Local Funding Alternatives for the Acquisition of Greenspace: 
How Local Governments in Georgia Can Augment the 
Community Greenspace Trust Fund

Department of City and Regional Planning Option Paper

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Chapter 1. The Georgia Community Greenspace Program

With the recent adoption of Georgia's Community Greenspace Program, Georgia legislators have shown their commitment to preserving open spaces and greenspace in and around the State's largest communities. The legislation suggests that the citizenry is concerned about preserving natural areas and creating community gathering places for recreation and leisure, not in some far off national park, but rather right down the street. The enabling legislation (SB399) states as its purpose "...to provide a flexible framework within which populous and rapidly growing cities and counties in this state can develop a program of community greenspace preservation" (36-22-1).

This section will analyze the perceived problem (loss of greenspace in heavily populated areas), several causes of the problem, and offer a brief summary of how Georgia's Community Greenspace Program is designed to mitigate these problems.

The Problem

Georgia's largest and fastest-growing communities are losing greenspace at an alarming rate. Inefficient development patterns create unattractive communities, expensive infrastructure requirements, long commute times, and public open space deficiencies. The loss of urban and suburban open spaces not only presents environmental concerns, directly and indirectly (i.e. groundwater recharge difficulties, air pollution, erosion control, urban heat island effects, etc.), but also contributes to a general reduction in quality of life. That these are the problems inherent in the loss of open space has been recognized by the Greenspace Advisory Committee and subsequently by the Georgia Legislature (Community Green Space Advisory Committee).

Causes of the Problem

I. Poor Planning

The raison d'être of the planning profession is to guide development in an efficient and equitable manner. Planners accomplish this goal by applying policy mechanisms to the land development process. As an example, zoning ordinances are used to separate disparate land uses, and to ensure appropriate densities in residential areas. Unfortunately, when suburban subdivisions allow for two-acre lots, land requirements are significantly higher than they could have been if smaller lot sizes were mandated. The common sense notion that lower densities, holding population constant, result in greater consumption of land is mirrored by the corresponding increase in infrastructure requirements. In other words, more dispersed development necessitates longer infrastructure trunk lines.
The rationale for zoning large lots is reasonable, in that it is generally considered a response to consumer demands. This, in turn, results in increased tax revenue, for if there are no two-acre lots in a particular jurisdiction, the consumer who desires this much land will vote with his feet, likely choosing a neighboring jurisdiction that will allow large-lot zoning.

Planners, therefore, are faced with difficult decisions. When regional issues such as this are raised (i.e. competition for residents), it is justifiable for the state to step in. What results without state intervention is a form of the Prisoner's Dilemma—planners in competing jurisdictions would both like smaller lots (to decrease overall land consumption) without sacrificing residential population and tax revenue. With no guarantee that a competing jurisdiction will restrict lot sizes, however, the planners and decision makers in each jurisdiction decrease densities to the point where open space conservation becomes extremely difficult. Had each jurisdiction negotiated and struck a mutual agreement on densities, everyone would be better off (in terms of open space considerations), and have much more land for potential preservation. By intervening, the state ensures that all competing jurisdictions will be on a level playing field, so none has to sacrifice residents for open space preservation.

It should be noted that this analogy also applies to situations other than residential densities. For instance, restricting development in floodplains reduces the amount of potential sites for a given industrial facility that utilizes flowing water, thereby increasing the attractiveness of competing jurisdictions who may not prevent development in floodplains. By establishing a statewide mandate on floodplain development, interjurisdictional competition will be negated.

2. Private property rights vs. public ownership

There is little economic incentive for landowners to refrain from development. Government agencies are not powerless to restrict development on privately owned land, yet they are faced with significant difficulties. First, denying development rights presents the issue of takings, a clause in the 5th Amendment that protects private property rights. By mandating that a landowner may not develop his or her land, the landowner may rightfully contend that this right was taken by the government without just compensation. Compensating landowners for development rights is, of course, very expensive. Governments have responded with policies that accomplish preservation, but at the same time supplying just compensation by allowing the landowner to develop in other areas at higher densities, or to sell those rights in a private market. This policy is commonly known as a transfer of development rights program. It is difficult to apply this policy universally, however, because high densities are not always desired, and landowners who wish to reserve the right to add improvements to their land may present considerable political opposition. Also, in areas with little or no development activity, there may be no potential buyers in a transfer of development rights market.
Accordingly, many local and state governments have sought to purchase land in fee-simple or purchase easements to ensure open space preservation. Crompton (1999) suggests that easement purchase is superior to fee-simple purchase for two very important reasons. First, the easement is very flexible. When local governments purchase land fee simple, title to the land is either owned or it is not. With easements, however, a wide range of permission or restriction is possible for the landowner— the potential to draft an easement to meet both the public's needs and the landowner's needs is increased. Furthermore, easement purchase helps to avoid the alienation of property owners that frequently accompanies eminent domain or fee-purchase acquisition. Secondly, the difference in cost between purchasing land in fee simple and acquiring an easement is significant (Crompton 99). Not only are easements cheaper to purchase than the full title, but the landowner retains the financial burden of operation and maintenance costs. Also, in an easement purchase, the landowner will continue to pay property taxes on the use value of the land (Crompton 1999, Coughlin and Plaut 1978).

3. Difficulty constraining the land development market

Real estate development is a massive industry nationwide. The development paradigm that emerged just after World War II (large-lot suburban subdivisions, corporate campuses, regional malls) has incredible momentum, and continues to be the dominant form of development (despite considerable private investment in infill locations and small-scale neotraditional developments). While it is debatable whether it was the consumer who demanded this type of development, or if the development community itself defined the land use patterns of the late 20th Century, one fact remains clear— development on suburban greenfields cannot, and should not, be stopped entirely. The American Dream has been so closely associated with the cul-de-sac subdivision that it would be monumentally foolish (as well as impossible) to attempt any policy to prevent new development of the traditionally suburban sort. Nevertheless, conventional notions of healthy development in the real estate industry do nothing but perpetuate the loss of public open space.

4. Land preservation vs. economic development

The fourth cause for the loss of open space can be defined as the "development conflict" (Campbell 1996). Campbell claims "[t]his may be the most challenging conundrum of sustainable development: how to increase social equity and protect the environment simultaneously... [h]ow could those at the bottom of society find greater economic opportunity if environmental protection mandates diminished economic growth?" The development conflict occurs, therefore, when planners and policymakers are forced to choose between land conservation and economic growth. The Community Greenspace enabling legislation recognizes this conflict, though not explicitly, by suggesting that the unique characteristics of each region preclude a statewide mandate. For example, the announcement of the development of a 300-acre industrial park on a greenfield in Dougherty County (Albany), an economically struggling community, presents much less of a debate were the same
development announced for wealthy North Fulton County. Priorities are subjective, of course, but it is difficult to argue against the creation of hundreds of jobs in an area that desperately needs them, even at the expense of the very land the Greenspace Program is designed to preserve.

**Georgia's response**

In response to growing demand for more open space, in light of the four causes of open space depletion mentioned above, the Georgia legislature passed Senate Bill 399 on February 29, 2000. The Act created the Georgia Greenspace Commission and the Georgia Greenspace Trust Fund, of which $30 million was deposited for disbursement during FY2001. To be included in the program, a Georgia county must have in excess of 60,000 population, or have grown by more than 800 persons per year over the last ten years. Figure 1 shows those counties selected for fiscal year 2001.

![Figure 1. Counties selected for the Community Greenspace Program.](image-url)
The program states as its purpose "...to promote the permanent protection as greenspace of at least 20% of each eligible county's geographic area" (DNR Rules 391-1-4-.03). The rules dictate that each county should seek to protect 20% of total geographic area, not just 20% of remaining undeveloped area. Large bodies of water (over 500 acres) as well as marine estuaries do not figure into calculations of land area.

Following are the central tenets of the Program as it exists today.

