

# GREEN Infrastructure Toolkit

Atlanta Regional Commission



THE  
TRUST  
*for*  
PUBLIC  
LAND



# INTRODUCTION

Georgia is among the top five fastest growing states in the country. From 1990 to 2000, Georgia's population grew from 6.5 million to 8.2 million people at a rate of 171,000 new residents per year. <sup>1</sup> U.S. Census Estimates for 2005 indicate that Georgia now has more than nine million residents. The state's natural lands are being rapidly developed, often at the expense of its critical natural assets and ultimately its economic health.

Over the last few decades, the Atlanta region has grown from a regional focal point to an international city. Substantial growth has resulted in significant challenges, but quality of life in the area has remained relatively high. Existing protected parks and greenspace contribute to a high quality of life, but the region must be committed to expanding its active and passive greenspace.

Perceptions about the importance of greenspace are changing and the Atlanta Regional Commission (ARC), the Georgia Conservancy and the Trust for Public Land (TPL) have assembled this Green Infrastructure Toolkit for city and county government officials and staff of the 20-county Atlanta metropolitan area to:

- 1) *Provide a better understanding of the necessity of greenspace and its associated benefits ;*
- 2) *Outline a common language with which to discuss greenspace acquisition and preservation;*
- 3) *Suggest the steps necessary to create a local greenspace strategy;*
- 4) *Present a set of tools and mechanisms available in Georgia with which to acquire and preserve greenspace;*
- 5) *Supply a list of references and resources to provide greater detail about everything discussed in this toolkit.*
- 6) *Emphasize the need to work regionally to encourage successful, long-term protection of metro Atlanta's remaining natural systems.*

In 2004, ARC hosted a meeting of greenspace stakeholders from across the region to set priorities for items that ARC, Georgia Conservancy, and the Trust for Public Land could pursue over the coming years. The stakeholders agreed on the need to establish strategies and basic support structures that could provide assistance to the many groups in the region that work on greenspace issues. Additionally, in September 2005, the ARC Board echoed the direction given to ARC staff by local and regional greenspace leaders by requesting that ARC become more active in the coordination of greenspace efforts around the region. Three work elements were identified and pursued in 2005 and 2006 to begin the effort of laying groundwork for continued local and regional efforts to expand parks and greenspace in the region. In addition to this document, the following tools have been developed over the past 18 months:

**Protected Lands Inventory and Database:** *An inventory of existing parks and greenspace in the 20-county Atlanta region. This inventory was developed through coordination with local governments and other entities that own or manage greenspace in the region. The inventory will be released and available to the public on the ARC website. ARC is examining the feasibility of web-based tools that will allow approved agencies and partners to update the inventory:*

**Green Infrastructure Priorities Map:** *An identification of areas in the region that could have conservation value within a regional network of protected greenspace. The map was developed using criteria established by the State of Georgia to identify lands that may serve a conservation purpose (see page 11 for criteria). ARC developed and executed a methodology using Geographic Information Systems (GIS) to map these areas. The resulting map is a coarse, graphic illustration of potential priority areas. ARC, Georgia Conservancy and TPL will engage stakeholders from across the region to further refine priorities.*

## Purpose of Toolkit

The aim of this toolkit is to provide information on green infrastructure specific to Georgia and to present successful tools and strategies available in the state. For local governments in the beginning stages of land conservation and acquisition, this toolkit is intended to explain the "who, what, when, where, why and how" of greenspace acquisition. For those cities and counties leading Georgia in the acquisition and preservation of greenspace, staff may find the information provided familiar and best suited for informing decision-makers and citizens. This toolkit is also intended to provide the basis for a curriculum to train planners and others.

There are many sources of information available pertaining to greenspace acquisition and preservation, and many of these are referenced in the listing of resources at the end of this document.

ARC is concerned with identification of regional priorities and coordination of efforts between local governments and other partners. Recently adopted Envision6 Regional Development Plan (RDP) policies outline regional policies related to open space preservation. Envision6 is ARC's attempt to integrate land use and transportation planning initiatives to better accommodate an anticipated population of six million or more by the year 2030. Governments, agencies, and non-profit organizations throughout the region must be involved in the full spectrum of greenspace preservation to achieve a fully connected system.

A land protection strategy should consider both the acquisition of natural and environmentally critical lands as well as the protection of working landscapes, including agricultural and timber lands. A variety of greenspace types will create a rich, cohesive and sustainable tapestry of interconnected natural habitats, open spaces and rural lands that will serve numerous functions, including buffers to development, recreational areas, growth management tools and sources of economic development. Land should be considered a critical resource in need of a conservation and management plan because it is a rapidly disappearing resource whose loss not only changes the face of Georgia forever, but impacts the state's economy.

Expanding upon growth management, which addresses issues of haphazard development, the idea of green infrastructure focuses on integrating land protection, development practices, and infrastructure planning. Green infrastructure is strategically planned and locally managed networks of protected greenspace with multiple purposes. Regardless of setting (urban, suburban, or rural), green infrastructure can help direct development to more suitable areas.<sup>5</sup>

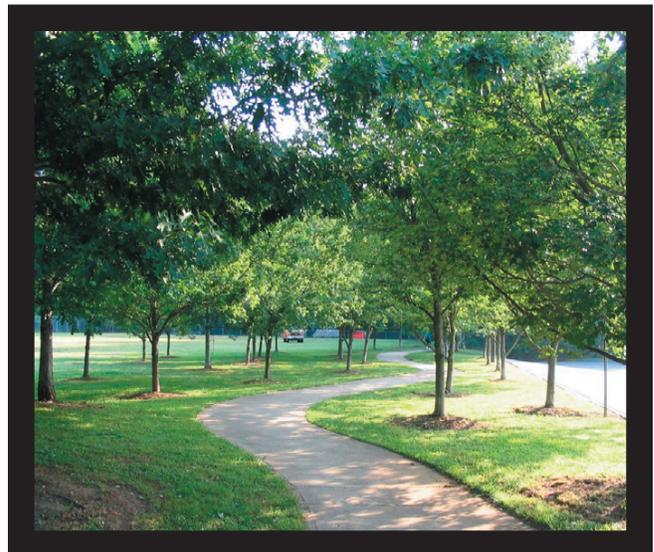
### **ENVISION6 OPEN SPACE AND PRESERVATION POLICIES**

*Protect environmentally-sensitive areas including wetlands, floodplains, small water supply watersheds, rivers and stream corridors.*

*Increase the amount, quality, connectivity and accessibility of greenspace.*

*Provide strategies to preserve and enhance historic resources.*

*Through regional infrastructure planning, discourage growth in undeveloped areas of the region.*

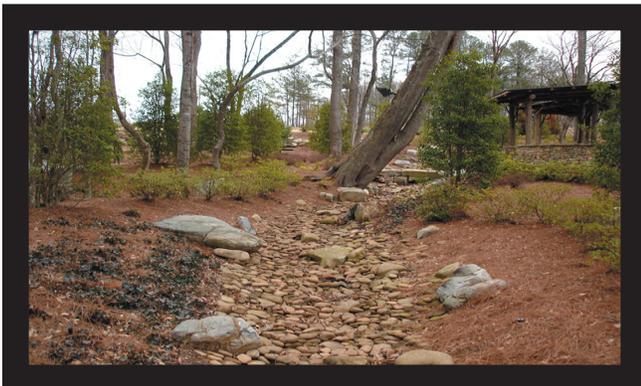


## Current State of Land Conservation

In most regions of the U.S., the rate of land consumption far exceeds population growth. Often homes and offices are being built as upgrades on cheap land with high costs to governments for supplying public services to the urban fringe. Much of the land that is being lost is not simply waiting to be developed; rather, it serves important, economic and life-sustaining functions. This land is home to wildlife and plant species, agricultural and forestry lands, scenic lands, water purification and flood management zones, historic sites and places for recreation and tourism.

The good news is that voters in the U.S. and Georgia have shown they are concerned about the loss of natural areas. They are willing to contribute to the conservation of land for both environmental and recreational purposes. In 2004, Georgia voters in the city of Alpharetta and in Athens-Clarke, Cherokee, Gwinnett, Hall, and Rockdale counties passed seven of eight proposed measures for land conservation by way of bonds and dedicated sales taxes to fund greenway improvements, greenspace acquisition, and recreation. The support continued in 2005 with bond measures passing in DeKalb County and the City of Smyrna. More local funding measures will be on ballots in 2006.<sup>6</sup>

The bad news is that despite this recent support, Georgia lags far behind other states in funding land conservation. According to TPL, from 1999 to 2004, Georgia spent on average of \$1.81 per capita annually on land conservation, while Florida spent \$24.10 per capita. North Carolina which has a comparable population to Georgia, dedicated \$206 million between 1999 and 2004 compared to Georgia's \$80 million.<sup>7</sup>



Georgia is also home to some of the fastest growing counties in the U.S., many of which have not fully planned for the increased rate of development, nor dealt with preserving land in the face of rapid development. The Atlanta Metropolitan Statistical Area (MSA) has led the nation in housing construction for 12 consecutive years. Still, even the most built out and urban cities in Georgia have significant opportunities to acquire and preserve greenspace both for environmental and recreational benefits.

The most familiar type of infrastructure for local government officials tends to be roads, sewers, utility lines and water systems. "Social infrastructure" includes facilities such as libraries, schools, hospitals and prisons. "Soft infrastructure" is things like public health, education and social welfare. It should be clear why infrastructure is considered a necessity as it is composed of interconnected elements that provide an overall framework for life as we know it. Now to these add, "green infrastructure."

For the purposes of this toolkit, "green infrastructure" is described as an interconnected network of land and water that supports native species and air and water quality, and contributes to the health and quality of life of its residents. Composed of natural areas, greenways and open spaces, it elevates air, land and water to equal importance as built or gray infrastructure such as roads, sewers, and power lines.

Growth management is a concept around which politicians, planners and community members have rallied in metro Atlanta. The region unfortunately has made less progress in conserving and protecting land. Thus, pairing growth management with green infrastructure creates a united front to mitigate the impacts of rapid suburban and exurban developments. Green infrastructure initiatives should promote a systematic, strategic and comprehensive planning effort to acquire, protect and manage conservation lands, open space, green space and agricultural/farmlands in perpetuity.<sup>8</sup>

## Benefits of Green Infrastructure<sup>9</sup>

### *Fiscal Benefits:*

- Investing in open space saves communities money by strategically directing infrastructure funds and land conservation in appropriate locations.
- Open space preservation can reduce the cost of flood insurance.
- Open space and greenspace are important to attracting new industries and talent workers.
- Taxable properties located adjacent to green infrastructure in urban areas often increase in value, generating a greater overall tax return to the community.
- Homes located near parks and open space often sell for more than similar homes in other areas.
- Greenways, parks and open spaces, and historic sites generate economic activity as tourist destinations. Ecotourism is the fastest growing segment of the tourism industry.
- The presence of greenways falls under the quality of life amenities that many businesses look for when deciding to relocate or to stay in an area.
- The preservation of working lands—timber and agriculture—can support local economies and typically allow communities to pay less for service delivery than they would through residential development.

### *Infrastructure Benefits:*

- Trails, bicycle paths, and walkways add to a community's transportation network.
- It can be more cost effective to let natural systems clean the air and water than to develop technological solutions:
  - Retaining trees reduces the need for expensive storm water retention facilities.
  - Trees reduce air conditioning costs and can improve air pollution control.
  - Preserving land for flood storage reduces the need to spend money on man-made flood control devices.
  - Watershed protection can reduce the need for storm sewers and filtration plants to control polluted runoff.

### *Community Benefits:*

- Pride of place is an important component of quality of life. Preserving and enhancing historic sites, scenic areas, and greenways enhances the aesthetics of the community, thereby encouraging buy-in from the community.
- The incorporation of green infrastructure can reduce the need for some 'gray infrastructure' which can free up funds for other public uses.
- Parks and greenways can provide connections to, and within, communities.
- Parks and open space are viewed as significant community assets and recreational amenities.

# Benefits of Green Infrastructure

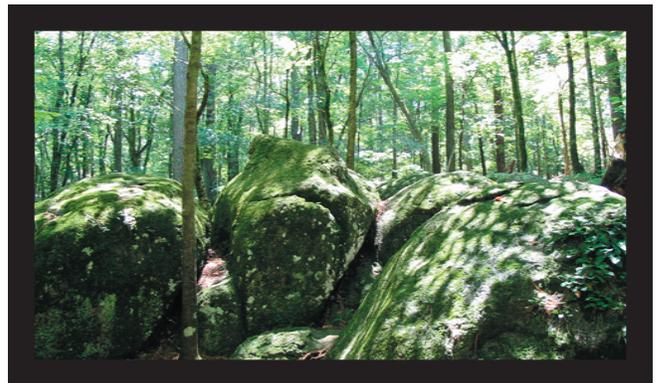
## *Environmental Benefits:*

- Greenways placed along roadways help to mitigate noise, light, and exhaust fumes that have a negative effect on the quality of life of those who live nearby.
- Preserving greenspace and building an efficient green infrastructure system can reduce the risk of natural disasters, and, it can reduce the economic bottom line for a community.
- Green infrastructure and the preservation of greenspace protects life-sustaining forests and wetlands that not only provide habitat for diverse and numerous species, but also supply people with food, medicine, and shelter.
- Connected green infrastructure is vital for the successful migration of animals, which ensures the continued success of wildlife populations. The loss of habitats puts animals in ever closer proximity to humans.
- In simple terms:
  - Trees clean the air we breathe and the water we drink.
  - Wetlands filter and hold rain water, replenishing ground and drinking water.
  - Trees prevent soil erosion and increase the soil's ability to retain water.
  - Trees reduce the heat island effect, thereby helping to cool our urban areas.

