking lot into a beautiful piece of land overlooking the Chattahoochee River.

The city has now established a landscaping plan for new buildings to keep their appearances up. The city has also done an expensive sidewalk renovation, replacing the concrete with stones. In the process, they had to remove 38 trees, but replaced them with 87 more. “For every one we take out, we try to replace it with two,” he said.

“One of my main things is to avoid mistakes,” he said. And, besides, “trees are important to tourism.”

#### **Vernon Jones, CEO of Dekalb County, GA**

A native of a tiny North Carolina farming city, Jones went off to the big city — he’s a graduate of Harvard University’s John F. Kennedy School of Government’s Executive Program — then returned to his rural roots and even became a hunter and an NRA member. “In doing so, I became a conservationist and preservationist without even knowing it,” he admitted.

That new commitment to open space helped Jones lead a successful campaign to pass a \$125 million bond issue for the purchase of land, green space, and other natural areas in Dekalb County. In fact, Jones said, Dekalb has purchased more than 2,300 acres of land for green space and they hope to purchase another 2,500 in the next few years.

A pet owner, Jones has led the charge for building a dog park, hike and bike trails, and a wildlife preservation center. “Almost 500 acres a day are going up to develop-

ment,” he said, “so we really wanted to preserve it.” As well, Jones said Dekalb County is starting a school located in a rural mountain area to help educate the next generation about nature’s importance. “They will be the advocates of tomorrow.”

#### **Otis Samuel Johnson, Mayor of Savannah, GA**

A Savannah native and a former college professor, Johnson loves to lecture about his seaside city, As Georgia’s first city, Savannah is a real urban forest. “We had to destroy the forest to create the city,” he said, but explained that they preserved open spaces since 1773 thanks to a plan by General James Oglethorpe. “We preserve our parks with a vengeance,” Johnson said.

Johnson also mentioned a groundbreaking University of Illinois study which found that cutting down trees does not cut down on crime. “We need to continue in this vein with research that comes to us, as elected officials, on how trees and parks help a city — so that we can have ammunition when tax groups come up and say, ‘Why are you spending all this money on this and that?’”

Wishing to maintain the city’s historic legacy, Savannah officials created a city advisory group in 1896 to help protect trees. “Savannah has created a culture that doesn’t even question the value of trees,” he said. “We are very mindful of our legacy.”

#### **Heidi Davidson, Mayor of Athens-Clarke County, GA**

To say that Davidson is faced with challenges is an understatement. As mayor of the smallest county in the state, she also has the behemoth of the University of Georgia and other non-taxable institutions in her care.

Despite these hurdles, Davidson is a big proponent of the public health aspect of open space. “I was thinking back to May when I went on a trip to Sapelo Island,” she said. “The most important thing I had to do all weekend long was to get the maximum view with the minimum exposure. It was important to me to be under a tree canopy. I sat there for two hours with my eyes closed.”

Davidson said that people have gotten so busy thinking about trees and their functionality — shade, clean air — that they’ve forgotten about the health aspect of trees. “I want to encourage you to continue to talk about that when you go back to your community. We have forgotten what it’s like to think of trees. I have ficus trees in my front yard. I’ve marveled at a robin’s nest in one. I had forgotten about that — especially for their restorative qualities.”

She went on to point out that sometimes parks become over programmed. “We have forgotten the passive part of the park which is restorative — both psychologically and spiritually.”



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