1. That effective planning is the first step toward preserving greenspace

2. That greenspace preservation should be implemented locally, with state facilitation

3. That land is best preserved through the purchase or donation of real land or the land's development rights

4. That land must be protected in perpetuity

5. That each locality must leverage local funding with state funding to reach the desired goal of 20% land preservation

6. That 20% preservation is a goal and not a specific requirement

Through these six essential tenets, the Community Greenspace Program attempts to address the four causes of open space depletion mentioned above. The rules of the program, as dictated in the legislation and as interpreted by the Georgia Department of Natural Resources (DNR— the department charged with the management of the program), reflect the state's belief that ownership of land or the land's development rights (i.e. a conservation easement) is the most effective means of protecting it. To qualify for inclusion in the county's greenspace inventory, DNR requires that the land be permanently protected, through one of the following methods:

- Acquiring land in fee simple; or

- Acquiring conservation easements on privately owned land to protect natural, historic, or recreational resources, or to protect agricultural or forestry land uses (Rules 391-1-4)

Furthermore, local governments have the option of permanently protecting lands that they already own, through one of the following methods:

- Placing conservation easements on conservation, preservation, and recreational lands that do not currently qualify as permanently protected.
• Entering into contractual arrangements to ensure that, if the protected status is discontinued, such land will be replaced by other greenspace of equal or greater monetary and resource protection value

• Creating a restrictive covenant in favor of a federal governmental entity

• Entering into a 5-year intergovernmental contract with the State, together with a separate agreement that the county will convert such contract to permanent protection when a suitable legal means becomes available

• Using any other method that ensures the greenspace will remain forever in uses which further the goals of the Georgia Greenspace Program (Rules 391-1-4)

These rules effectively ignore traditional land use regulations such as zoning in the fight to permanently protect greenspace, under the assumption that zoning ordinances are sufficiently malleable. In other words, land zoned for conservation today may not be zoned for conservation at some point in the future. The rules mandate that local jurisdictions suggest changes to their zoning codes and comprehensive plans, but these methods do not constitute permanent protection. DNR, rather, insists that local jurisdictions play the same game as developers, competing over tracts of land on the open market. This, of course, requires an enormous amount of resources. DNR openly admits that counties must augment state funds with local and federal sources if the goal of 20% protection is to be reached. Therefore the issue of utmost importance to most local jurisdictions is the identification of additional sources of funding, both at the local and the federal level.

Of the four causes of public open space depletion mentioned above, the Georgia legislature has determined that the second and third reasons should be the primary focus of policy. How the community greenspace program addresses each of these four causes will be discussed forthwith.

First, the program recognizes that planning is an appropriate tool in the fight to preserve open space. The connection, though, is highly disjointed. DNR suggests that changes to local comprehensive plans and zoning ordinances be included as part of the county's overall greenspace vision. These changes cannot, in and of themselves, effectuate permanent protection of land. Therefore, through the terms prescribed by DNR, traditional land use mechanisms do not constitute effective protection of open space. Planning, in the sense ascribed by DNR, should most likely be interpreted in the literal, not professional, sense. In other words, the process of purchasing real estate and development rights needs to be highly structured, organized, prioritized, sensitive to public input, and documented so that finances are expended efficiently and equitably. The use of traditional land use control mechanisms (i.e. zoning) is not, however, an acceptable solution in the fight to preserve open space, but rather a tool to help foster healthy attitudes toward land conservation.
Next, the program reflects the problems inherent in the second cause of greenspace depletion— the difficulty of restricting development on private property. In response to this dilemma, the Greenspace Program suggests the easiest (legally), albeit most expensive, solution— purchase the land outright. In this way, the issue of restricting development on private property is sufficiently circumvented. Private property becomes public property, in the ownership of a local political jurisdiction, or through an intermediary such as a trust fund. When protected land remains in private ownership, conservation easements must be purchased, which can be held by either a public agency or a land trust.

Thirdly, The Community Greenspace Program recognizes the economic and political complexities involved when local governments attempt to constrain the land development market. The Program implicitly encourages smart-growth development patterns, but stops short of suggesting policy toward this end. Presumably, the Program's designers recognized the incredible economic and political force of the development industry, and instead sought a solution that could satisfy both the needs of the developers and the public (of the thirteen greenspace committee members, five are developers and two are in associated industries) (Committee Report.)

Lastly, the Community Greenspace Program addresses the development conflict by making program participation voluntary. Those counties who feel that land conservation is secondary to economic development can refuse participation. Furthermore, SB399 (36-22-1) claims that "The General Assembly recognizes that the unique characteristics of each region throughout the state preclude a mandated legislative outcome for the preservation of greenspace in every region." By placing ultimate authority of which lands to preserve and how much, the Legislature has successfully avoided problems associated with the development conflict.

As previously mentioned, the second and third causes of greenspace depletion are the ones most effectively addressed by the Community Greenspace Program. The problems associated with restricting development on private property and the problems associated with constraining the land development market both lead to the conclusion that local governments must compensate landowners who choose conservation over development, or otherwise compete with developers over undeveloped tracts of land. Both require enormous resources. Table 1 illustrates estimated grants to eligible counties in FY2001, which are loosely based on population (actual figures are proportionate with county-wide land value assessment). What should become painfully obvious is the inadequacy of the proposed funds in meeting any sort of comprehensive land conservation agenda. More money at the local level is needed, thus the remainder of this paper will focus on this significant dilemma, and offer solutions as to the most appropriate ways for local governments to proceed.
## Estimated Grant Amounts

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<th>County</th>
<th>Grant Amount</th>
<th>Acres</th>
<th>Amount per Acre</th>
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<tr>
<td>Bulloch</td>
<td>143,000</td>
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<tr>
<td>Camden</td>
<td>152,000</td>
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<tr>
<td>Carroll</td>
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<td>324,545</td>
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<tr>
<td>Catoosa</td>
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<td>Chatham</td>
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<td>740,000</td>
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<td>Cobb</td>
<td>3,677,000</td>
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<td>Coweta</td>
<td>397,000</td>
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<tr>
<td>DeKalb</td>
<td>3,422,000</td>
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<tr>
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<td>292,000</td>
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<tr>
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<td>Forsyth</td>
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<td>Fulton</td>
<td>5,816,000</td>
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<td>Glynn</td>
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<td>Gwinnett</td>
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<td>Lowndes</td>
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<td>Newton</td>
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Table 1. Estimates provided by the Department of Natural Resources, April 13, 2000. Actual amounts will be calculated from SFY-00 levies; these amounts are estimates.
Chapter 2. A Brief Review of Local and National Funding Alternatives

Existing Revenue Sources

As it is still relatively early in the plan submission phase of the Greenspace Program, many counties have not yet made their greenspace plans public. In fact, as of March 2001, only ten counties have been approved for funding—Bibb, Chatham, Clayton, DeKalb, Douglas, Fayette, Forsyth, Gwinnett, Jackson, and Augusta-Richmond. As more plans are approved, and funding sources are solidified, a closer examination of local funding alternatives should be undertaken. As for now, however, the following cases represent a cross-section of Georgia counties who have made greenspace plans available to the public.

Thus far, in the plan preparation and submission phase, Georgia counties appear challenged to identify local sources of revenue to augment state funds. The DNR requires that each county's greenspace plan must "...identify other sources of funds such as local option sales taxes, a stormwater utility, receiving donations of property in fee-simple or in conservation easements, and identifying private, state, and federal sources of funds." This section highlights the efforts of six counties who have attempted to locate additional funds for their Community Greenspace Trust Fund. Their cases appear below.

Fayette County (www.admin.co.fayette.ga.us/planning/greenspace/greenspace_plan.htm)

Fayette County's greenspace plan articulates a typical response to the state's charge of fund leverage. The plan repeats word for word DNR's mandate:

The County will also identify other sources of funds such as local option sales taxes, a stormwater utility, receiving donations of property in fee-simple or in conservation easements and identifying private, state, and federal sources of funds.

Unfortunately, the plan does not make an attempt to specifically identify any of these potential sources. The County currently has no greenspace acquisition program or source of dedicated funding for greenspace acquisition, but claims it will supplement state funds with moneys from the general fund as needed. Peachtree City, in fact, has already set aside $161,000 from its general fund for a Land Acquisition Fund. This is approximately a 60% match to the state's estimate of about $270,000.