## *Health Benefits:*

- Access to nature has been proven to have significant positive impacts on mental health, and it can even lessen the symptoms of attention deficit disorder in children.
- Parks, trails, and greenways provide opportunities for physical activity that lower the risk of heart disease, diabetes, and high blood pressure, among other diseases.
- Trees and greenspace help to clean the air, which lessens respiratory ailments such as asthma, particularly in children and the elderly. All of these health benefits have a positive economic bottom line, reducing healthcare costs.

Given the economic and environmental benefits that accompany a sound green infrastructure system, land conservation has become an increasingly popular and cost-effective land use planning tool, on par with regulations, zoning and planning and design techniques. In addition, demonstrating sound fiscal management through natural methods (rather than technology) tends to increase the likelihood of community buy-in and financial support, which in turn, can increase a local government's ability to appeal to city, county, state and federal funding agencies for critical matching funds.



# Implementing Green Infrastructure

Green infrastructure unites traditional land conservation practices with land use planning. Both land conservation and green infrastructure preserve and restore the environment and natural habitats but green infrastructure goes beyond preservation and restoration. It incorporates elements of land use planning such as the location and appearance of development and the provision of services for the physical, economic and mental well-being of all inhabitants of an area.<sup>10</sup>

Green infrastructure is a framework for strategic long-term land conservation and future land use planning. As such, it should be part of larger planning initiatives. In fact, it is wise and fiscally responsible to plan for green infrastructure first and then traditional infrastructure.

What qualifies as greenspace varies across the country. In Georgia, it is described in broad terms by the state and can be refined by local governments. The following are some examples of greenspace as defined by other U.S. regions, some will be familiar and some may stretch Georgia definitions:

- **Parks (active and passive, urban, rural, large, pocket, urban gardens)**
- **Greenways and trails**
- **Groundwater recharge and watersheds**
- **Endangered species habitat**
- **Waterways (rivers, creeks, lakes)**
- **Buffers (riparian, agricultural, scenic)**
- **Wetlands**
- **Working lands (farms, agricultural land, timber)**
- **Forested land**
- **Floodplains**
- **Soil types**
- **Rural grassland or shrub-land**
- **Transportation rights-of-way, including railroads**
- **Cultural and historic resource sites**
- **Cemeteries**
- **Green roofs**

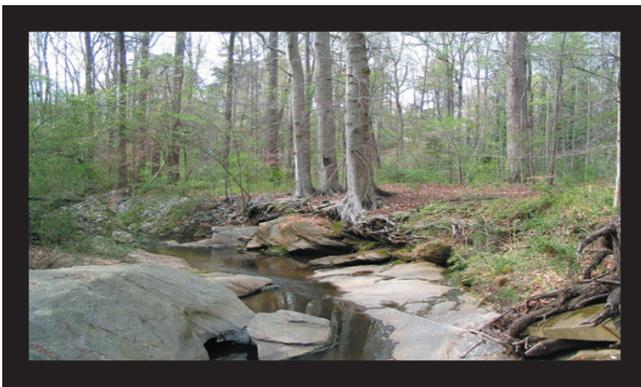
Some states, such as Florida and Maryland, have well-crafted green infrastructure plans. Local governments should not feel compelled to reinvent the wheel when it comes to creating an integrated and comprehensive green infrastructure plan. Instead, the state should learn from and adapt those principles and elements that have made plans successful around the U.S. A green infrastructure plan must:<sup>11</sup>

- **Be proactive, rather than reactive**
- **Be planned strategically and systematically, rather than haphazardly**
- **Occur on a large scale: it must cross boundaries and should be mandated by the state, county and city**
- **Be geographically and programmatically interconnected**
- **Be multipurpose by serving the varied needs of habitat and species as well as humans**
- **Be comprehensive and comprehensively planned, holistic, interdisciplinary, scientifically and environmentally sound**
- **Be funded for the long-term, for acquisition and maintenance**
- **Respect the needs, wishes, and desires of landowners, the public, local governments and other stakeholders**
- **Have a wide range of support from the public, decision-makers, landowners, other stakeholders and partners**
- **Precede development by planning for green infrastructure first and then gray infrastructure**

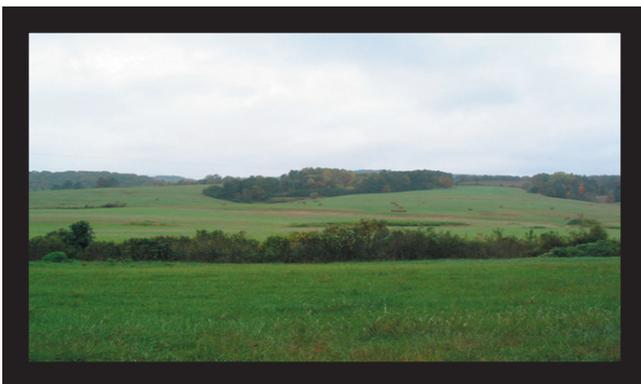


Green infrastructure is itself a network of green spaces composed of several parts that work in tandem to sustain life. These component parts are natural areas, open spaces and greenways.<sup>12</sup> They have different shapes and sizes, occur on various scales, differ in the amount of human contact they should endure, and vary in the rarity and fragility of their biodiversity.

*Natural areas* have remained undisturbed by human contact. Natural areas sustain life as well as provide critical functions such as air and water purification, stormwater management, and flood and erosion prevention. These areas form the *hubs* of the green infrastructure network which are the points of origin or destination for wildlife.



*Open spaces* are also undeveloped lands but they differ from natural areas because of human interaction. Open spaces can still provide habitat for species but also afford recreational opportunities as well as other benefits to humans.



Greenways are corridors composed of protected open space used for conservation or recreational purposes. Greenways can protect and connect natural, cultural, and historic resources.<sup>13</sup>



Green infrastructure focuses on preserving and restoring ecological functions, connecting these hubs using links, and providing a green framework within which development is allowed to occur.<sup>14</sup>

While there are many sound economic and environmental reasons to create a green infrastructure network, they are often eclipsed by the barriers. Because greenspace planning has long been haphazard, reactive and narrowly focused, many local governments have failed to make it a priority. It also has suffered from the lack of dedicated staff and funding. Production of basic planning needs such as inventories and mapping have been intermittent. The cost of acquiring land and providing for long-term maintenance is a hurdle that can seem insurmountable to city, county, and state governments regardless of their size.

Greenspace is typically planned after traditional infrastructure which means that it is often in direct competition for limited funding. In addition, greenspace is rarely integrated into a coordinated and comprehensive planning process, often resulting in zoning, subdivision regulations and building and design codes that do not support green infrastructure planning.

It takes a willing government, a supportive community, a sustainable funding source and a commitment to an integrated and comprehensive planning process to achieve success.

# How to Make Green Infrastructure Happen In My Community

The following section outlines suggested steps for green infrastructure planning that have proven successful in jurisdictions around the U.S. But there is not a one-size-fits-all approach to green infrastructure planning and implementation. The following steps should be adapted to address the ecological needs, the social fabric and the resources of the particular community. There is no defined order for the process, but as each opportunity for land conservation arises, it may be necessary to add steps and expand or refine the process as presented.<sup>15</sup>

It is not possible within the scope of this toolkit to provide specific guidance as to how to get decision-makers to recognize the importance of greenspace planning, how to convince funders to support the cause or how to get the real estate and development communities on your side. These are local in nature and solutions must be tailored to address those issues.

## Establish the leadership structure:

- It is important that champions of green infrastructure planning are already in place prior to any concrete planning steps. Partnerships should be formed and stakeholders identified.
  - Recognize that the initiative to plan green can come from a variety of sources, including the government, community groups, non-profits, educational institutions and landowners.
  - Engage the real estate and development communities up front to get their perspective and to more readily understand their needs and concerns. This can be a powerful partnership.
  - Often, it is necessary to decide between enabling an existing group to lead the charge or forming a new committee. Be aware of redundancy, factions, undermining of authority and confusion that can be caused when shaping the leadership group.
  - It is important for the group to be diverse in interests, resources, disciplines and sectors (public, private, nonprofit) to represent the entire community.
- Be sure that the leadership group understands its mission, that members are available to meet regularly, that it is of a manageable size (subcommittees or working groups may be necessary) and that it remains motivated.

## Develop a Green Infrastructure Plan:

- Information Gathering:
  - Conduct a *fiscal analysis* that looks at the costs of services versus the impacts of property taxes.
  - *Poll members of the community* to gather their input on what they value in the community and what they see as their priorities and core values. This initial contact with the community will also provide a sense of how much educating, marketing and buy-in will be necessary later in the process.
  - Conduct an *inventory* of currently protected lands and those in need of protection.
  - Map the inventory using Geographic Information System software (GIS). This is an important tool for visualizing the existing and future green network and in setting priorities.
  - *Characterize the scope* of the vision, which can be broadly or narrowly defined. Determining the scope incorporates the values of the community and begins to define how expansive a process it will be in terms of staffing, funding, resources and implementation.
  - Consider a *build-out analysis* to understand how development pressures translate on the ground. Mapping is a useful tool for this purpose.
  - Create an *alternatives analysis* map. This can be a very useful step to gain a sense of priority and community desire.
- Visioning:
  - The visioning process should be community-based with all stakeholders, decision-makers and leaders represented.
  - The vision should encompass a broad range of common interests and should begin to define goals and strategies for completion. An inclusive vision statement is useful for rallying support and identifying a finish line.

- The vision statement should provide a complete environmental picture, map all areas of concern, and include the needs and desires of the community.
- The community-based visioning process can take the form of workshops, charrettes, surveys, one-on-one interviews and reports of findings.

### Develop the Implementation Plan:

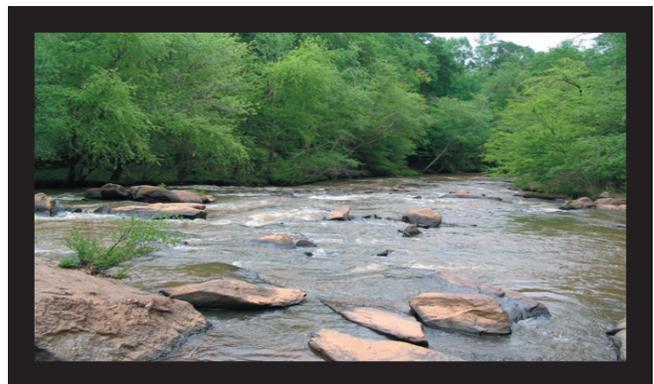
- The *implementation plan* not only identifies the goals, but also outlines how to get there, who is responsible, when it must be accomplished and where it will happen. It should also offer ways to tell if, and how well, the tasks are being completed.
- The three main components of the implementation plan are goals, objectives, and tasks. *Goals* specify what is to be done. *Objectives* are the big steps to achieving those goals. *Tasks* are the necessary baby steps toward goal completion.
- *Conduct an inventory* of available tools and resources, match tools, resources and the funds necessary to accomplish the tasks.
- *Conduct an audit* of existing ordinances, regulations and budgets to determine whether or not they support the creation of a green infrastructure system. If they do not or only partially accomplish the goal, then the municipality should amend the tool.
- An important part of the implementation plan is to create a means to monitor, evaluate and announce progress as well as to track acquisitions and easements.
- The implementation plan is a living document. It should be revisited and updated regularly to ensure success.

### Prepare the Management and Stewardship Plan:

- Land acquisition is merely the beginning of a green infrastructure system. Planning must address long-term restoration, management and stewardship of the land.
- Prior to acquisition, land should be assessed to establish a baseline status. Once title is acquired, restoration or mitigation may be necessary. Then monitoring becomes an important aspect of the management process. Finally, modification

of the management strategy could become necessary should conditions change.

- Green infrastructure management involves a variety of responsibilities and no two pieces of land may demand the same management plan. Keep in mind some of the following tasks and concerns :
  - Communicating with land-owners – Because not all land is in public ownership some of the duties include monitoring and enforcing conservation easements and fostering relationships with land owners of surrounding lands.
  - Species and habitats will vary across the network, so a breadth of knowledge and a varied arsenal of resources is necessary.
  - Politics can either work for or against a green infrastructure network. Land along political boundaries is especially susceptible.
  - Public access to land will vary along the network, requiring flexibility in programming and management.
  - The needs and desires of stakeholders may change as the network progresses through various communities.
- Land management is no small task and will require staffing and funding over the long-term. Holding land in perpetuity generally requires and benefits from a variety of tools, resources, funding and partnerships.



## Engage the Public:

- The public should be engaged from the beginning and should remain involved throughout the process.
- There are numerous ways to communicate and interact with the public including: press releases, surveys, the media, fact sheets and other printed materials, the internet, e-mail updates, workshops, charrettes, interviews, committee meetings and town hall meetings. Each interaction should be carefully staged and matched with the goal at hand, whether it is education, information gathering, marketing or volunteerism.
- Members of the community will be your stakeholders, committee members, partners and volunteers. Never underestimate a community group's power and ability to organize.
- The goal of public engagement is to build social capital, which, in essence, is the mutual trust of a community. Trust must be built, and it can be lost. It's important to the creation of a green infrastructure network and should not be underestimated.



## Integrate the Conservation Plan into Local Government Operations:

- Governments of all levels and sizes plan for infrastructure, so it should be a familiar process to plan for green infrastructure.
- Planning for green infrastructure does not have to be a completely separate planning process. There are many opportunities that exist to integrate conservation planning into the larger planning process. The following are some examples:
  - At the state level – in order to qualify for some types of federal funding, states often are required to complete various kinds of conservation plans, which can inform local planning efforts;
  - The local level – provide many opportunities to integrate green planning in planning and funding:
    - Revisions or amendments to the comprehensive plan, zoning ordinances and subdivision regulations;
    - Passage of the annual budget, which presents an opportunity to dedicate funding;
    - Greenspace planning can be integrated with historic, working lands and heritage preservation efforts;
    - Capital improvements that enable the construction of new public facilities as well as corridor and drainage projects, should be cognizant of green planning;
    - Eliminating obstacles such as minimum lot sizes and offering incentives to developers to direct development can greatly enable successful green infrastructure planning.
    - Already developed? There are still opportunities to plan green. Directing infill development can create parks and open space. Brownfields can be returned to a more natural state. Abandoned railroad lines and utility right-of-ways are particularly well-suited to trails and offer opportunities to link green spaces.
- It is important to institutionalize green infrastructure planning so that a change in leadership cannot negate the work completed to-date.

## Who Should Invest in Green Infrastructure?

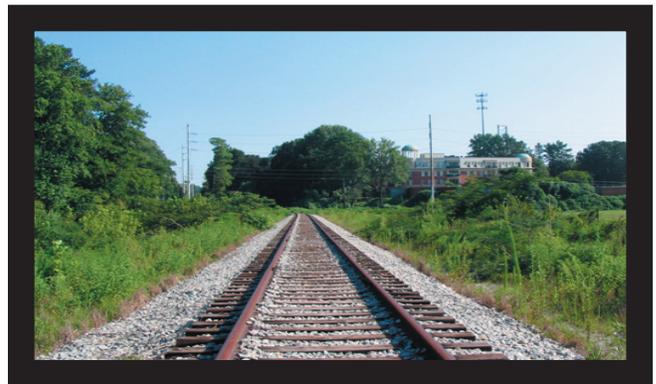
There are many players in successful efforts to provide green infrastructure. Federal and state governments are concerned about setting aside natural areas for people, as well as plants and wildlife. Private conservation organizations often take a scientific approach to preserving environmentally sensitive lands with the goal of creating opportunities for ecological connectivity.

Throughout its history, ARC has been involved in efforts to increase the amount of protected greenspace in the Atlanta region. As the region grew, along with ARC's planning area, over the years some areas targeted for protection were saved while others were lost to development. In the 1960s the Atlanta Region Metropolitan Planning Commission (previous incarnation of ARC) developed the Nature Preserve Plan that identified sites in a five-county planning area that should be acquired. Among the sites were Sweetwater Creek, Cochran Mill and Kennesaw Mountain.

Local governments and citizens are concerned with providing quality of life benefits, protecting land and water resources and preserving community character. These approaches can be combined into one comprehensive strategy to address the need to protect open space, the pressure to grow, the demands of developers and the economic bottom line.

During the past decade local governments have taken a larger role by utilizing funding opportunities available from the State of Georgia and generating revenue locally for greenspace acquisition. Ultimately, those who are leading the way in greenspace acquisition and preservation are entities that recognize that planning for green infrastructure does not happen in isolation. Just as the funding must come from a variety of sources, so too must the planning. Green infrastructure does not stop at political boundaries—both the impacts and benefits cross jurisdictional borders, so planning should do the same. With connectivity as the goal, green infrastructure demands a regional perspective. Because of this, green infrastructure planning must take place on local, regional, state and federal levels. All these levels must communicate with one another in order to create an interconnected green infrastructure system.

Because government support is crucial to green infrastructure planning, governmental entities should take the lead in coordination with each other, and with community members, non-profits, conservation groups (including land banks), land owners, developers, the public school system, funding agencies, scientists and universities, among others. Partnerships bring skills, support, funding, expertise and varying perspectives to the planning process and ultimately create a stronger, more efficient and cost effective green infrastructure plan.



## Where Should It Happen?

Decisions on where to protect land should be made by local elected officials and staff working with local citizens. In addition, ARC will be working with stakeholders from across the region to identify regional priorities and resources to protect these priority areas.

Just as development is not suitable for every parcel of land, land conservation may not be best suited for particular parcels. There are many types of land to protect each with varying levels of conservation benefits, so it cannot be said that a parcel of land is not suitable for conservation purposes without first considering it as an option.

There are numerous examples from across the country of methods utilized to evaluate land conservation options. In conjunction with their Growing Smart program, the American Planning Association assembled a list of land types, their corresponding physical manifestations and associated conservation objectives. Their seven commonly protected land types and physical manifestations include:<sup>16</sup>

### American Planning Association

1. natural hazards
  - a. floodplains
2. critical/sensitive lands
  - a. wetlands, water bodies, aquifer-recharge areas
  - b. wildlife habitat and corridors
  - c. ecologically significant lands
  - d. riparian buffer zones
3. agricultural/forest/scenic lands
  - a. agricultural and ranching lands
  - b. forests
  - c. scenic vistas
4. recreation
  - a. trails
  - b. parks, greenways, waterfronts
5. historic preservation
  - a. historic sites
  - b. agricultural sites
  - c. cultural sites
6. revitalization
  - a. brownfields
7. community design
  - a. land adjacent to permanent open space

The State of Georgia has also identified its goals for land conservation as set forth in The Georgia Land Conservation Act. Georgia land conservation priorities are listed below.<sup>17</sup>

In 2006, a Green Infrastructure Priorities Map is being developed by ARC using Geographic Information Systems (GIS). A methodology based on the criteria identified by the State of Georgia is being used to identify these areas. The resulting map is a coarse, graphic illustration of potential priority areas. Stakeholders from across the region will be engaged to further refine priorities and sharpen the focus on the highest priorities.

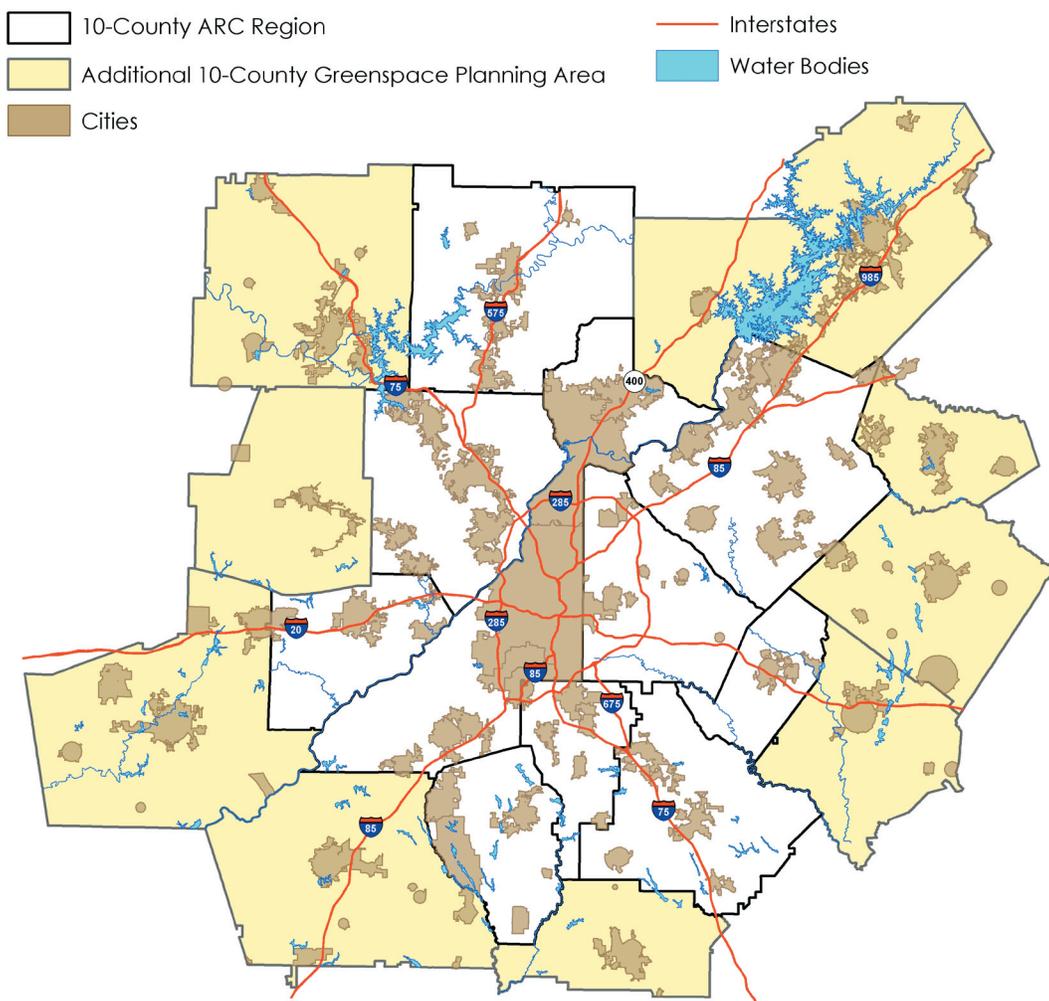
### Land Conservation Act of 2004

1. water quality protection for rivers, streams, and lakes;
2. flood protection;
3. wetlands protection;
4. reduction of erosion through protection of steep slopes, areas with erodible soils, and stream banks;
5. protection of riparian buffers and other areas that serve as natural habitat and corridors for native plant and animal species;
6. protection of prime agricultural and forestry lands;
7. protection of cultural sites, heritage corridors, and archaeological and historic resources;
8. scenic protection;
9. provision of recreation in the form of boating, hiking, camping, fishing, hunting, running, jogging, walking, and similar outdoor activities;
10. connection of existing or planned areas contributing to the other goals.

Both the APA and State of Georgia approaches illustrate that different methods for prioritizing land can be utilized. For local governments it may be necessary to develop locally defined priorities. For instance, the social benefits of land protection may outweigh the need to protect farmland in some communities.

ARC's Green Infrastructure Priorities Map is a first step toward regional prioritization. The resulting map is particularly useful in visualizing opportunities for a regional approach to greenspace planning and protection. The areas indicated on the priorities map should not be

considered the definitive list for a county or municipality. Further refinement of the initial map will occur in the coming years. The priorities map is a tool for local governments to begin constructing their own vision of a green infrastructure plan—to set a priority list based on land type and selection criteria that best fits their needs. The map will also roughly indicate areas that may be eligible for the Georgia Land Conservation grant and loan program for local governments or Georgia Conservation Tax Credits for individual landowners who voluntarily choose to permanently protect land.



Once a city or county has determined what types of land it wishes to protect, it's necessary to identify selection criteria with which to prioritize conservation of that land. Some typical criteria include the following<sup>18</sup>:

- Size – larger tracts tend to provide more benefits, particularly when it comes to species protection
- Diversity – more variety is better
- Naturalness – less human intervention is better
- Representation – those areas/species that are not well represented by existing conservation efforts should be given higher priority
- Rarity – sites with rare elements (species, habitat, historic sites) should be given priority
- Fragility – more fragile environments should be higher priorities
- Typicalness – common species also have a right to be protected
- Recorded history – it is easier to make the case to protect a scientifically well-researched and documented site
- Landscape position – connectivity and integration are important features, as well as attention to development patterns
- Potential value – sites that do not rate as high

in the above criteria but have the capacity to be restored or enhanced should be considered

- Intrinsic appeal – it can be easier to protect species or sites that have broad public appeal
- Accessibility – the value of active and passive recreational sites increases with the potential number of people served
- Connectivity – important for both animals and people although not always at the same time or on the same piece of land. Connectivity applies both to the overall network of green spaces as well as to accessibility by people.

Deciding upon a prioritization for protecting land is an important outcome of community engagement that should accompany any green infrastructure network planning. Each jurisdiction must arrive at its own conservation vision based upon weighting of the criteria to establish priorities. Regional priorities may serve as a guide, but there are local priorities that should also be pursued. This sense of ownership and accountability is important for buy-in, funding and support.