Richmond County (www.co.richmond.ga.us/plans/greenspace%20program.htm)

Planners in Richmond County have taken the identification of funds a step further. According to their Draft Community Greenspace Program, Augusta-Richmond County will establish a greenspace mitigation bank.
Local policymakers and planners envision amendments to the Zoning Ordinance to encourage developers to contribute to the bank. For example, the county is considering amending the PUD and R-1E sections of the Zoning Ordinance to allow a cash contribution to the bank to be substituted for the open space requirements of the zoning district. The full details of the program are expected to be worked out within a two-year program. Furthermore, the jurisdiction already has a Special Purpose Local Option Sales Tax (SPLOST— an increase of up to 1% of the state sales tax to be collected locally and used for local purposes), and plans to incorporate funds from this tax into the Community Greenspace Trust Fund during phase 5 (2006), and recaptured funds from phase 4. No estimate of the value of these funds has been made, but the County estimates their needs in excess of $13 million ($65.07 per capita).

DeKalb County (www.co.dekalb.ga.us/greenspace/finalreport.pdf)

DeKalb County Parks and Recreation Department Director Becky Kelly claims that "[The County] wants to leverage and maximize the state grant funds at every opportunity." The county's greenspace plan reflects this sentiment, but offers no specific solutions at this time. The plan claims that the county will investigate pursuing such options as a SPLOST and a dedicated millage for the acquisition of greenspace, but does not document the progress of such efforts. However, in a bond referendum on March 20, 2001, voters in unincorporated DeKalb County approved a measure that would raise $125 million for the purchase and preservation of parkland. The voters approved the 1 mill property tax increase by a three to two margin. The revenue from the tax increase is expected to cost the average taxpayer about $57 per year over the next fifteen years (Anderson).

Fulton County (www.fultonecd.org/planning/greenspace-prog.pdf)

Fulton County's Greenspace Plan is very comprehensive in the identification of potential funding sources. The Cities of Atlanta, Alpharetta, and Roswell are clearly the leaders in this initiative; though other incorporated cities and unincorporated Fulton County claim to be actively seeking additional sources of funding. The City of Atlanta has dedicated over $4 million in impact fees for the purchase of land for recreation purposes (though almost all in the northern half of the city), as well as a Consent Decree signed by the Mayor in 1998, which will allocate about $25 million for the purchase of lands along riparian buffers. Together, this totals about $70 per capita for City of Atlanta residents. Many other sources are referenced (such as the Georgia DOT wetland mitigation banking program), but few other guaranteed sources of funding are proposed.

Gwinnett County

Gwinnett County has established itself as a leader in securing additional funding for greenspace acquisition. According to the Trust for Public Land, when Gwinnett County's SPLOST referendum appeared on the
November 2000 ballot, voters overwhelmingly approved the dedication of 42% of the 1% sales tax for land conservation (which will total anywhere from $190 to $320 million) (about $325 to $550 per capita).

Columbia County

According to Barry A. Fleming, Columbia County Board of Commissioners Chairman, the county will pledge $1.5 million from its SPLOST fund to preserve greenspace in the county requisite with the greenspace plan ($16.80 per capita). The County has set a preservation goal of 25%—5% higher than that suggested by the Department of Natural Resources.

Summary of Possible Methods—Examples from around the Country.

The preceding cases illustrate the propensity of local governments to seek relatively traditional methods for revenue generation. Around the country, the most successful greenspace programs employ the most traditional methods of securing funding for the acquisition of land. Creative funding sources often do well to augment primary sources of funds, but rarely can carry an aggressive greenspace acquisition agenda on its own. Thus, the following cases illustrate the most successful utilizations of traditional local government revenue sources—property taxes, sales taxes, real estate transfer taxes, general obligation bonds, and impact fees.

Property tax millage. Washtenaw County, MI; Ocean County, NJ; and Barnstable County, MA.

In November 2000, voters in Washtenaw County, Michigan (Ann Arbor) passed by a margin of 64% to 36% (Ann Arbor News) a 0.25 mill levy on taxable property. Called the Natural Areas Proposal, the new tax will raise approximately $25 million ($7.74 per person per year) over the next ten years to purchase the best natural areas in Washtenaw County in order to protect them as parks. The county estimates that the generated revenue will effectively save more than 5,000 acres of the most environmentally significant land in the County, which equals about 10.7% of the county's land area (www.ecocenter.org/propb.html).

In 1997, voters in Ocean County, New Jersey approved a property tax of 1.2 per $100 for the dedicated purchase of open space. A solidly Republican county, Ocean County raised support for the initiative by performing an extensive public education campaign on the benefits of open space. The tax raises about $4 million ($7.83 per capita) per year to augment funds from the State of New Jersey's Greenacres Initiative.
In November 1998, voters in Barnstable County MA approved a 3% property tax surcharge that will provide up to $170 million for open space preservation over the next twenty years ($38.25 per person per year). The measure is particularly astounding considering that just ten months earlier, a referendum that would apply a 1% increase in real estate transfer taxes lost in a special election. Proponents of the plan attributed the earlier defeat to low voter turnout, accompanied by a greater level of mobilization on the part of the plan's opponents.

Tax on Real Estate Transfers. Suffolk County NY; Nantucket County, MA; and Spring Island SC.

Suffolk County, on New York's Long Island, has for almost thirty years been a leader in the fight to preserve community greenspace. In 1974, the County adopted a Purchase of Development Rights program to preserve farmland and open space. In 1998, five towns in Suffolk County (East Hampton, Southampton, Shelter Island, Southold, and Riverhead) passed referendums to begin collecting a two percent tax on most real estate transactions to generate funds for the Peconic Bay Community Preservation Fund. According to www.dec.state.ny.us/website/press/govrel/62298.html the program is expected to raise $10 million annually for land preservation ($7.05 per person per year).

Nantucket County, MA has been collecting a flat two percent tax on the purchase price of all real estate transactions to fund land acquisition since 1984. Nantucket is a particularly successful example, given that property values have been increasing by about 15% every year since that time. The tax has raised so much money that the County has funded the protection of about one-third of its 31,000 acres (Crompton 26).

Spring Island, SC-- a resort community not unlike Nantucket, has used funding obtained from a 1% real estate transfer tax to purchase and manage a 1,000 acre preserve encompassing nearly one-third of the community's land area. The funds were used to create the nonprofit Spring Island Trust, which owns and manages the preserve.

Sales Tax. Sonoma County, CA; Arnold, MO; Boulder County, CO.

In 1990, voters in Sonoma County, California approved an Expenditure Plan that imposed a 0.25 percent sales tax for the purpose of agricultural land preservation and open space acquisition. The Sonoma County Agricultural Preservation and Open Space District was formed to implement the Agricultural and Open Space elements of the 1989 Sonoma County General Plan, and to appropriate funds collected from
According to the organization Sonoma Trails, the 0.25% open space district tax has collected over $80,000,000 through 1998. To date, the District has completed 80 land conservation projects and protected over 27,000 acres through easement or fee acquisition at a cost of $50 million ($13.63 per person per year) (www.openspaceplan.org/plan/background.org). The district was created by special enabling legislation established by the State of California Public Resources Code (same reference).

Arnold, MO is a suburban St. Louis city experiencing tremendous growth pressure. In response to increasing sprawl, voters approved a 0.25 cent increase in sales taxes over the next seven years to purchase 119 acres of prime conservation land in the path of heavy development. Local government officials found the sales tax option the most appealing because it only required a simple majority rather than the 2/3 majority required for a bond referendum. Furthermore, a large proportion of the sales tax revenue would be paid for by visitors to the city (tpl research room).

Boulder County, Colorado has had an open space sales tax since 1993 whereby the county, complemented by advance revenue made available through general obligation bonds, has purchased more than 50,000 acres of open space. In 1999, 69.2 percent of county voters approved extending the existing countywide sales tax for ten years through 2019. The 0.25 cent sales tax and the subsequent bonds have raised more than $100 million for open space in the last seven years ($48.05 per person per year) (Gewirtz).

**General Obligation Security Bonds.** Bucks County, PA; DuPage Co, IL; Santa Fe County, NM.

In 1997, the Bucks County Open Space Task Force recommended the use of general obligation security bonds to borrow $59 million over a ten-year period (www.buckscounty.org/Open_sp.htm). According to a detail budget assessment, Bucks County expended $29 million in the Year 2000, and is budgeted for $31 million in 2001 for its open space acquisition program (www.buckscounty.org). The Task Force estimates that the yearly cost to each household in Bucks County would be about twenty dollars.