### DeKalb County – Setting Priorities

In 2001 DeKalb County voters supported a \$125 million bond referendum to acquire new greenspace, as well as a program to renovate and repair existing park facilities. A second referendum passed in 2005 to further the effort. Five years into an active greenspace program, the county has firmly set priorities and identified strategies for success. DeKalb's Greenspace Program uses a "Nomination Process" to identify properties that could potentially be acquired. Nominations are accepted from anyone in the county. The Nomination Form is available on-line and requires minimal information to encourage citizens to take the time to complete.

#### Priorities

##### Park Expansion

- Areas adjacent to existing parks
- Provision of park services in underserved areas
- Partnerships with schools
- Optimal location and site conditions (e.g. size, visibility, and slope)

##### Acquisition of Greenspace

- Areas that protect important natural resources as a nature preserve or greenspace
- Greenway connections between parks, schools, and other public areas
- Protection of significant historic and archaeological resources

#### Keys to Success

- Dedicated staff that can work exclusively on identification, acquisition, and coordination
- Staff positioned to work closely with elected officials
- Close working relationship between relevant departments (e.g. Parks and Recreation, Planning, and Public Works)
- Most challenging acquisitions handled by third-party so as to free-up staff resources to continue identification of potential acquisitions

## When Is The Right Time?

The short answer is now. Some of the reasons are federally enforced, such as federal air and water quality mandates or threatened or endangered species protection, but these are reactive reasons. The Atlanta region must become proactive and a national leader in acquiring and preserving green space. Reacting to situations is inevitably more costly than being proactive. The restoration of natural systems for cleaning the air and purifying the water always costs more than the protection of those natural systems. Often, these manmade technologies do not function as well or as long as their natural counterparts do.<sup>19</sup>

Planning ahead for land conservation is smart and cost-effective over the long run. In the 1940s, Montgomery County, Maryland decided to purchase land along its major stream corridors before land development made it impossible to preserve those areas. Today, this green infrastructure system encompasses over 25,000 acres and the county has pledged \$100 million over 10 years to complete the network. The land includes protected farmland, waterways, parks, ecological reserves, trails, and green spaces.<sup>19</sup>

The City of Atlanta recently embarked on a 22-mile park, trails, and green space initiative called the BeltLine, part of a larger city-encompassing

greenspace, transportation and economic development project. Skyrocketing costs of purchasing land for parks is an unfortunate side effect of the expectation of new development and redevelopment along a transit and greenway corridor. Five acres that would have cost Atlanta \$908,000 in 2004 now costs \$2.5 million and a one-acre parcel appraised for \$79,000 in 2004 now costs \$245,000.<sup>20</sup>

Of course, this toolkit serves to stress urgency and to promote a proactive and holistic approach to greenspace preservation. In reality, greenspace planning, acquisition and preservation rarely happen quickly.

There are many obstacles to be faced on the way to constructing a viable green infrastructure system. But while this process is in no way an easy one, it is definitely feasible, as some cities and counties are beginning to demonstrate. It is only a matter of time and money (which are substantial, but manageable challenges) before Georgia takes its place among the leaders in greenspace planning. It is up to each city and county to do its part to protect and preserve the natural state of Georgia for present and future generations.

### Carroll County - Preserving Rural Environment

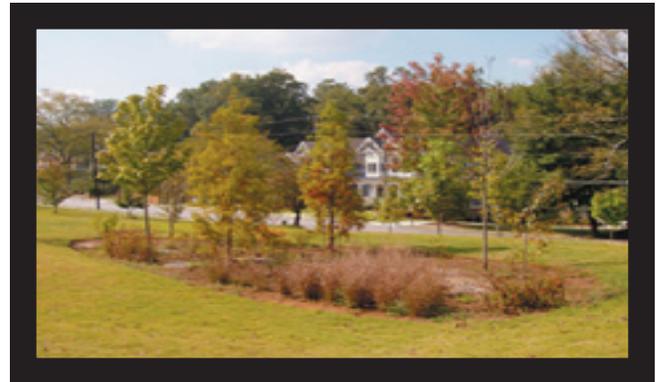
In 2003 Carroll County residents approved a Special Purpose Local Option Sales Tax (SPLOST) for greenspace acquisition and protection. The county has partnered with several organizations to build support for the program and to identify acquisition areas. Two primary purposes are being served through the protection and/or acquisition of greenspace: water quality protection and the preservation of scenic views and working landscapes. Successes from the initial SPLOST built momentum and given substantial visibility to the program, such that property owners are becoming more comfortable with all options that are available to them. The county utilizes fee simple acquisition and easements (conservation and agriculture) for greenspace protection.

#### Keys to Success

- A clear vision of what is important to preserve and protect in the community
- Diligent staff that can learn from the experiences of others around the state and/or country
- Strategic use of federal programs and partnerships
- Productive working relationships with non-governmental organizations, including land trusts and business organizations
- Continuous and consistent leadership from elected officials
- Realization that setting up a greenspace protection program is like setting up a company, and it may operate differently than other governmental operations that staff are accustomed to

## Acquisition Methods

The success of a green infrastructure network does not require that all lands be publicly owned. However, acquiring land or acquiring interests in land are effective tools for providing for the permanent protection of environmentally significant resources. Acquiring land can occur in many ways. The primary drawbacks for local governments pursuing acquisition are typically cost (staffing, maintenance, purchase price, loss to tax base), seller-willingness and complexity of agreements. The advantages, however, usually far outweigh the disadvantages and title acquisition is ultimately the best method to ensure that lands are protected in perpetuity.



### Acquisition Methods:

Tool	Description	Advantages	Disadvantages
<b>Fee Simple Acquisition</b>	Land is sold at its fair market value.	<ul style="list-style-type: none"> <li>Highest sales income to seller</li> </ul>	<ul style="list-style-type: none"> <li>Can be expensive for local governments in terms of land price, potential loss of revenue from removing land from tax base, and maintenance costs.</li> </ul>
<b>Bargain sale</b>	Part donation/part sale—property is sold at less than fair market value.	<ul style="list-style-type: none"> <li>Landowner is eligible for a tax deduction for the difference between the sale price and the fair market value because it is considered a charitable donation.</li> </ul>	<ul style="list-style-type: none"> <li>Seller must be willing to sell at less than fair market value.</li> <li>Can be expensive for local governments in terms of land price, potential loss of revenue from removing land from tax base, and maintenance costs.</li> </ul>
<b>Outright donation</b> <ul style="list-style-type: none"> <li>Charitable gift annuity</li> <li>Charitable remainder trust</li> </ul>	A donation by landowner of all interest in property.	<ul style="list-style-type: none"> <li>Allows for permanent protection without direct public expenditure.</li> <li>Tax benefits to seller—property's fair market value is considered a charitable contribution.</li> </ul>	<ul style="list-style-type: none"> <li>Few landowners willing to consider.</li> </ul>
<b>Bequest</b>	Landowner retains ownership until death.	<ul style="list-style-type: none"> <li>Management responsibility usually deferred until donor's death</li> </ul>	<ul style="list-style-type: none"> <li>Uncertain date of acquisition.</li> <li>Donor does not benefit from income tax deductions.</li> <li>Landowner can change will.</li> </ul>
<b>Donation with retained life estate</b>	Landowner donates during lifetime but has lifetime access.	<ul style="list-style-type: none"> <li>Landowner retains use and receives tax benefits from donation.</li> </ul>	<ul style="list-style-type: none"> <li>Uncertain date of acquisition.</li> </ul>

<b>Land exchange</b>	Exchange of developable land for land with high conservation value.	<ul style="list-style-type: none"> <li>▪ Minimal or no government funds required.</li> <li>▪ Landowner may defer capital gain recognition.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Properties must be of comparable value.</li> <li>▪ Complicated and time-consuming.</li> </ul>
<b>Tax foreclosure</b>	Government acquires land by tax payment default.	<ul style="list-style-type: none"> <li>▪ Limited expenditure.</li> <li>▪ Land might not be appropriate for public open space, but can be sold to provide funds for open space acquisition.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Cumbersome process.</li> </ul>
<b>Agency transfer</b>	Certain government agencies may have surplus property inappropriate for their needs that could be transferred to a parks agency for public use.	<ul style="list-style-type: none"> <li>▪ Limited expenditure.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Surplus property available may not be appropriate for park use or the owning agency may want to sell to a private party to generate revenue.</li> </ul>

<p><b>Conservation Easement</b></p> <ul style="list-style-type: none"> <li>▪ Short-term = &lt;30 years</li> <li>▪ Long-term = &gt;30 years</li> <li>▪ Permanent = forever</li> </ul> <p>Examples:</p> <ul style="list-style-type: none"> <li>▪ Peavine Watershed Alliance – DeKalb County</li> <li>▪ Altamaha Historic Scenic Byway (McIntosh and Glynn counties and the City of Darien).</li> <li>▪ Dalton and Whitfield County joint greenspace acquisition.</li> </ul>	<p>Legal agreement a property owner makes to restrict the type and amount of development that may take place on his or her property. A partial interest in the property is transferred to a qualified nonprofit, land trust, or governmental entity either by gift or purchase, in exchange for a tax savings. As ownership changes, the land remains subject to the easement restrictions.</p>	<ul style="list-style-type: none"> <li>▪ Less expensive than fee simple.</li> <li>▪ If certain conservation purposes are met a landowner can qualify for federal and state tax credits.</li> <li>▪ Voluntary, incentive-based, and non-controversial method.</li> <li>▪ Tailored to the protection requirements of the landowners and the property.</li> <li>▪ Landowner retains ownership and property remains on the tax rolls, but often at lower rate because of restricted use.</li> <li>▪ Potential for income, property, and estate tax benefits from donation.</li> <li>▪ More permanent and often more restrictive than land use regulations, which can change with the political climate.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Public access may not be required.</li> <li>▪ Easement must be managed and enforced.</li> <li>▪ Restricted use may lower resale value.</li> <li>▪ Can result in an unconnected patchwork of protected lands.</li> </ul>
<p><b>Purchase of land with lease-back</b></p>	<p>As part of purchase contract, a city/county agrees to lease land back to the seller, subject to restrictions.</p>	<ul style="list-style-type: none"> <li>▪ Income through lease-back.</li> <li>▪ Liability and management responsibilities assigned to lessee.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Public access may not be available.</li> <li>▪ Land must be appropriate for lease-back (e.g. agricultural)</li> </ul>
<p><b>Lease</b></p>	<p>Short-or long-term rental of land.</p>	<ul style="list-style-type: none"> <li>▪ Low cost for use of land.</li> <li>▪ Landowner receives income and retains control of property.</li> <li>▪ Can provide for public access on private land</li> <li>▪ Long-term leases may include first right of refusal language</li> </ul>	<ul style="list-style-type: none"> <li>▪ Affords only limited control of property.</li> <li>▪ Temporary.</li> </ul>

<p><b>Purchase of development rights (PDR)</b></p> <p>Examples:</p> <ul style="list-style-type: none"> <li>▪ Carroll County</li> </ul>	<p>An agreement in which a landowner sells the right to develop his property to a qualified non-profit, land trust, or government agency. An easement is placed on the property permanently protecting the property from development.</p>	<ul style="list-style-type: none"> <li>▪ Similar to a conservation easement except that the price paid for the property is based on market value.</li> <li>▪ A means to fill gaps in the green infrastructure network not assembled through conservation easements.</li> <li>▪ Non-controversial and effective method for protecting open space.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Although a lower cost alternative to buying properties outright, can be expensive to implement.</li> <li>▪ Uncooperative property owners could require full purchase of some properties.</li> <li>▪ Requires a funding mechanism to finance the acquisition of development rights.</li> </ul>
<p><b>Transfer of Development Rights (TDR)</b></p> <p>Case Studies:</p> <ul style="list-style-type: none"> <li>▪ Chattahoochee Hill Country – Fulton County</li> <li>▪ Montgomery County, Maryland</li> </ul>	<p>A transfer of development rights (TDR) enables landowners in an area planned to remain as open space "sending zone" to sell their development rights for use in "receiving" areas of the community where higher density development is acceptable or desirable. Buying these additional development rights allows developers in the "receiving" areas to build at a higher density than would otherwise be allowed.</p>	<ul style="list-style-type: none"> <li>▪ Unlike a PDR which prevents development, a TDR directs development.</li> <li>▪ Can be a low-cost method to protect open space in fast growing urban areas.</li> <li>▪ The voluntary nature of Georgia's TDR program, which requires the consent of both the sending and receiving property owners, avoids any taking without compensation challenges.</li> </ul>	<ul style="list-style-type: none"> <li>▪ If zoning ordinances in the receiving areas are not well-written undesirable development could be encouraged.</li> <li>▪ Are difficult to develop and implement.</li> <li>▪ Difficult to make workable in rural or slow-growing areas.</li> <li>▪ Georgia's current law necessitates numerous hearings and approvals.</li> <li>▪ May require down-zoning in affected areas.</li> <li>▪ Residents may oppose increased density in "receiving" area.</li> <li>▪ Requires the coordination of several governing bodies to designate sending and receiving areas.</li> </ul>

<p><b>Historic preservation easement</b></p>	<p>Historic preservation easements can be used to protect a historic landscapes, battlefield, traditional cultural place, or archaeological site. Under the terms of an easement, a property owner grants a portion of, or interest in, her property rights to an organization whose mission includes historic preservation.</p>	<ul style="list-style-type: none"> <li>▪ An individual retains private ownership of the property and can obtain financial benefits.</li> <li>▪ An easement binds not only the current owner, but future owners.</li> <li>▪ Easements are flexible tools with which to preserve property for future generations.</li> <li>▪ If certain criteria are met the landowner can receive a Federal income tax deduction and or state tax credit.</li> <li>▪ Additional financial benefits may be available in the form of reduced estate, gift, and local property taxes.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Requires staffing for maintenance and enforcement of the easement.</li> </ul>
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Sources:  
 Trust for Public Land (2003). *Local Greenprinting for Growth Workbook: Using Land Conservation to Guide Growth and Preserve the Character of our Communities. Volume IV: How to Acquire and Manage Park and Conservation Lands*. TPL: Author  
 Georgia Department of Community Affairs. Georgia Quality Growth Partnership. Available online at [www.dca.state.ga.us/toolkit/index.asp](http://www.dca.state.ga.us/toolkit/index.asp)

## Regulatory Methods

Local governments may use their police powers to restrict land uses in order to protect the health, safety, and welfare of the public. The Georgia Constitution has granted the state the authority to restrict land uses in order to protect the state's natural resources, significant environmental areas, and lands that protect the water supply, water recharge areas, wetlands, stream corridors, and steep slopes.<sup>21</sup>

Local governments use zoning, subdivision regulations, and building codes to control their land uses. These controls can be effective tools for land preservation, but because Georgia has not historically undertaken conservation in this manner, they are less common. In the past decade the list of available tools has grown tremendously. Unfortunately, green infrastructure is typically not part of an integrated planning process. Often the tools, as written, fail to

accomplish this goal. Effective land use controls need not discourage development instead they can encourage developers to contribute to the land conservation program by prescribing exactly what the community wants and rewarding them for complying.

Zoning, while a relatively easy and cost-effective tool, often faces intense political pressure; and it is a temporary solution for a long-term need. Failure to coordinate land use plans, both within and across jurisdictions, can result in incompatible land uses at borders, or a patchwork of preserved lands that fail to create the necessary connectivity to form a successful green infrastructure network. Regulatory approaches work best when combined with compensatory approaches or bonuses and incentives.

### Land Use Controls:

Tool	Description	Advantages	Disadvantages
<b>Comprehensive Plan</b>	Serves as the blueprint for local governments to outline land use goals, growth patterns, and infrastructure placement. Also provides the policy framework for implementation tools.	<ul style="list-style-type: none"> <li>Reflects the vision and goals of the community.</li> <li>When consistent with regulations it provides strong legal basis.</li> </ul>	<ul style="list-style-type: none"> <li>Zoning and subdivision regulations must be amended to reflect the vision as set forth by the community. If not, they can work against the vision.</li> </ul>

<p><b>Urban growth boundary</b></p> <p><b>Case Study:</b></p> <ul style="list-style-type: none"> <li>▪ Athens-Clarke Greenbelt</li> </ul>	<p>Defines the limit for future growth by establishing a boundary within which urban development and high capacity infrastructure will be permitted. Development is restricted outside the boundary to preserve the farmland and rural character of these areas.</p>	<ul style="list-style-type: none"> <li>▪ Preserves rural character without preventing new development.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Difficult to agree on boundary.</li> <li>▪ May encounter opposition from property owners outside the boundary.</li> <li>▪ May increase housing &amp; development costs.</li> <li>▪ Not permanent, growth boundaries can move over time.</li> </ul>
<p><b>Agricultural Protection Zoning</b></p>	<p>Also called agricultural districts. Designates areas where agriculture is the preferred land use based on various criteria. Regulations may set large minimum parcel sizes (e.g. &gt; 10 acres), design criteria, and review procedures to ensure compatibility.</p>	<ul style="list-style-type: none"> <li>▪ Preserves rural character without preventing new development.</li> <li>▪ Simple to administer for governments already having land use or development regulations in place.</li> <li>▪ Can be combined with transfer of development rights (see TDR).</li> </ul>	<ul style="list-style-type: none"> <li>▪ Developers and landowners may oppose restrictions on development potential of their properties.</li> <li>▪ Not permanent.</li> <li>▪ May require down-zoning in affected areas.</li> <li>▪ Can sprawl if lot size minimums are not set large enough (preferably 20 to 25 acres or more).</li> <li>▪ Tax basis for land must be kept at an agricultural use.</li> </ul>
<p><b>Cluster/Open Space Zoning</b></p>	<p>Commercial, residential or mixed-use development in which a significant portion of the site (e.g. 40% or greater) is set aside as undivided, permanently protected open space, while the buildings (houses, shops, etc.) are clustered on the remainder of the property.</p>	<ul style="list-style-type: none"> <li>▪ Creative design solutions can reduce neighborhood opposition.</li> <li>▪ Effective tool for encouraging compact development.</li> <li>▪ Preserves rural character without preventing new development.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Requires establishment of ownership and maintenance arrangement to govern common open space</li> <li>▪ Requires qualified staff to administer.</li> <li>▪ Developers and landowners may oppose restrictions on development potential of their properties.</li> <li>▪ Not permanent, unless coupled with permanent conservation easement.</li> </ul>

<b>Conservation-Design Development</b>	Developers concentrate homes on a small portion of the developable land, leaving a large part of the site in its natural state. Incorporates greenways and trails throughout the site.	<ul style="list-style-type: none"> <li>▪ Can be lucrative to developers and therefore popular.</li> <li>▪ Typically 50-70% of the land is preserved in its natural state.</li> </ul>	<ul style="list-style-type: none"> <li>▪ May raise the prices of homes.</li> <li>▪ Developers and landowners may oppose restrictions on development potential of their properties.</li> <li>▪ Not permanent, unless coupled with permanent conservation easement.</li> </ul>
<b>Conservation Subdivision</b>	Residential or mixed-use developments in which significant portion of the site is set aside as undivided, permanently protected open space, with houses clustered on the remainder of the property. The development plans must meet certain criteria specified in the ordinance.	<ul style="list-style-type: none"> <li>▪ Effective and low cost means to protect environmentally sensitive areas from inappropriate development.</li> <li>▪ A streamlined site plan review process encourages developer participation.</li> <li>▪ Best when the rezoning approval process is eliminated.</li> <li>▪ Enables and encourages developers to take the lead in building innovative subdivisions.</li> <li>▪ Preserves rural character without preventing development.</li> </ul>	<ul style="list-style-type: none"> <li>▪ May encounter opposition by residents of neighboring areas concerned with the perceived increased density of subdivisions.</li> <li>▪ Requires establishment of ownership and maintenance arrangement to govern common open space.</li> <li>▪ Requires qualified staff to administer.</li> </ul>
<b>Downzoning</b>	Reducing the number of homes that can be built per acre per site.	<ul style="list-style-type: none"> <li>▪ Downzoning typically stabilizes land values in an area.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Often opposed by homeowners who fear it will affect their property values.</li> <li>▪ Developers and landowners may oppose restrictions on development potential of their properties.</li> <li>▪ Not permanent.</li> </ul>

<b>Incentive Zoning</b>	<p>The practice of granting developers extra elements they want (most often density increases) in exchange for providing amenities such as greenspace. A density increase is called a “density bonus.”</p>	<ul style="list-style-type: none"> <li>▪ Most effective where there is a high demand for density increases.</li> <li>▪ Simple to administer for governments with land use or development regulations already in place.</li> </ul>	<ul style="list-style-type: none"> <li>▪ May be less effective than higher density zoning</li> <li>▪ Developers and landowners may oppose restrictions on development potential of their properties.</li> <li>▪ Not permanent.</li> </ul>
<b>Large Lot Zoning</b>	<p>Zoning districts with very large minimum lot size requirements (at least 5 acres, preferably 20 acres) that limit development density in areas where preservation is desired.</p>	<ul style="list-style-type: none"> <li>▪ Simple to administer for governments who already have land use or development regulations in place.</li> <li>▪ Still allows new development in an area where rural character and open space is desired.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Developers and landowners may oppose restrictions on development potential of their properties.</li> <li>▪ May require down-zoning in affected areas.</li> <li>▪ Can cause inefficient development patterns if lot size minimums are not set large enough (preferably 20 to 25 acres or more).</li> <li>▪ Not permanent.</li> </ul>
<b>Low Impact Development</b>	<p>Encourages environmentally-friendly ways to develop. Manages stormwater, by collecting and draining or evaporating it onsite, rather than routing it into a typical stormwater collection system. LID techniques include bioretention, permeable pavers, tree box filters, rain barrels, disconnected downspouts, narrower streets, infiltration swales, rooftop meadows, bioretention cells and rain gardens.</p>	<ul style="list-style-type: none"> <li>▪ Save local governments money on stormwater infrastructure.</li> <li>▪ A streamlined review process is an incentive to developers who choose this option.</li> <li>▪ Enables developers to be more efficient and innovative in providing parking</li> <li>▪ Enables developers to take the lead in bringing quality growth type development to the community</li> </ul>	<ul style="list-style-type: none"> <li>▪ May be necessary to educate developers who may oppose new requirements because of unfamiliarity.</li> <li>▪ Developers and landowners may oppose restrictions on development potential of their properties.</li> <li>▪ Not permanent.</li> </ul>

<b>Performance Zoning</b>	The amount of sewage capacity available or the acceptable volume of storm water runoff, for example, in an area determines the uses permitted.	<ul style="list-style-type: none"> <li>▪ Ensures that development can be serviced adequately.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Developers and landowners may oppose restrictions on development potential of their properties.</li> <li>▪ Not permanent.</li> </ul>
<b>Flood Hazard or Floodplain Overlay</b>	Typically administered as an overlay. Controls development on land that is susceptible to flooding. The floodplain is divided into the floodway and the floodway fringe. Floodplain regulations may prohibit development in the floodplain or may designate acceptable placement and design.	<ul style="list-style-type: none"> <li>▪ The National Flood Insurance Program may provide affordable insurance to property owners in the floodplain if the structures meet federal criteria.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Can add complexity to local development regulations</li> <li>▪ Property owners may resist special requirements</li> </ul>
<b>Hillside Development Overlay</b>	Used to protect areas with steep slopes by encouraging development to respect the constraints and challenges of the topography. May include standards that limit densities based on steepness of slope and suitability of soil, etc. <b>(DCA Model Code 2-7):</b>	<ul style="list-style-type: none"> <li>▪ Hillside development standards cannot be met fully with existing development codes, such as soil erosion, grading, tree protection and flood damage prevention.</li> <li>▪ Guidelines encourage innovative building techniques and designs compatible with natural hillside surroundings.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Requires familiarity with the county's soil survey which reveals slopes and unstable soils and their locations.</li> <li>▪ Unfamiliarity necessitates contacting the Natural Resources Conservation Service, the county extension agent, or a planner with the regional development center for assistance.</li> <li>▪ Geologic mapping necessary to identify areas with potentially unstable slopes.</li> <li>▪ Can add complexity to local development regulations.</li> <li>▪ Property owners may resist special requirements</li> </ul>

<p><b>Scenic Byway Designation</b></p>	<p>Designates segments of scenic roads for special protection measures. Measures may include litter control, sign regulations, design guidelines, land use controls or other measures intended to maintain the rural character of the roadway. Measures are described in a corridor management plan that must be approved by the State Department of Transportation.</p>	<ul style="list-style-type: none"> <li>▪ State-designated Scenic Byways are also eligible for nomination to the National Scenic Byways Program</li> </ul>	<ul style="list-style-type: none"> <li>▪ Stakeholder consensus on the contents of the corridor management plan may be difficult to achieve.</li> <li>▪ Landowners may resist new restrictions on use of their land.</li> <li>▪ Can have limited effectiveness unless local governments along the Byway agree to adjust development regulations to implement the corridor management plan.</li> <li>▪ Once designated, someone must take responsibility for maintaining the byway and implementing the corridor management plan.</li> </ul>
<p><b>Scenic Corridor</b></p>	<p>Protects scenic views by requiring land uses to complement rather than detract from the scenic experience. <b>(DCA Model Code 4-8)</b></p>	<ul style="list-style-type: none"> <li>▪ Local governments should consider requiring design review for all structures and buildings within the scenic corridor overlay district.</li> <li>▪ The comprehensive plan should be consulted as it relates to scenic views and sites.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Can add complexity to local development regulations.</li> <li>▪ Property owners may resist special requirements.</li> </ul>
<p><b>Historic District Ordinance</b></p>	<p>Protects places, districts, sites, buildings, and structures, having a special historic, cultural, or aesthetic interest or value. <b>(DCA Model Code 5-4)</b></p>	<ul style="list-style-type: none"> <li>▪ An effective means of preserving valuable cultural resources.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Requires knowledgeable staff.</li> </ul>