Also in 1997, voters in DuPage County, Illinois-- several mile due west of Chicago-- approved a $75 million bond referendum for the acquisition of open space for land conservation. DuPage County is heavily urbanized, but public discontent over sprawl, traffic, and the loss of open space prompted the all-Republican County Commission to consider public finance measures to protect the last remaining tracts of open space in the county. The $75 million is expected to pay to preserve about eight percent of the
county's open space, through a combination of land acquisition and purchase of conservation easements. The expected cost to homeowners is about $15 per year (tpl research room).

In 1996, New Mexico's counties were granted the authority to float bonds for open space, when state voters narrowly passed a constitutional amendment. Santa Fe County became the first jurisdiction to exercise this new authority, approving a $12 million bond with 74 percent of the local vote. The bond will be used to finance land acquisition for the county's "Wildlife, Mountains, Trails, and Historic Places Program."

Impact Fees. Miami-Dade County, FL;

Miami-Dade County imposes impact fees on any new development activity in the jurisdiction. They require that no building permit be issued until all required impact fees are paid in full. Though impact fees are used for roads, fire and emergency services, police services, and educational facilities, it is estimated that, in the mid-1990s, Metropolitan Dade County, Florida, was generating between $500,000 and $1 million each month (about $3 to $5 per person per year) from impact fees for park and open space acquisition and development (Crompton 267).
Chapter 3. A Comprehensive Review of Financing Methods for Georgia Counties

Borrowing

Financing open space acquisition can be accomplished through three general mechanisms—debt financing, taxation, and the collection of fees. The method of debt financing (borrowing) will be discussed first.

Borrowing shifts the burden of payment to future generations, though this depends on the time scale (the life of the bond). No taxes are collected now, but future generations, or perhaps the same citizens twenty years in the future, will have to pay taxes to cover interest and principal on the bonds. A suitable definition of "burden" will help to shed some light on this issue. Due and Friedlaender (1981) define "burden" as a reduction in private-sector output due to the transfer of resources to the governmental sector (217). If one accepts this definition, burden is borne at the time the expenditures are made, not at some time in the future. For example, the authors suggest that the cost of World War II was borne during the war through reduced output of goods for civilian use. These resources were diverted from the manufacture of civilian goods to the manufacture of national-defense items. Thus, the burden of payment for borrowing during World War II was absorbed by that generation, through a reduction in private-sector output. J.M. Buchanan suggests, however, that "burden" should more accurately be defined as the reduction in personal satisfaction resulting from the financing of governmental activities (Due and Friedlaender 217-218). Buchanan recognizes that bondholders most often purchase bonds voluntarily, presumably increasing their satisfaction. Thus, as bonds are retired, through the collection of taxes, a net burden is placed upon future generations, who must subsequently reduce their consumption or savings. Both definitions of burden suggest that future generations are indeed required to absorb some of the burdens of borrowing—either by reducing potential real income and consumption of future generations by reducing the rate of capital formation (the first definition), or by directly shifting burden to future generations by reducing personal satisfaction (the second definition).

Equity.

Intergenerational equity is a primary concern when borrowing is considered as a financing solution. The issues relative to the financing of greenspace acquisition involve both the shifting of burden to future generations and the time distribution of benefits, both of which are interrelated.
First, if we accept the notion that at least some of the burden of debt financing is shifted to future generations, then we must consider whether benefits will be shifted to future generations as well. On this charge, greenspace acquisition is a public expenditure that should benefit future generations in perpetuity. The Department of Natural Resources has specifically mandated that, to meet the requirements of the program, greenspace acquisition must be managed in such a way as to guarantee its protection forever. Presumably, then, citizens a hundred years from now will be reaping the benefits of public expenditures occurring over the life of the bond (typically twenty years or so). In this way, it appears that taxpayers today will be paying an inequitable proportion of the funds required to purchase greenspace for generations well in the future.

The issue, however, is not quite so simple. For instance, it can be argued that the current generation of taxpayers is primarily responsible for the loss of greenspace that necessitates today's greenspace program. Without the inefficient development patterns practiced by all sectors of the citizenry (developers, consumers of development etc.), and without the subsidizing effects of federal mortgage protocols and local government land use and zoning requirements, the funding of permanent greenspace protection would, arguably, not be necessary. The question of intergenerational equity, then, boils down to how local governments assign values to costs and benefits with respect to the loss and the recapture of greenspace. For instance, in a county that has not yet experienced rapid suburbanization (e.g. Bryan County), it would make sense to place the majority of the financing burden of greenspace acquisition on future generations. However, in the rapidly suburbanizing counties of metro Atlanta, the burden of finance should be most equitably assigned to current residents, who have consumed land in such a way that places future generations at a disadvantage with respect to access to greenspace.

Efficiency

The issue of efficiency in the process of debt financing centers around the notion that borrowing allows each person greater freedom in choice of time for reduction of consumption (Due and Friedlaender 216). With the imposition of new taxes, individuals have no choice but to reduce consumption in the present. With borrowing, they may reduce consumption immediately if they wish, or they may reduce spending later when taxes are higher because of interest and principal payments on government debt. A second issue related to the efficiency of debt financing is the current interest rate level, which at this time is relatively low, indicating that borrowing may be an attractive solution to taxation. Therefore, a consideration of the current economic status of the county is an important one when considering whether to raise taxes or to borrow money with the intention of raising taxes at a later date.
Potential for Revenue Generation

General obligation bonds are flexible in terms of amount. Local governments must be aware, however, of the potential for future revenue, so as not to default. The very rationale behind the Community Greenspace Program— that greenspace should be preserved in Georgia’s largest and fastest-growing counties— makes borrowing an attractive solution for the majority of the CGP counties, given that the attributes of each county that led to its selection for the program (size and growth) are also excellent indicators of the potential to pay off loans. A distinction, however, should be made between these two very different indicators. In counties with high growth rates, borrowing can quite easily be justified financially. In those counties with stagnant growth, but yet are large enough to qualify for the program, a more thorough investigation of the potential for future growth and increased tax revenue should be undertaken.

<table>
<thead>
<tr>
<th>County</th>
<th>Population Change 1990-99</th>
<th>County</th>
<th>Population Change 1990-99</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barrow County</td>
<td>40.9</td>
<td>Jackson County</td>
<td>30.2</td>
</tr>
<tr>
<td>Bartow County</td>
<td>33.4</td>
<td>Lee County</td>
<td>43.6</td>
</tr>
<tr>
<td>Bryan County</td>
<td>58.0</td>
<td>Liberty County</td>
<td>13.2</td>
</tr>
<tr>
<td>Bulloch County</td>
<td>17.7</td>
<td>Lowndes County</td>
<td>12.4</td>
</tr>
<tr>
<td>Camden County</td>
<td>55.9</td>
<td>Murray County</td>
<td>29.7</td>
</tr>
<tr>
<td>Carroll County</td>
<td>18.7</td>
<td>Newton County</td>
<td>44.9</td>
</tr>
<tr>
<td>Catoosa County</td>
<td>22.7</td>
<td>Paulding County</td>
<td>91.3</td>
</tr>
<tr>
<td>Cherokee County</td>
<td>57.1</td>
<td>Rockdale County</td>
<td>27.5</td>
</tr>
<tr>
<td>Clayton County</td>
<td>17.8</td>
<td>Walton County</td>
<td>51.6</td>
</tr>
<tr>
<td>Cobb County</td>
<td>30.3</td>
<td>Whitfield County</td>
<td>14.8</td>
</tr>
<tr>
<td>Columbia County</td>
<td>41.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coweta County</td>
<td>66.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Douglas County</td>
<td>28.2</td>
<td>Bibb County</td>
<td>3.5</td>
</tr>
<tr>
<td>Effingham County</td>
<td>49.4</td>
<td>Chatham County</td>
<td>4.1</td>
</tr>
<tr>
<td>Fayette County</td>
<td>48.0</td>
<td>Clarke County</td>
<td>3.5</td>
</tr>
<tr>
<td>Forsyth County</td>
<td>119.3</td>
<td>DeKalb County</td>
<td>9.3</td>
</tr>
<tr>
<td>Fulton County</td>
<td>14.8</td>
<td>Dougherty County</td>
<td>-2.3</td>
</tr>
<tr>
<td>Gwinnet County</td>
<td>54.6</td>
<td>Floyd County</td>
<td>5.2</td>
</tr>
<tr>
<td>Hall County</td>
<td>29.2</td>
<td>Glynn County</td>
<td>8.7</td>
</tr>
<tr>
<td>Henry County</td>
<td>93.1</td>
<td>Muscogee County</td>
<td>1.5</td>
</tr>
<tr>
<td>Houston County</td>
<td>20.7</td>
<td>Richmond County</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Table 2. Estimates taken from U.S. Census Bureau County Population Estimates, March 2000.
Political Feasibility

Floating general obligation bonds is not a particularly contentious practice, as it is often used to finance capital expenditures—especially those that can be expected to provide benefits over a relatively long period of time, such as roads, power plants, and the like. However, since the voters of each particular jurisdiction must approve the issuance of local government bonds in Georgia, the issue of political feasibility rests squarely on the shoulders of the citizenry. Returning again to Due and Friedlaender (218), persons will be most inclined to favor borrowing in preference to taxation:

1. When financing by taxation would require a sharp temporary curtailment in consumption.
2. When they expect their own tax liabilities to be less in the future than at present.
3. When they feel that shifting the burden to future generations is desirable, either as a simple device to escape tax or because the expenditures will yield benefits in the future.

Their preference for borrowing will be greater:

1. The lower the interest rate level and, thus, the interest burden.
2. The less the fear that borrowing and the debt will have undesirable consequences for the economy.
3. The weaker their emotional bias against debt.

We shall examine each of these clauses in turn. First, the enormous amount of public expenditure necessary to reach DNR’s goal of 20% land preservation renders the first assumption obvious. Estimates likely range anywhere from several million dollars in smaller, less developed counties, to hundreds of millions of dollars in the metro Atlanta area. Financing figures this large through taxation would therefore certainly produce a sharp temporary curtailment in consumption. The second clause is more open to interpretation—in a rapidly expanding economic market such as Atlanta’s, which is heavily dependent on technology and other high-growth industries, expanded growth is a likely possibility. Of course this is a difficult assumption to assess, as it makes intuitive sense that most young people expect to have higher tax liabilities in the future. The reverse is true for those about to enter retirement. Therefore, it is likely that borrowing will be a more politically acceptable solution in counties with a higher relative proportion of retirement-age individuals. The third assumption is also difficult to assess, but is fundamentally related to the second—again, areas with high populations of senior citizens will likely favor the use of debt financing to taxation. Of the final three assumptions for the preference of debt financing, only the first is determinable minus a public opinion survey. Interest rates now are lower than they have been in a long time, thus increasing the attractiveness of debt financing. However, fears of a slowing economy may forestall sympathy for greenspace preservation, and increase the attractiveness of the economic usefulness of land.
Property taxes

Property taxes are the primary revenue generator for local governments. In fact, property taxes today account for about 80% of all local government revenue, though this number varies greatly by locale (Crompton 18). Municipalities are most likely to vary their revenue sources (through sales taxes and various fees and charges), but property taxes today still remain the primary revenue source for both counties and school districts.

Equity

Even though the property tax remains the primary financial mechanism for many local governments, issues related to equity have long pervaded the debate over their existence. First, it has been argued that the property tax, in its most common form, is highly regressive. The reason for this is quite simple-- as incomes rise, the proportion of income spent on housing decreases, leading to regressivity at lower income levels (Due and Friedlaender 447). Regressivity is further enhanced when property taxes are applied to rental housing (Due and Friedlaender 447). A property tax on rental housing leads to a reduction in supply and higher rental rates, shifting a part of the tax back to the tenants, especially when the supply of rental housing is constrained. A second equity issue related to property taxes is the condition of geographical nonuniformity.

Table 3 illustrates, through comparison, the vastly differing property tax millage rates throughout the forty Community Greenspace Program counties. It should be noted that this table does not represent all charges levied on property-owners in these counties. School district millage rates are typically higher than these rates, and are subsequently added to these rates. The table is meant merely to illustrate the vastly differing revenue potential for each of these counties.

<table>
<thead>
<tr>
<th>County</th>
<th>Millage Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lee County (Albany MSA)</td>
<td>14.00</td>
</tr>
<tr>
<td>Forsyth County (north Atlanta metro)</td>
<td>2.63</td>
</tr>
</tbody>
</table>

Due and Friedlaender suggest that wealthy suburban counties often have high property tax rates, reflecting their preference for better schools, services, etc. However, even more importantly, either rates have to be higher in poor areas (which compounds the regressivity issue), or residents of less wealthy counties must suffer from services of poor quality (Due and Friedlaender 456-457). Clearly, the first component of Due and Friedlaender's argument is not consistent with the above table.
Clearly, the second of Due and Friedlaender's scenarios is being borne out in the state of Georgia. First, if it follows that wealthy counties have higher property tax rates, then the ten counties with the highest property tax millage rates (in the Community Greenspace Program) should be the wealthiest ones. A closer examination reveals that this is not the case. According to 1997 model-based estimates of median income available through the Census Bureau website at quickfacts.census.gov., the median household income for the state of Georgia is $36,372. Of the ten counties with the highest millage rates, five had median incomes lower than the state average (Floyd, Bibb, Dougherty, Liberty, and Chatham). Conversely, of the ten counties with the lowest millage rates, six had median incomes higher than the state average, some significantly higher (Cherokee-- $54,427, Forsyth-- $60,250, Hall, Barrow, Coweta, and Clayton). Whether these findings are statistically significant is a matter for a future investigation. The point, however, is evident-- millage rates in the state vary significantly and, upon cursory examination, do not seem to correlate very closely with median income. Forsyth County, for instance, has the lowest unincorporated county millage rate of the forty CGP counties, yet also has the highest median income. Evidently, property values are high enough to warrant such a low rate and still provide necessary services. Less wealthy counties such as Dougherty (Albany MSA) must charge relatively high millages to counteract relatively low property values. What results, therefore, is a reinforcement of
property tax regressivity. Less wealthy counties are, in at least some circumstances, setting high millage rates to achieve acceptable levels of service.

Figure 2. Property tax millages.
Efficiency

The property tax has four primary effects on economic efficiency (adapted from Due and Friedlaender 215-16).

1. Perceived effect of the majority of burden being placed on homeowners. This may be true, if the effects of the property tax are assessed without respect to intervening factors. However, the mortgage subsidy built into the Federal income tax probably mitigates the effects of this burden.

2. The property tax has a heavier effect on capital-intensive industries relative to labor-intensive industries. Essentially, it can be argued that the effect of the property tax serves to raise the price of capital-intensive goods and services (i.e. railroads, timber, public utilities, etc.) and reduces their output relative to other industries that are more labor-intensive. Raising property taxes in the service-related economies of metro Atlanta, therefore, will probably have less of an effect on output than it may in communities that rely on land-intensive industries.

3. The location effect. Higher property taxes may affect location decisions of both firms and households. In other words, consumers may consciously choose to locate in jurisdictions that have lower property taxes than neighboring jurisdictions. This effect could be potentially strong in metro Atlanta, where counties are relatively small, and interjurisdictional movement is commonplace. Interestingly, this situation has a two-pronged effect. Raising property taxes will raise revenue for land acquisition, but only if a considerable proportion of the households in that jurisdiction choose not to move out—considering that housing is a durable good, this is probably a reasonable assumption. However, at the same time, raising property taxes may reduce the demand for new development. While on the surface this may seem a win-win situation, it in fact serves to heighten the effects that the Community Greenspace Program wishes to avoid—higher property taxes may in fact push the demand for new development further into the hinterland where taxes are lower, thereby exacerbating sprawl and leapfrog development.

4. The perpetuation of deteriorated areas. Perhaps the most unsavory effect of the property tax is the perpetuation of slums. Landlords and homeowners in deteriorated areas may be hesitant to improve the condition of the properties if a higher assessment necessarily follows. This effect can be mitigated, however, by strict code enforcement.