<b>Traditional Neighborhood Design (TND)</b>	<p>Typically include small lot single-family homes, multi-family residences, and neighborhood commercial developments, all within easy walking distance of one another.</p>	<ul style="list-style-type: none"> <li>▪ Effective means to improve the appearance and walkability of all new developments in the community.</li> <li>▪ Can be used to require the inclusion of green or open space in a subdivision.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Requires comprehensive rewrite of local development regulations.</li> <li>▪ Requirements only apply to new or (re)development so may take years to show effect.</li> <li>▪ New requirements may be opposed by developers not used to this type of development.</li> <li>▪ Requires qualified staff to administer.</li> </ul>
<b>Tree Protection</b>	<p>Requires preservation of a significant portion of the trees on a development site, particularly larger, more mature specimens.</p>	<ul style="list-style-type: none"> <li>▪ A community can also adopt specimen or “heritage” tree protections, which protect individual trees considered important because of unique characteristics.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Must have consistent and enforceable guidelines for developers in place during the construction process.</li> </ul>
<b>Wetland Mitigation</b>	<p>Promotes wetland protection by requiring activities that may damage wetlands be located on upland sites to the greatest degree practicable as determined through a permitting process.</p>	<ul style="list-style-type: none"> <li>▪ Effective and low cost means to protect environmentally sensitive areas from inappropriate development.</li> <li>▪ A streamlined site plan review process encourages developer participation.</li> <li>▪ Preserves wetlands without preventing new development.</li> </ul>	<ul style="list-style-type: none"> <li>▪ May encounter opposition by landowners who do not want restrictions on their land.</li> </ul>

<p><b>Agricultural Buffer</b></p>	<p>Requires that a buffer be provided between new non-agricultural development adjacent to agricultural land. <b>(DCA Model Code 4-3)</b></p>	<ul style="list-style-type: none"> <li>▪ Minimizes potential conflicts between agricultural and non-agricultural land uses.</li> <li>▪ Non-agricultural uses when contiguous to farmland can affect how an agricultural use can be operated, which can lead to the conversion of agricultural land to urban, suburban, or other non-agricultural use.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Potential for land owner opposition to requirements on their land.</li> </ul>
<p><b>Landscaping Buffer</b></p>	<p>Requires planting landscaped areas to mask unattractive land uses, to provide visual and sound barriers between incompatible uses, increase aesthetic values, and protect water quality. <b>(DCA Model Code 3-9)</b></p>	<ul style="list-style-type: none"> <li>▪ Community may also want to adopt a tree protection ordinance.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Inappropriate landscaping can degrade the quality of the natural environment by requiring excess water and pesticides, or by creating unnecessary conflicts with sewers, sidewalks and vehicle access.</li> <li>▪ Requires some knowledge of environmentally sound landscaping practices and may necessitate a city or county arborist who is also responsible for administering and enforcing landscaping and buffering regulations.</li> </ul>
<p><b>Riparian Buffer</b></p>	<p>Requires strips of land (from 25 to 150 feet in width) along both banks of streams and rivers be set-aside from development and left in their undisturbed, natural state as a vegetative barrier. These buffers protect water quality by slowing and filtering stormwater runoff before entering the stream.</p>	<ul style="list-style-type: none"> <li>▪ Mandated by The Erosion and Sedimentation Control Act, The Mountain and River Corridor Protection Act, and the Georgia Planning Act.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Width of buffers is subject to change. Particularly detrimental if width is reduced.</li> </ul>

Sources:  
 Georgia Department of Community Affairs. Georgia Quality Growth Partnership. Available online at [www.dca.state.ga.us/toolkit/index.asp](http://www.dca.state.ga.us/toolkit/index.asp)  
 The Georgia Conservancy. *Saving Georgia's Landscape: A Call to Action*. The Georgia Conservancy: Author.

## Incentives for Landowners

Incentives are included in this toolkit as a resource for local governments to direct landowners to opportunities available to them for the preservation and maintenance of their land. Because incentives rely on voluntary landowner involvement, they avoid controversial issues related to property rights and individual liberties. While they are a wonderful resource in the land conservation arena, providing direct benefits to landowners, they do require a certain amount of attention and stewardship by local governments. The table below should not be considered an exhaustive list of all incentives available in the state of Georgia. The Georgia Department of Natural Resources maintains much of this information [www.georgiawildlife.com](http://www.georgiawildlife.com).

The title acquisition methods and landowners incentives that provide tax relief include:

- Bargain sale of property
- Conservation easement
- Current Use Valuation of Conservation Use Property (CUVA)
- General Property Exchange (1031 Exchange)
- Georgia Land Conservation Tax Credit
- Preferential Assessment for Agricultural and Forestry Properties
- Property donation
- Reforestation tax credit and 7-year amortization
- Retained life estate

Tool	Description	Advantages	Disadvantages
<b>Carbon sequestration registry</b>	The process by which forests remove carbon dioxide, a byproduct of burning fossil fuels, from the air. Trees store that carbon in wood fiber, and release oxygen.	<ul style="list-style-type: none"> <li>▪ It is an emerging market opportunity for forest owners.</li> <li>▪ The sale of carbon credits could be a new source of revenue for landowners in the near future.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Not yet fully operational in the state of Georgia.</li> <li>▪ Managed planted forests accumulate carbon faster than do forests of natural origin.</li> </ul>
<b>Conservation Lease</b>	Landowners receive regular rent payments and technical assistance for maintaining their property in its natural state.	<ul style="list-style-type: none"> <li>▪ No direct costs to the landowner.</li> <li>▪ In some instances the conservation organization holding the lease may pay for and perform maintenance on the land.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Usually not a significant source of income for landowners.</li> <li>▪ Leases are made by conservation organizations so landowner may need to take the first step.</li> <li>▪ Lease terms are variable.</li> </ul>

<b>Current Use Valuation of Conservation use property (CUVA)</b>	<p>A reduction in property taxes through the dedication of land to a qualified use (agriculture, farming, environmentally critical, etc.). Property is assessed at 40% of current use value.</p>	<ul style="list-style-type: none"> <li>▪ Tax reduction occurs when the land is taxed based on its current use value rather than its fair market value.</li> <li>▪ Landowner faces stiff penalties for breaking the non-development covenant placed on the land.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Landowners may only place up to 2,000 acres in the program.</li> <li>▪ Limited sign up period each year.</li> <li>▪ Not permanent, covenant lasts 10 years.</li> </ul>
<b>Density bonus</b>	<p>The practice of granting developers extra elements they want (most often density increases) in exchange for providing amenities such as greenspace.</p>	<ul style="list-style-type: none"> <li>▪ Most effective where there is high demand for density increases.</li> <li>▪ Easy to administer for governments already having land use or development regulations in place.</li> </ul>	<ul style="list-style-type: none"> <li>▪ May be less effective than higher density zoning.</li> <li>▪ Developers and landowners may oppose restrictions on development potential of their properties.</li> </ul>
<b>Easements with a Wetland Mitigation Bank</b>	<p>A landowner may offer wetlands on his property to a mitigation bank for protection and/or restoration.</p>	<ul style="list-style-type: none"> <li>▪ All costs of restoration are assumed by the mitigation bank.</li> <li>▪ Landowner benefits from reduced taxes, possible monetary compensation, and restored wetlands.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Can be costly.</li> <li>▪ Requires staffing.</li> </ul>
<b>Federal Taxpayer Relief Act of 1997</b>	<p>Rewards landowners who put conservation easements on their property with a 40% estate tax exemption up to \$500,000 for qualified properties.</p>	<ul style="list-style-type: none"> <li>▪ Becomes easier for farmers to pass land to future generations.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increases complexity of taxes.</li> </ul>
<b>Georgia Land Conservation Tax Credit</b>	<p>Available to individuals or corporations that donate land or a conservation easement to a government entity or qualified non-profit organization.</p>	<ul style="list-style-type: none"> <li>▪ Landowner can claim a credit against their state income tax liability.</li> <li>▪ Donation must be permanent to qualify for tax credit.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Can be difficult to find landowners willing to donate land.</li> </ul>

<b>General Property Exchange (1031 exchange)</b>	Section 1031 of the IRS code allows landowners to exchange their property for another "like-kind" property without having to pay capital gains tax on the transaction.	<ul style="list-style-type: none"> <li>▪ Completely voluntary.</li> </ul>	<ul style="list-style-type: none"> <li>▪ May be difficult to find like-kind properties of equal or greater value.</li> <li>▪ Time constraints must be adhered to.</li> </ul>
<b>Preferential Assessment for Agricultural and Forestry Property</b>	Gives tax relief to qualified owners of farm and forest property who have long-term plans to continue these uses.	<ul style="list-style-type: none"> <li>▪ Landowners may realize a 25% property tax savings.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Sign-up limited to three months out of the year.</li> <li>▪ Landowner must enter into a ten year covenant with tax penalty to withdraw. May be off-putting to some landowners.</li> </ul>
<b>Public Recognition and Notification</b>	Recognizes good stewards in a public manner rewarding them for their dedication to land conservation practices. Also notifies landowners of important resources on their properties.	<ul style="list-style-type: none"> <li>▪ Cost effective.</li> <li>▪ Useful as a marketing tool.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Lacks the strength of financial or technical assistance.</li> </ul>
<b>Reforestation tax credit and 7-year amortization</b>	In the year that a timber landowner is incurring reforestation expenses, he is allowed to take a ten percent investment tax credit on the first \$10,000 spent. Over the first seven years, can amortize costs minus half the tax credit.	<ul style="list-style-type: none"> <li>▪ Encourages reforestation of land.</li> </ul>	<ul style="list-style-type: none"> <li>▪ May complicate taxes.</li> <li>▪ Tax credit and amortization deductions subject to recapture if trees are disposed of within five years of planting for the credit and ten years of planting for the amortization.</li> </ul>
<b>Registry Programs</b>	A way to reward and encourage the voluntary protection of land by private landowners. A non-binding agreement enrolls the landowners in the registry. In return, they receive technical assistance and information regarding conservation practices particular to their land.	<ul style="list-style-type: none"> <li>▪ Local governments can start their own registry program or may serve as a repository of information about available programs elsewhere.</li> <li>▪ Cost effective.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Requires staff time.</li> </ul>

<p><b>Tax incentives: Estate tax, income tax, property tax</b></p>	<p>There may be income, estate and property tax benefits for donating land, donating a conservation easement, or selling the property as a "bargain sale" at below market value. The amount and type of tax benefits depends on a variety of factors, including the legal tool used to protect the land, the value of the donation, the landowner's income level and the total amount of the estate.</p>	<ul style="list-style-type: none"> <li>▪ Bargain sale of land allows landowner to avoid some form of capital gains tax and entitles landowner to a charitable income tax donation.</li> <li>▪ An easement results in property tax savings</li> <li>▪ Land donation can result in income tax deductions and estate tax benefits while avoiding capital gains taxes.</li> </ul>	<p>A landowner's agreement must be voluntary, legally binding, and permanent in order to qualify for favorable tax treatment.</p>
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**Sources:**  
The Georgia Conservancy. *Saving Georgia's Landscape: A Call to Action*. The Georgia Conservancy: Author.  
Griffith, J.C. (2000). "The Preservation of Green Space: Is Georgia Ready to Combat Sprawl with Smart Growth." *Wake Forest Law Review*. 35.563-606  
Van De Genatche, E. and Cammack, S. (2004). *Landowner's Guide to Conservation Incentives*. Georgia Department of Natural Resources: Social Circle, GA.

## Funding Mechanisms

The biggest obstacle facing land conservation is a lack of a significant dedicated funding source. Investing in the future has a cost. Money is needed for title acquisition, staffing, land inventory and appraisals, mitigation, maintenance, planning, and public outreach to name a few expenses. State and federal funding will most likely be insufficient to cover all costs; and they generally act as matching funds to local funding sources.

In general, revenue can be raised through a pay-as-you-go approach or by borrowing. With the *pay-as-you-go* approach, local governments spend revenues from general budget appropriations or a dedicated funding source such as taxes, fees, land banking, and assessments. This approach can be attractive to fiscally conscious voters and public officials. Pay-as-you-go means that there is year-by-year accountability for money spent and no costs to borrow. However, it also means that revenues are usually smaller and funding can be difficult to sustain with changes in the leadership and the community.

*Borrowing* can provide a community with significant form of revenue and the flexibility to pay up-front costs for large scale projects; the

benefit being that today's costs are less than tomorrow's. Bonds are typically paid off over a specified period of time. Financing charges apply which can cause community members and decision-makers concern. General obligation bonds require voter approval often at a super-majority.<sup>22</sup>

Funding sources can be creative. Rockdale County raises money for stewardship and maintenance of its forests by managing (thinning) its timber lands. The state of Florida funds its Florida Forever program with documentary stamp tax revenues, which are generated from real estate transactions. So, a fee to develop property pays for the preservation of environmentally significant lands elsewhere.

At this point, funding for land conservation is the primary concern for local governments. Preserving land in perpetuity requires strong partnerships and multiple sources of funding. However, a lack of funds should never stop land conservation efforts; it may slow title acquisition or environmental restoration, but it should not stop the planning process.

Tool	Description	Advantages	Disadvantages
<b>Special Purpose Local Option Sales Tax (SPLOST)</b>	An optional 1% special purpose tax used to finance specific projects for a time period not to exceed five years.	<ul style="list-style-type: none"> <li>Used to fund a capital outlay project which could include green space although the law does not specifically address green space in its language.</li> <li>The SPLOST language does include funding recreational facilities and bicycle paths.</li> </ul>	<ul style="list-style-type: none"> <li>Must be adopted by a local ordinance or resolution and approved at a referendum by county voters.</li> <li>Requires more than 50% voter approval.</li> <li>May face voter disapproval because it is a "tax."</li> </ul>
<b>Budget appropriation</b>	A dedicated funding line in the operation budget.	<ul style="list-style-type: none"> <li>Can provide known and consistent source.</li> </ul>	<ul style="list-style-type: none"> <li>Not necessarily a permanent source of funding.</li> <li>Amount of funding can be unstable.</li> </ul>

<p><b>Property Tax</b></p>	<p>Tax on real property paid for by commercial and residential property owners</p>	<ul style="list-style-type: none"> <li>▪ Steady source of revenue that is less affected by downturns in the economy than either sales or income taxes.</li> <li>▪ Revenue can be accurately predicted.</li> <li>▪ Relatively easily administered.</li> <li>▪ Tax burden fairly equitably distributed.</li> <li>▪ Small increases create substantial funding.</li> <li>▪ Can be popular with voters when focuses on compelling land conservation needs.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Competition for other public purposes.</li> <li>▪ Overall concern among taxpayers about high rates.</li> </ul>
<p><b>User Fee</b></p>	<p>Intended to cover the cost of providing goods or services. Typically, the fees are collected from any user, although local governments can also create special districts and charge user fees for services provided to people in a defined area.</p>	<ul style="list-style-type: none"> <li>▪ Voluntary.</li> <li>▪ Exempt from tax limitation laws.</li> <li>▪ Can be a useful tool to pay for maintenance.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Considered a regressive tax.</li> </ul>
<p><b>Development Impact Fees</b></p>	<p>One-time fee paid by developer to local government to offset costs of providing infrastructure to new development. Developer can be required to pay a fee to provide parks and recreational space within the development.</p>	<ul style="list-style-type: none"> <li>▪ New source of revenue to local governments.</li> <li>▪ Reduces costs by making use of existing public facilities and infrastructure.</li> <li>▪ Encourages infill development while discouraging leap-frog development.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Can be complex to develop the ordinance.</li> <li>▪ Developers and landowners may oppose restrictions on development potential of their properties.</li> <li>▪ May increase housing and development costs .</li> </ul>

<b>Benefit Assessment Districts</b>	Assess a defined constituency and provide benefits to those residents, such as roads, water, parks, and recreational facilities. Unlike BIDs or special assessment districts, these districts lack a partnership, structure, or separate governmental body with management responsibilities.		<ul style="list-style-type: none"> <li>▪ Possibly time consuming to implement.</li> <li>▪ Overall concern among taxpayers about high rates.</li> </ul>
<b>Subdivision Exaction</b>	An agreement that the developer will dedicate land for a public use. Fee may be used for parks, recreation areas, and trailways, among many other purposes. Payments are often accepted in lieu of land. (The term “exactions” is often used more generally to refer to various fees or obligations imposed on developers or businesses, including impact fees.)	<ul style="list-style-type: none"> <li>▪ No cost to local government</li> <li>▪ Reduces tendency toward “cookie-cutter” subdivisions</li> <li>▪ Simple to administer for governments already having land use or development regulations in place</li> </ul>	<ul style="list-style-type: none"> <li>▪ Appropriate for local governments that have significant development pressures that are straining the capacity of the local transportation network.</li> <li>▪ Developers and landowners may oppose restrictions on development potential of their properties</li> <li>▪ May increase housing &amp; development costs</li> </ul>
<b>General obligation bonds</b>	Loan taken out by a city or county against the value of the taxable property.	<ul style="list-style-type: none"> <li>▪ Allows for immediate purchase of open space, locking in land at current prices.</li> <li>▪ Distributes the cost of acquisition over time.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Can be costly because interest charges are tacked onto the cost of the project.</li> <li>▪ Voter approval required, sometimes by supermajority levels.</li> <li>▪ Typically a lot of competition among the many local programs needing funding.</li> </ul>

<p><b>Mitigation land banks</b></p>	<p>Mitigation banking is the restoration, creation, enhancement, or in exceptional circumstances, preservation of wetlands for the express purpose of providing compensation for unavoidable wetland losses in advance of development actions, when such compensation cannot be achieved at the development site or would not be as environmentally beneficial.</p>	<ul style="list-style-type: none"> <li>▪ Can be the best option when development violations have already occurred or when key natural areas are targeted for protection.</li> <li>▪ Offers local governments flexibility in land use decisions.</li> <li>▪ Enables the protection of a single, larger area of land rather than scattered, smaller tracts.</li> <li>▪ Compensation occurs in advance of the impact.</li> <li>▪ Negotiations can happen outside the deadlines of development.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The only true mitigation is avoidance, so mitigation land banking does result in a net loss of lands worthy of protection.</li> <li>▪ Cannot guarantee that species and habitat loss at development site can be safeguarded at the banked site.</li> </ul>
<p><b>Special Assessment Districts</b></p>	<p>Separate units of government that manage specific resources within defined boundaries. Districts can vary in size. They can be established by local governments or by voter initiative, depending on state laws and regulations. As self-financing legal entities they have the ability to raise a predictable stream of money, such as taxes, user fees or bonds, directly from the people who benefit from the services -- often parks and recreation.</p>	<ul style="list-style-type: none"> <li>▪ Users finance acquisition and management.</li> <li>▪ Predictable revenue stream.</li> <li>▪ Accountability in government spending.</li> <li>▪ Sense of ownership of and responsibility for area parks and services.</li> <li>▪ Can establish in small increments.</li> <li>▪ May be able to set own election date and process.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Possibly time consuming to implement.</li> <li>▪ Overall concern among taxpayers about high rates.</li> </ul>

<b>Revenue bonds</b>	<p>Loan paid from proceeds of a tax levied for the use of a specific public project, or with proceeds of fees charged to those who use the financed facility.</p>	<ul style="list-style-type: none"> <li>▪ Not constrained by debt ceilings of general obligation bonds.</li> <li>▪ Voter approval rarely required because the government is not obligated to repay the debt if the revenue stream does not flow as predicted.</li> </ul>	<ul style="list-style-type: none"> <li>▪ More expensive than general obligation bonds.</li> </ul>
<b>Short-term bond instruments</b>	<p>Promissory notes and bond and tax anticipation warrants can provide communities with park and open space protection financing options.</p>	<ul style="list-style-type: none"> <li>▪ Can help local governments that have limited long-term bonding authority but sufficient income to cover the debt service of a loan.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Costly to the borrower.</li> </ul>
<b>Certificates of Participation (COPS)</b>	<p>Lease-purchase arrangements that allow a government to pay for a property over time.</p>	<ul style="list-style-type: none"> <li>▪ Do not require a referendum</li> <li>▪ Do not impact a community's debt limit.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Fairly new as a financing mechanism.</li> </ul>
<b>Community Improvement District (CID)</b>  <p>Examples:</p> <ul style="list-style-type: none"> <li>▪ Gwinnett Place CID</li> <li>▪ Perimeter CID – Fulton and DeKalb Counties</li> <li>▪ Highway 78 CID - Gwinnett</li> </ul>	<p>An organization, usually consisting of local businesses and other institutions, created for financing a range of facilities and services in a clearly defined area. CID's can issue bonds and impose property taxes. A CID must be approved by the passage of a law in the Georgia Assembly, and approval also must be granted by the local government and 75% of the property owners in the proposed area. Also known as a Business Improvement District (BID)</p>	<ul style="list-style-type: none"> <li>▪ A self-funding way to generate revenue for facilities and services.</li> <li>▪ No cost to local government.</li> <li>▪ Effective means to manage development.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Can add complexity to local development regulations.</li> <li>▪ Difficult to create and complex to develop and administer</li> <li>▪ Do not provide a dedicated city or county-wide funding stream for parks.</li> <li>▪ BIDs are an inequitable park financing method, because they are not likely to be found in poorer neighborhoods where residents cannot afford to tax themselves for additional park maintenance.</li> </ul>

<p><b>Tax Allocation District (TAD)</b></p> <p>Examples:</p> <ul style="list-style-type: none"> <li>▪ City of Atlanta - BeltLine TAD</li> </ul>	<p>A designated area in which improvements, usually related to infrastructure or environmental problems, are carried out by a local government in order to make a site viable for development. The local government typically issues bonds to pay for the improvements, and the added tax revenues that the project eventually generates are used to pay off the bonds. Known as tax increment financing (TIF) around the U.S. The term "tax allocation district" is specific to Georgia.</p>	<ul style="list-style-type: none"> <li>▪ Reduces urban sprawl by focusing on infill development.</li> <li>▪ Effective means of managing development in "problem" areas.</li> <li>▪ Can be used to fund the development of greenway corridors, local parks, and other green space.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Requires skilled staff to administer which could be an issue.</li> <li>▪ Complex to develop</li> <li>▪ Local government must consider the advantages and disadvantages related to the cost of financing, who bears that cost, and how it will affect future investment in the community.</li> <li>▪ May be too costly for some local governments to provide the incentives and public improvements to encourage infill development.</li> </ul>
<p><b>Public/private partnerships</b></p>	<p>Can be an extremely effective means of acquiring funding or assistance.</p>	<ul style="list-style-type: none"> <li>▪ Can be cost effective, particularly if a private partner donates money for acquisition and/or maintenance costs.</li> <li>▪ New sources of information, technical assistance, and funding with each new partnership.</li> <li>▪ Partners bring a variety of skills to the table.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Requires staff time.</li> <li>▪ Terms and length of partnership subject to change.</li> <li>▪ Partners bring a variety of personalities to the table.</li> </ul>

**Sources:**  
Trust for Public Land (2003). *Local Greenprinting for Growth Workbook: Using Land Conservation to Guide Growth and Preserve the Character of our Communities. Volume IV: How to Acquire and Manage Park and Conservation Lands.* TPL: Author  
The Georgia Conservancy. *Saving Georgia's Landscape: A Call to Action.* The Georgia Conservancy: Author.  
Griffith, J.C. (2000). "The Preservation of Green Space: Is Georgia Ready to Combat Sprawl with Smart Growth." *Wake Forest Law Review.* 35.563-606

## Resources and Technical Assistance:

### Helpful Websites:

Alliance for Quality Growth - <http://aqq.ecology.uga.edu/>  
American Farmland Trust - <http://www.farmland.org/default.asp>  
Association County Commissioners of Georgia - <http://www.accg.org/>  
Atlanta Audubon Society - <http://www.atlantaaudubon.org/>  
Atlanta Bicycle Campaign - <http://www.atlantabike.org/>  
Atlanta Regional Commission - <http://www.atlantaregional.com/cps/rde/xchg/>  
Cattlemen's Association – [www.gabeef.org](http://www.gabeef.org)  
Center for Watershed Protection - <http://www.cwp.org/>  
County Tax Assessor Offices - variable  
The Conservation Fund - <http://www.greeninfrastructure.net/>  
Environmental Protection Agency – [www.epa.gov/smartgrowth](http://www.epa.gov/smartgrowth)  
The Farm Bureau of Georgia – [www.gfb.org](http://www.gfb.org)  
Farm Service Agency - <http://www.fsa.usda.gov/pas/>  
Federal Highway Administration - <http://www.fhwa.dot.gov/index.html>  
The Georgia Conservancy – [www.georgiaconservancy.org](http://www.georgiaconservancy.org)  
Georgia Department of Agriculture – [www.agr.state.ga.us](http://www.agr.state.ga.us)  
Georgia Department of Community Affairs – [www.dca.state.ga.us](http://www.dca.state.ga.us)  
Georgia Department of Natural Resources - <http://www.gadnr.org/>  
Georgia DNR Wildlife Resource Division – <http://georgiawildlife.dnr.state.ga.us>  
Georgia Department of Transportation - <http://www.dot.state.ga.us/index.shtml>  
Georgia Environmental Action Network - <http://www.protectgeorgia.net/>  
Georgia Environmental Council - <http://www.gecweb.org/>  
Georgia Environmental Facilities Authority - <http://www.gefa.org/>  
Georgia Environmental Policy Institute - <http://www.gepinstitute.com/>  
Georgia DNR, Environmental Protection Division - <http://www.gaepd.org/>  
Georgia Farm Service Agency - <http://www.fsa.usda.gov/ga/>  
Georgia Forestry Association – [www.gfagrow.org](http://www.gfagrow.org)  
Georgia Forestry Commission – [www.gfc.state.ga.us](http://www.gfc.state.ga.us)  
Georgia ForestWatch - <http://www.gafw.org/>  
Georgia Land Trust – [www.galandtrust.org](http://www.galandtrust.org)  
Georgia Land Trust Service Center – [www.gepinstitute.com](http://www.gepinstitute.com)  
Georgia Municipal Association - <http://www.gmanet.com/home/default.asp>  
Georgia Native Plant Society - <http://www.gnps.org/>  
Georgia Natural Resources Conservation Services – [www.ga.nrcs.usda.gov](http://www.ga.nrcs.usda.gov)  
Georgia DNR, Pollution Prevention Assistance Division - <http://www.gadnr.org/p2ad/>  
Georgia Quality Growth Partnership – [www.georgiaqualitygrowth.com](http://www.georgiaqualitygrowth.com)  
Georgia Resource Conservation & Development Council - <http://garcd.org/>  
Georgia River Network - <http://www.garivers.org/>  
Georgia Rural Development Council - <http://www.dca.state.ga.us/ruralcouncil/>  
Georgia Water Coalition - <http://www.gwf.org/gawater/>  
Georgia Wildlife Federation – [www.gwf.org](http://www.gwf.org)  
Georgia Wildlife Resource Division - <http://georgiawildlife.dnr.state.ga.us/content/displaynavigation.asp?TopCategory=82>  
Georgia Wetlands Trust Fund – [www.gepinstitute.com](http://www.gepinstitute.com)  
International Rivers Network – [www.irn.org](http://www.irn.org)