Revenue generation

Property taxes have the potential to generate significant revenue. Rough back-of-the-envelope calculations suggest that a rather conservative millage rate of 0.25 for open space acquisition could bolster a county’s open space inventory significantly. The following table illustrates revenue potential for three randomly selected CGP counties, according to the preceding scenario.
<table>
<thead>
<tr>
<th>County</th>
<th>Unincorporated County</th>
<th>Incorporated County</th>
<th>Total, over twenty year period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bartow</td>
<td>$1,039 Million</td>
<td>$260,000</td>
<td>$9.06 Million</td>
</tr>
<tr>
<td>Cobb</td>
<td>$12,868 Million</td>
<td>$3,217,000</td>
<td>$84.14 Million</td>
</tr>
<tr>
<td>Liberty</td>
<td>$153 Million</td>
<td>$38,000</td>
<td>$2.8 Million</td>
</tr>
</tbody>
</table>

Table 4. Potential revenue.

The final column of the table, total over twenty year period, is a conservative estimate. Yearly property tax revenue is simply multiplied by twenty, ignoring compounding interest and other factors, for the purpose of yielding the most conservative estimate of revenue generation over a twenty-year period. The results are staggering. Presuming one owns a $100,000 home, assessed at forty percent, the yearly contribution for open space acquisition will amount to about $10 for the average household.

Political feasibility
Political feasibility for the implementation of property tax increases for the finance of greenspace acquisition is difficult to assess. Clearly, as the issue of greenspace preservation gains visibility and media attention here in Georgia, more voters may be more sympathetic to the cause. On March 20, voters in DeKalb County approved a property tax of one mill for the purchase of greenspace over the next fifteen years. Similar measures have not yet been attempted in other Georgia counties.

Sales Taxes

Equity
Much like the property tax, the sales tax has come under significant criticism due to its regressivity (Due and Friedlaender 409). It is generally assumed that the percentage of income spent on consumer goods falls as incomes rise-- a notion that has more or less been backed up by empirical studies (Davies, Johnson). Most studies conclude that the sales tax is regressive relative to income if food is taxed, and
generally proportional (except at low- and high-income levels) if it is not, though Darwin Johnson has shown a high degree of regressivity with food taxed and with food exempt. The State of Georgia does not tax staple food products such as meat and bread, but taxes all food designed for on-site consumption, as well as most toiletries. The major criticism of the regressivity conclusion comes from E.K. Browning, who has stated that a full analysis of sales tax regressivity must include transfer payments. His argument essentially states that the lowest-income groups depend heavily on transfer payments (welfare, social security, veterans benefits, etc.), which should rise as sales taxes increase. This transfer of payments can theoretically balance out the regressive tax burden.

Using a Special Purpose Local Option Sales Tax (SPLOST) for the dedicated purchase of greenspace, however, essentially negates Browning's argument. No conclusive evidence exists correlating income to park usership, so it is probably reasonable to assume that lower-income citizens will not benefit from parkland to any degree greater than higher-income citizens. The great advantage to the sales tax, however, is the sizeable proportion of revenue generated by travelers and out-of-town visitors. Residents in the city of North Richmond Hills, Texas approved a park system master plan that was to be financed by a 0.5 cent sales tax (Crompton 27). A study showing that over 60% of the revenue would be generated by non-residents who shop in the city assisted passage of the referendum. These out-of-town visitors, therefore, subsidize park development for the residents of North Richmond Hills. Furthermore, it may reasonably be assumed that purchases made on an out-of-town trip are generally luxuries, and thus do not complicate the regressivity issue. Most travelers have enough expendable income so as to render regressivity irrelevant.

**Efficiency**

The sales tax is the principal alternative, though inherently related, to income-based taxation, in that wealth is only taxed on that proportion of earnings in excess of savings. In this way, many of the economic efficiency issues related to sales taxes are also inherent in the income tax. The primary issue for both is the notion of labor substitutability (Due and Friedlaender). At some point in a progressive taxation scheme, leisure activities become preferable to additional work, in that additional work leads to decreased marginal take-home pay and increased marginal government payments. The sales tax (as opposed to the income tax), however, reduces the substitutability effect in several ways.

1. If consumers spend much of their liquid income and save little, the sales tax may encourage the consumer to spend less, though this conclusion is highly debatable. For example, because the consumer is not taxed at the time in which the money is earned, but rather at some point later in time
when a purchase is made, the detrimental effects of the reduction in labor due to the substitutability effect may be negligible.

2. If the consumer chooses to save significantly more than to spend, the effect of the sales tax will again be negligible.

3. If the consumer chooses to save and spend in roughly equal proportion, which is the most likely scenario, then small labor-reduction effects may be evident. They will certainly be less than the effects of the income tax, though (Due and Friedlaender).

Revenue generation

The special purpose local option sales tax, much like the property tax, has the potential to generate enormous revenue. Unlike a dedicated millage, however, the SPLOST must often compete with other worthy funding alternatives, such as roads, schools, or public works projects. According to the Trust for Public Land, Gwinnett County's recently renewed SPLOST will allocate 42% of the collected revenue for greenspace acquisition, up from 5% the year before. The Trust estimates the value of this allocation at anywhere between $190 million and $320 million over the next four years.

Political feasibility

Sales tax ballot measures are often contentious. Marketing the tax is often the key to success— the example from North Richmond Hill, Texas is a case in point. It is quite easy to justify a tax that will be imposed primarily on non-residents, with benefits going primarily to residents. Georgia counties that have a strong tourist base, or a strong seasonal presence (Chatham and the other coastal counties), as well as metro Atlanta, which serves as a regional economic market for much of the Southeast, can probably make a strong argument for a SPLOST. Residents of these counties are, in effect, receiving greenspace acquisition subsidies from out-of-town visitors. In areas with few out-of-town visitors, or no seasonal population, SPLOST ballot measures are likely to be met with considerable opposition.

Results of ballot measures for SPLOST greenspace acquisition in Georgia over the last several years have been inconsistent. In November, 2000, Cobb County voters rejected a one cent sales tax proposal for parks (though it was lumped in with roads and sidewalks) and Douglas County voters turned down a similar sales tax that would have dedicated a proportion of revenue for park acquisition (LTA). However, 1999 saw Clarke County voters approve 10% of a one-cent tax for land acquisition that is estimated to produce $10 million. Also, Gwinnett County voters overwhelming approved the continuation of their SPLOST, and included a significant portion for greenspace acquisition.
Real Estate Transfer Taxes

The imposition of real estate transfer taxes is a relatively common tool for state governments to acquire greenspace—it is practiced less at the local government level, but examples do exist (Spring Island, SC; Nantucket, MA; Suffolk County, NY). In fact, the State of Georgia already uses real estate transfer tax revenue for park acquisition, as does Maryland, Florida, Arkansas, Illinois, North Carolina, South Carolina, Tennessee, and Washington (Crompton 25). Its attractiveness for parkland acquisition is related to its relative reliability in revenue generation, particularly in those areas where the population is growing and an active real estate market exists.

Equity

The real estate transfer tax is particularly equitable, especially when the tax is imposed upon the buyer rather than the seller. The following is the opinion of a Maryland commission that initially recommended the implementation of a transfer tax for open space acquisition:

The idea behind the transfer tax is that the person who buys a home or other property for private use has hastened the decline in available open space land. By paying a tax at the rate of one-half of one percent of the property purchase price, that same person would help to support the buying of land which could be used and enjoyed by the general public (Crompton 25).

The issue of tax regressivity is greatly lessened in this circumstance, even though it is acknowledged that those with lower incomes will tend to allocate a greater percentage of resources for home purchases. However, this particular tax excludes renters, and thus presumably excludes those of the lowest income brackets. Furthermore, those in higher income brackets probably purchase homes more often, and therefore contribute to the tax more often. At any rate, the real estate transfer tax does not seem to pose any serious equity issues on income grounds.