Keep Georgia Beautiful - <http://www.dca.state.ga.us/environmental/kgb/>  
Land Trust Alliance, Southeast Region - <http://www.lta.org/regionallta/southeast.htm>  
League of Conservation Voters Education Fund – [www.voteenvironment.org](http://www.voteenvironment.org)  
National Park Service - <http://www.nps.gov/>  
National Park Service Rivers, Trails, and Conservation Assistance Program – [www.nps.gov/rtca](http://www.nps.gov/rtca)  
National Recreation and Park Association – [www.nrpa.org](http://www.nrpa.org)  
National Scenic Byways Program - <http://www.byways.org/>  
National Trust for Historic Preservation – [www.nthp.org](http://www.nthp.org)  
The Nature Conservancy, Georgia Chapter –<http://nature.org/wherewework/northamerica/states/georgia>  
Partners for Fish & Wildlife Program, Region 4 - <http://ecos.fws.gov/partners/viewContent.do?viewPage=contactInfo4>  
Path Foundation - <http://www.pathfoundation.org/>  
Rails to Trails Conservancy – [www.railtrails.org](http://www.railtrails.org)  
River Basin Center, UGA, Institute of Ecology - <http://www.rivercenter.uga.edu/index.htm>  
Sierra Club, Georgia Chapter - <http://www.georgia.sierraclub.org/>  
Southeastern Cave Conservancy, Inc. - <http://www.scci.org/>  
Southern Environmental Law Center, Georgia – <http://www.selcga.org/states/georgia.htm>  
Trees Atlanta - <http://www.treesatlanta.org/>  
The Trust for Public Land – [www.tpl.org](http://www.tpl.org)  
U.S. Department of Agriculture - <http://www.usda.gov/wps/portal/usdahome>  
USDA Farm Service Agency, Georgia Office – [www.fsa.usda.gov/ga](http://www.fsa.usda.gov/ga)  
USDA Roadless Area Conservation - <http://www.roadless.fs.fed.us/>  
U.S. Fish & Wildlife Service, Southeast Region Headquarters – <http://southeast.fws.gov>  
U.S. Forest Service – <http://www.fs.fed.us/>  
UGA, College of Agricultural & Environmental Sciences – <http://www.caes.uga.edu/extension/>  
UGA Office of Environmental Sciences – <http://unit.caes.uga.edu/oes/>  
UGA, Carl Vinson Institute – [www.cviog.uga.edu](http://www.cviog.uga.edu)  
The Wilderness Society - <http://www.wilderness.org/>

### **Georgia Case Studies:**

Altamaha Riverkeeper - <http://www.altamahariverkeeper.org/>  
Altamaha Scenic Byway (and other GA byways) - <http://www.byways.org/browse/states/GA/>  
Celebrate Etowah - <http://www.celebrate-etowah.org/>  
Chattahoochee Hill Country - [www.chatthillcountry.org](http://www.chatthillcountry.org)  
DeKalb County Greenspace Program - <http://dekalbgreenspace.com/>  
Greenprint Georgia, TPL (Hall, Carroll, Forsyth, Paulding, Morgan counties) - [http://www.tpl.org/tier3\\_cdl.cfm?content\\_item\\_id=11351&folder\\_id=2306](http://www.tpl.org/tier3_cdl.cfm?content_item_id=11351&folder_id=2306)  
Highway 78 Community Improvement District - <http://www.78cid.org/>  
Upper Chattahoochee Riverkeeper - <http://www.ucriverkeeper.org/>

### Helpful Tools/Information Sources:

Conservation Easements - <http://www.gepinstitute.com/consease.htm>  
Conservation Incentives - The Landowners Guide to Conservation Incentives available online at: <http://georgiawildlife.dnr.state.ga.us/content/displaycontent.asp?txtDocument=370>  
Georgia Incentives for Conservation - <http://www.biodiversitypartners.org/state/ga/incentives.shtml>  
Georgia Land Trusts - <http://www.gepinstitute.com/>  
Georgia Stormwater Management Manual - <http://www.georgiastormwater.com/>  
Historic Preservation Easements - <http://www.cr.nps.gov/hps/tps/tax/easement.htm>  
Historic Preservation Tax Incentives - <http://www.cr.nps.gov/hps/tps/tax/easement.htm>  
Quality Growth Toolkit - <http://www.dca.state.ga.us/toolkit/toolkit.asp>  
Special Purpose Local Option Sales Tax - [http://www.accg.org/static/2005\\_SPLOST\\_Guide.pdf](http://www.accg.org/static/2005_SPLOST_Guide.pdf)  
Transfer of Development Rights - <http://outreach.ecology.uga.edu/tools/tdr.html>

### Model Ordinances:

Agricultural Buffers (DCA Model Code 4-3)  
<http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=135#MO>  
[http://www.dca.state.ga.us/intra\\_nonpub/Toolkit/ModelOrdinances/AltZ/4\\_3.pdf](http://www.dca.state.ga.us/intra_nonpub/Toolkit/ModelOrdinances/AltZ/4_3.pdf)  
Agricultural Land Use Regulations (DCA Model Code 4-1)  
<http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=108>  
[http://www.dca.state.ga.us/intra\\_nonpub/Toolkit/ModelOrdinances/AltZ/4\\_1.pdf](http://www.dca.state.ga.us/intra_nonpub/Toolkit/ModelOrdinances/AltZ/4_1.pdf)  
Agricultural Zoning  
<http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=52>  
Alternatives to Conventional Zoning  
<http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=93>  
Cluster Development  
<http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=58>  
Conservation Easement  
<http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=35>  
[http://www.dca.state.ga.us/intra\\_nonpub/Toolkit/ModelOrdinances/ModConsEsmnt.pdf](http://www.dca.state.ga.us/intra_nonpub/Toolkit/ModelOrdinances/ModConsEsmnt.pdf)  
Conservation Subdivision Model Ordinance [www.atlantaregional.com/qualitygrowth/toolkits.html](http://www.atlantaregional.com/qualitygrowth/toolkits.html)  
<http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=31>  
[http://www.dca.state.ga.us/intra\\_nonpub/Toolkit/ModelOrdinances/ModConsubOrd.pdf](http://www.dca.state.ga.us/intra_nonpub/Toolkit/ModelOrdinances/ModConsubOrd.pdf)  
Heritage Preservation Programs  
<http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=50>  
[http://www.bsc.ca.gov/title\\_24/documents/Part8/2001\\_part8.pdf](http://www.bsc.ca.gov/title_24/documents/Part8/2001_part8.pdf)  
Hillside Development Standards (DCA Model Code 2-7)  
<http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=98>  
[http://www.dca.state.ga.us/intra\\_nonpub/Toolkit/ModelOrdinances/AltZ/2\\_7.pdf](http://www.dca.state.ga.us/intra_nonpub/Toolkit/ModelOrdinances/AltZ/2_7.pdf)  
Historic Preservation Ordinance: (DCA Model Code 5-4)  
<http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=118>  
[http://www.dca.state.ga.us/intra\\_nonpub/Toolkit/ModelOrdinances/AltZ/5\\_4.pdf](http://www.dca.state.ga.us/intra_nonpub/Toolkit/ModelOrdinances/AltZ/5_4.pdf)  
Incentive Zoning  
<http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=55>  
Landscaping Ordinance: (DCA Model Code 3-9)  
[http://www.dca.state.ga.us/intra\\_nonpub/Toolkit/ModelOrdinances/AltZ/3\\_9.pdf](http://www.dca.state.ga.us/intra_nonpub/Toolkit/ModelOrdinances/AltZ/3_9.pdf)  
<http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=106>

## Large Lot Zoning

<http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=38>

[http://www.dca.state.ga.us/intra\\_nonpub/Toolkit/Guides/LgLotZng.pdf](http://www.dca.state.ga.us/intra_nonpub/Toolkit/Guides/LgLotZng.pdf)

## Low Impact Development

<http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=144>

## Overlay District Model Ordinance

<http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=7>

[http://www.dca.state.ga.us/intra\\_nonpub/Toolkit/ModelOrdinances/ModOvrlyDist.pdf](http://www.dca.state.ga.us/intra_nonpub/Toolkit/ModelOrdinances/ModOvrlyDist.pdf)

## Purchase of Development Rights

<http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=36>

## Riparian Buffers Ordinance

<http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=67>

## Rural Clustering (DCA Model Code 4-7)

<http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=112>

[http://www.dca.state.ga.us/intra\\_nonpub/Toolkit/ModelOrdinances/AltZ/4\\_7.pdf](http://www.dca.state.ga.us/intra_nonpub/Toolkit/ModelOrdinances/AltZ/4_7.pdf)

## Traditional Neighborhood Design Ordinance and Design Standards:

### TND, Comprehensive TND Ordinance

<http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=11>

[http://www.dca.state.ga.us/intra\\_nonpub/Toolkit/ModelOrdinances/TND\\_ModOrd.pdf](http://www.dca.state.ga.us/intra_nonpub/Toolkit/ModelOrdinances/TND_ModOrd.pdf)

### TND, Floating Districts

<http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=9>

[http://www.dca.state.ga.us/intra\\_nonpub/Toolkit/ModelOrdinances/TND\\_ModOrd.pdf](http://www.dca.state.ga.us/intra_nonpub/Toolkit/ModelOrdinances/TND_ModOrd.pdf)

## Transfer of Development Rights Ordinance

[www.chatthillcountry.org/hot-topics/tdr.htm](http://www.chatthillcountry.org/hot-topics/tdr.htm)

[http://www.dca.state.ga.us/intra\\_nonpub/Toolkit/Guides/TDR.pdf](http://www.dca.state.ga.us/intra_nonpub/Toolkit/Guides/TDR.pdf)

## Tree Protection (DCA Model Code 3-4)

<http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=102>

[http://www.dca.state.ga.us/intra\\_nonpub/Toolkit/ModelOrdinances/AltZ/3\\_4.pdf](http://www.dca.state.ga.us/intra_nonpub/Toolkit/ModelOrdinances/AltZ/3_4.pdf)

## Scenic Byway Designation

<http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=65>

## Scenic Corridor Overlay District (DCA Model Code 4-8)

<http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=113>

[http://www.dca.state.ga.us/intra\\_nonpub/Toolkit/ModelOrdinances/AltZ/4\\_8.pdf](http://www.dca.state.ga.us/intra_nonpub/Toolkit/ModelOrdinances/AltZ/4_8.pdf)

## Urban Growth Boundary

<http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=53>

## Conservation Efforts in Other States:

### Florida

[www.geoplan.ufl.edu/projects/greenways/greenwayindex.html](http://www.geoplan.ufl.edu/projects/greenways/greenwayindex.html)

### Maryland

[www.dnr.state.md.us/greenways/greenprint/](http://www.dnr.state.md.us/greenways/greenprint/)

### Oregon

[www.metro-region.org/parks/parkfuture.html](http://www.metro-region.org/parks/parkfuture.html)

<http://www.biodiversitypartners.org/>

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- 4 Advisory Council for the Georgia Land Conservation Partnership.
- 5 Daniels, T. and Lapping, M. (2005). "Land Preservation: An Essential Ingredient in Smart Growth." *Journal of Planning Literature*, 19(3), 316-329.
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- 12 Greenways and Natural Areas Collaborative. (1997). *Metro Greenprint: Planning for nature in the face of urban growth*. Author.
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- 17 Georgia Land Conservation Program available online at [http://www.gadnr.org/glcp/Documents/Evaluation\\_Criteria.pdf](http://www.gadnr.org/glcp/Documents/Evaluation_Criteria.pdf)
- 18 Benedict and McMahon (2006).
- 19 Benedict and McMahon (2006).
- 20 Pendered, D. (2006). "Landowner testing transit loop waters." *The Atlanta Journal-Constitution*. Accessed online on June, 14, 2006.
- 21 Advisory Council for the Georgia Land Conservation Partnership.
- 22 The Trust for Public Land. Available online at [http://www.tpl.org/tier3\\_cdl.cfm?content\\_item\\_id=1048&folder\\_id=825](http://www.tpl.org/tier3_cdl.cfm?content_item_id=1048&folder_id=825).

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