An equitable construction of the real estate transfer tax must, however, consider whether to impose the tax on the buyer or the seller of the property. Conceptually, justifications can be made for either, though it will be argued that the former is the most equitable choice. Crompton argues that the seller of a property can be held responsible for the depreciation of parkland— as a current resident, the seller has enjoyed the benefits of parkland, and should be responsible for restoring it for the next resident. This argument is more persuasive, however, when considering parkland with improvements that require maintenance and upkeep. Open space as DNR has defined it has no improvements, and would require minimal upkeep and maintenance. The only real capital investment is land purchase. Using this criteria, it is clear that the buyer should be held principally responsible for the financing of new open space. If the buyer has made
no capital contribution to open space acquisition, the buyer will be able to freeload at the seller's expense, who will no longer be able to enjoy the fruits of his contribution.

Efficiency
Many of the same effects of the sales tax are applicable in the real estate transfer tax. However, housing is a durable good, and a considerable investment, so it may be assumed that the detrimental effects of the tax (i.e. a reduced propensity to purchase housing) will be considerably less than with the sales tax. In other words, the tax will be a very small consideration in the decision to purchase a home.

Revenue generation
During periods of heavy growth and high property turnover, real estate transfer taxes can probably effectively fund a greenspace acquisition program. Unfortunately, during periods of stagnant growth, real estate transfer taxes will generate little to no revenue. One response to this drawback is the administrative lag that often smooths out stagnant periods, utilizing reserves accumulated during periods of heavy growth. There is a second response to this drawback, however, that insinuates that stagnant growth is not entirely detrimental in a real estate transfer tax for greenspace acquisition program. For example, greenspace is most in danger during periods of heavy development. As development activity increases in a particular jurisdiction, revenue from real estate transfer taxes will increase, thereby providing funding for the purchase of conservation lands. In periods of slow growth, however, real estate transfer taxes should still provide the same proportion of funding relative to need. If only 50 acres have been developed in a given year, the need for permanently protected greenspace should be much less than if 500 acres had been developed in the previous year. A counter argument, however, could be constructed as follows: it is during periods of slow growth that the purchase of greenspace is most efficient--land prices will be lower, and local government has the opportunity to mitigate the ill effects of rapid development before that situation arises. By protecting greenspace before rapid development, therefore, local governments will have saved money on land acquisition costs.

Political feasibility
The real estate transfer tax may be the most politically feasible of all the financing alternatives addressed in this paper. For the most part, if the tax is imposed on the buyer, the tax will be charged to residents who move into the county from outside the jurisdiction (a smaller proportion will likely be charged on intra-county moves). Disregarding the relatively small proportion of voters who will likely soon move to another location within the same jurisdiction, most voters would likely approve a tax that will mostly be imposed on residents who currently live outside the county. In this way, the real estate transfer tax
resembles the sales tax, in that significant revenue will be generated by persons who are unable to vote on
the very referendum instituting the tax. Referring to the real estate transfer tax in Nantucket,
Massachusetts, Crompton cites a study done by James Stolz, who states "[p]eople who buy homes on
Nantucket and who are required to pay the 2% tax usually do not complain about it. The program's
administrator states: 'We tell them, 'this is your insurance policy. This is going to protect your home.
Why are you buying here? What do you want it to look like in 10 years?' People don't object. They
understand it is for their children.'"

**Impact Fees**

**Equity**

Impact fees, if implemented properly, create no significant equity issues. For the purposes of the
greenspace program, however, several issues are raised. For example, the rational nexus test (discussed
in the section on political feasibility) suggests that appropriate apportionment of impact fees should
reflect the proportion of benefits received by residents of the impact fee-imposed development. In other
words, if a county currently has one acre of greenspace for every 400 residents, then each new
development of 400 residents should be required to finance the acquisition of one additional acre of
greenspace. The Community Greenspace Program, however, does not operate this way. Many counties
that have been identified for the program contain enormous greenspace deficiencies. It would most
certainly be inequitable to expect new developments to subsidize greenspace acquisition for existing
developments. Counties that have yet to rapidly urbanize, and therefore contain relatively large
proportions of greenspace, may more reasonably suggest that new developments pay for the purchase of
permanently protected greenspace.

Furthermore, the greenspace preservation goal articulated by the Department of Natural Resources (20% of
land area) makes it difficult to establish any sort of per-development standard. In other words, it does
not follow that more greenspace is needed as development proceeds, as it does with other traditional
capital expenditures such as libraries, roads, and recreation facilities. Rather, the DNR suggests that 20% of
land area, not \( x \) acres per 1,000 persons, is the appropriate guideline for greenspace preservation. This
makes it difficult to establish what proportion of new greenspace acquisition should be financed by new
developments, thus further complicating the rational nexus test. Quite clearly, imposing development
impact fees for greenspace acquisition would be inequitable, and probably illegal, in counties nearing
build-out such as DeKalb, Gwinnett, and Cobb. In more rural counties, with large proportions of public
land, however, the imposition of development impact fees may be the most equitable means of securing additional greenspace.

**Efficiency**

Important findings in the field of impact fee research indicate that the exaction of impact fees has significant effect on the provision of infrastructure, development activity, and land prices. Clarke and Evans (1999) found that the use of development impact fees is associated with lower levels of capital acquisition. One possible explanation for this phenomenon is that impact fees have a pricing effect on the developer, reducing the development community's demand for infrastructure. What often results is more compact development that lowers infrastructure costs. Other studies (Skidmore and Peddle 1998, who examined the use of impact fees in DuPage County, Illinois) have indicated that impact fees reduce residential development by more than 25%. They were unclear whether development instead moved to a neighboring jurisdiction that does not exact impact fees, but they suggest that the linkage is plausible. As it relates to the agenda of the Greenspace Program, the use of impact fees can serve two purposes— it can provide funding for the acquisition of greenspace (as one part of the overall infrastructure requirement), and it can help to slow development or produce more efficient forms of development. Indeed, Bruecker (1995) suggests that impact fees lead to efficient and sustainable growth because they force developers to internalize the infrastructure costs imposed by new residents. The policy therefore serves to align both private and social incentives.

**Revenue Generation**

Impact fees are often used by local governments who cannot meet their infrastructure needs through traditional mechanisms (primarily property taxes) (Clarke and Evans). An impact fee policy is therefore often a last resort for cash-strapped jurisdictions. However, the potential to generate significant revenue should not be ignored. Impact fee policies act in ways quite different from the collection of taxes. Fees are imposed relative to need, so if a rational nexus is established, all of a jurisdiction's greenspace needs should theoretically be met by an impact fee program. Unfortunately, the courts have generally concluded that impact fees must be used to supply infrastructure in areas very nearby the fee-assessed development (Crompton). The funding of regional parks through impact fees is, therefore, unlikely to be justified through the imposition of impact fees. However, Georgia counties are often sufficiently small so as to warrant only three to five impact fee districts per county, so that regional parks (or at least sub-regional parks) may be reasonably purchased through the collection of impact fees. The policy, if implemented properly, could therefore provide a significant amount of highly localized greenspace, as well as possibly supplying some regional greenspace.
Political Feasibility

Impact fees are generally more acceptable to the general populace than are any programs that require the imposition of a new tax. However, significant political opposition can be presented by the development community, which typically has the ability and political firepower to affect policy decisions. The Community Greenspace Program, fortunately, will require significantly less funding than typical park development services, precisely because development costs will not be needed. Crompton suggests that "the movement to impose impact fees has been encouraged by a realization that the expense of developing a site for use as a park substantially exceeds the land cost. Hence, some local governments have moved away from requiring an undeveloped site or an equivalent amount of cash and have begun to formulate the exaction requirement as being a site fully developed with necessary facilities" (267). Purchasing land for open space preservation, therefore, is less costly than purchasing parkland with the intention of developing recreation facilities.

The courts have generally ruled in favor of local jurisdictions when developers litigate on the grounds of the Fifth Amendment takings clause. In Hollywood Inc. vs. Broward County, the court declared that the acquisition of open space and green parks "falls squarely within the state's police powers" (Crompton 270). Most legal challenges, however, reflect questions relating to what constitutes a reasonable dedication requirement. The most used test is the rational nexus test, which requires:

1. A connection between demands enacted by a development and the park facilities being developed with exaction resources from it.
2. Identification of the cost of the park facilities needed to accommodate the new demand. This establishes the burden to the public of providing the new facilities and the rational basis on which to hold new development accountable for such costs.
3. Appropriate apportionment of that cost to the new development in relation to benefits it receives. This establishes the nexus between the fees being paid to finance new parks to accommodate the new demand and the benefit that the new development receives from the new facilities (Crompton 271).
Chapter 4. Conclusion

When counties should consider each method of financing

<table>
<thead>
<tr>
<th>Method</th>
<th>Equity</th>
<th>Efficiency</th>
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<tr>
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<td>Relatively undeveloped</td>
<td>Struggling economies</td>
<td>Relatively high growth rates</td>
<td>Significant retirement-age populations. Low interest rates</td>
</tr>
<tr>
<td>Property taxes</td>
<td>Relatively wealthy</td>
<td>Service- and labor-intensive economies</td>
<td>All counties</td>
<td>Inconclusive</td>
</tr>
<tr>
<td>Sales taxes</td>
<td>Relatively wealthy</td>
<td>Inconclusive</td>
<td>Large tourist industry, regional markets</td>
<td>Large tourist industry, regional markets</td>
</tr>
<tr>
<td>Real estate transfer taxes</td>
<td>All counties</td>
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<td>Heavily developed</td>
<td>Outside metro Atlanta</td>
<td>Active development industry</td>
<td>All counties</td>
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Table 5.

The results of this analysis suggest that there is no single effective public finance tool that can be applied universally to all forty Community Greenspace Program counties in the State of Georgia. Each jurisdiction must carefully examine its own financial status, its tax digest, its political composition, and the demographic makeup of its citizenry. Some general conclusions, however, can be summarized as follows:

Debt financing.

From an equity standpoint, those counties that are still relatively undeveloped should consider debt financing for the acquisition of greenspace. Current residents in these counties should not be overly burdened with ensuring greenspace preservation for future generations. Presuming that these counties
will grow considerably in the future (indeed, this is an inherent assumption in each county’s identification as worthy of state greenspace funding), it would be most equitable to assign the highest burden of greenspace acquisition on those residents who will contribute to development in the future. Conversely, counties that are heavily developed should probably place the majority of the financing burden on current residents, whose land consumption has most directly contributed to the loss of greenspace. An analysis from efficiency also suggests the same conclusion—counties with a relatively struggling economy (which may or may not be directly correlated with relatively undeveloped counties) would benefit most from borrowing money for greenspace acquisition, as debt financing requires no immediate reduction in consumption. By borrowing, these counties would help to ensure that taxes for current residents remain low, so as to encourage further investment in the economy. Counties with strong economies, however, should suffer less from temporary curtailments in consumption due to tax increases. In terms of the potential for revenue generation, those counties that are growing at a rapid rate (see table 2), are the counties most capable of paying back significant loans. According to this table, then, only nine counties should seriously consider whether growth will be sufficient enough in the future so as to ensure the repayment of their debts. Lastly, those counties with significant retirement age populations, such as the coastal counties, will be most likely to be supportive of debt financing, assuming that retirement-age citizens have peaked in terms of earning potential, and have no emotional bias against forwarding burden toward future generations.

Property taxes

Property taxes are highly regressive with respect to income. Therefore, counties with relatively struggling economies or a high proportion of poverty should, from an equity standpoint, consider other methods of greenspace financing. Of course this will not completely eliminate the problem of regressivity, but raising property taxes in counties with a higher proportion of wealthy households, and conversely a lower proportion of poor households, would be more Pareto optimal than counties with the reverse proportions. Also, to ensure efficiency, those counties that are heavily dependent on a service-related, or labor-intensive, economy would help to mitigate the ill effects of higher property taxes. Those counties that rely on land-intensive industry, such as railroads, warehousing, and manufacturing, may find that rising property taxes have an ill effect on the countywide economy. Thirdly, it stands to reason that the higher the population of a particular county, the more revenue that can be generated from a dedicated millage. Presumably, however, in more sparsely developed jurisdictions, land prices will be lower, and not as much revenue will be needed. Therefore, the prospect of revenue generation is not a particularly important criterion. Lastly, the political feasibility of a property tax increase is difficult to assess without
further research. Only the recent adoption of a dedicated millage for greenspace acquisition in DeKalb County sheds any light on the potential of a similar measure in other Georgia counties.

**Sales tax**
The sales tax, like the property tax, is also regressive with respect to income, but less so in Georgia where food staples are not taxed. Again, relatively wealthy counties can probably justify a sales tax, not because the county's poor households will be spared the ill effects of the sales tax's regressivity, but rather because fewer households will be subject to this effect, thereby increasing the possibility that they may be compensated in other ways. In terms of economic efficiency, results are generally inconclusive. With an income tax evidence has suggested that, at some point along a consumer's indifference curve, leisure activities will become more preferable than additional work-- this point will likely occur earlier when income taxes are increased. However, inferences about the labor-reducing effect of a sales tax can probably not be drawn from this evidence. Intuition may lead one to believe that, as consumption is directly related to income, increasing the sales tax may in turn reduce the propensity to pursue additional work. The connection, however, is tenuous. Thirdly, the sales tax has the potential to generate significant revenue, especially in counties with high seasonal populations or heavy tourist industries. Furthermore, those counties that serve as regional markets may also reap benefits from the sales tax disproportional to population. For example, out-of-town visitors to Atlanta's shopping malls, as well as spending generated Atlanta's cultural destinations and conferences, in effect would subsidize greenspace acquisition for Fulton County residents. Lastly, the political feasibility of a sales tax increase would likely be strongest in areas that fit the same criteria. It is hard to turn down benefits that will be heavily subsidized by out-of-town visitors.

**Real estate transfer tax**
The real estate transfer tax is probably the most innocuous of the five methods of financing addressed in this paper. The tax is not particularly inequitable, nor does it pose significant efficiency effects (mainly by presuming that housing is a durable good, and relatively inelastic). However, jurisdictions with little real estate turnover, or little real estate growth, would probably not see significant revenue generation. Those counties with high growth rates (presuming that high growth rates lead to high development rates) are clearly the most suitable for real estate transfer taxes. Also, as opposed to other methods of financing, the real estate transfer tax is not particularly contentious—the voting public already has housing within the jurisdiction, and would not likely oppose a tax that applies mostly to new residents.
Impact fees

From an equity standpoint, and through the rational nexus test, impact fees can mostly be used to finance greenspace acquisition in small, highly localized areas, though the relatively small geographic area of most Georgia counties indicates that some regional greenspace may be purchasable via impact fees. Secondly, some research has suggested that impact fees can reduce residential development by more than 25% (Skidmore and Peddle 1998). In the highly fragmented political environment of metro Atlanta, this conclusion could lead one to assume that those counties that impose impact fees would lead developers to pursue projects elsewhere. Of course this is one of the inherent goals of the greenspace program, though it would certainly impede economic development. Also, it is a shortsighted goal, as development migration to non-impact fee imposing jurisdictions may actually increase the effects of sprawl and leapfrog development. Those counties, therefore, that are committed to a smart growth agenda, and who can afford to lose a substantial amount of development, should pursue an impact fee policy for greenspace acquisition.

Applicability

The research conducted in this report focused on the applicability of local funding alternatives for greenspace acquisition in the context of Georgia's community greenspace program. It should be noted, however, that the methods suggested here are also applicable to other Georgia counties, as well as to other local jurisdictions around the country. In general, many of the methods advocated in this paper will be most successful in jurisdictions that are experiencing heavy growth (in the sense that revenue generation will be highest in growing jurisdictions), which are conveniently also those counties that face the greatest threat of greenspace loss. Fortunately, the converse of this statement is also true. Counties that have not experienced the pressures of rapid growth will generate less revenue from the methods advocated in this paper, but, assuming that relatively low land prices reflect a lack of development pressure, may be able to acquire ample greenspace for the future.

Planning is essential in the process. The Georgia Department of Natural Resources has stipulated that a healthy open space system consists of about twenty percent of a jurisdiction's land area-- a condition that is both aesthetically pleasing and environmentally responsible. The ripple effects of more compact development, inherent in a greenspace preservation plan, provide benefits beyond the preservation of land-- reduced dependence on the automobile; more walkable towns and neighborhoods; a healthier and happier citizenry; etc. Planning ahead for environmentally justifiable communities is much more cost-effective than attempting to retrofit extensive suburban development. Similarly, it is much cheaper to acquire and protect greenspace before development pressure drives its cost upward.