

The Local Government Fiscal Impacts of Land Use in Lowndes County:

Revenue and Expenditure Streams by Land Use Category

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Lowndes County is located in South Georgia. While 85 percent of its land is still undeveloped, it is not a rural county. Valdosta, the county seat, is the major retail and commercial center, drawing people from a multi-county area of South Georgia and North Florida. It is home to Moody Air Force Base and Valdosta State University, giving it additional sources of growth. Lowndes County has grown from 67,972 people in 1980 to 92,115 in 2000, and approximately 98,000 today. The 1990s was a period of particularly rapid growth, with over 16,000 new county residents for a gain of over 21 percent. Slightly less than 50 percent of the population lives in one of the cities (with most of those in Valdosta). Lowndes County has a well-balanced tax base due to its status as a regional shopping and office center, with business property making up 40 percent of the tax digest. Lowndes is also one of the few counties in Georgia with multiple school systems, being home to both Lowndes County and Valdosta City Schools. Median household income was \$36,282 in 2006 according to the Census Bureau. Although most land is still in agricultural, residential development is encroaching on agricultural uses. Citizens are generally in favor of growth, but want new growth to bear its costs so that tax rates are not increased on all residents to pay for the new arrivals. Everybody would like a better understanding of the benefits and costs of growth.

Around the country, about one million acres of farmland per year are being developed. Local governments, especially in rural and suburban areas, often have difficulty funding the services that come with this development and are constantly looking to improve their financial health. Local government officials often believe that one solution to their government's financial difficulties lies through development, by increasing the property tax base; however, a growing body of empirical evidence shows that while commercial and industrial development can indeed improve the financial well being of a local government, residential development worsens it. While residential development brings with it new tax (and fee) revenue, it also brings demand for local government services. The average cost of providing these services exceeds the average revenue generated by the new houses in every case studied (American Farmland Trust).

Georgia is in the national spotlight for growth and development policies. The state government is trying to encourage and subsidize economic development, particularly in rural areas. Lowndes County is part of the Valdosta MSA and is growing rapidly. Traffic problems are becoming an issue with people wanting more (and less congested) roads. The density of new residential development is also an issue, with local citizens often resisting higher density development. However, research has shown that local government's service costs drop at half the rate at which land use decreases. That is, if a residential development increased its density so that it used 20% less land per unit, it would cost the county 10% less per unit to provide services. For example, a half-acre lot uses 33% less land than a three-quarter acre lot. The county could expect to provide services to a house on a half-acre lot for 16.5% less when compared to the same house on the larger lot. As Lowndes County continues to grow and its government works to contain its budget (and thus the tax rate), allowing new growth to be higher density may be more appealing to citizens.

This report provides a snapshot of Lowndes County in which an allocation of the county's budget numbers reveals the economic service costs and revenue streams of three major land uses and provides a snapshot of the county's overall financial health. After describing the method of analysis, the results will be presented.

Cost of Community Service Studies

Cost of Community Service (COCS) studies involve a reorganization of a local government's (usually a county's) records in order to assign the government revenues and costs of public services to different classes of land use or development such as residential, commercial, industrial, farm, forest and open lands. For example, a county's expenditures on the Department of Family and Children Services program would be classified as all benefiting residential development; the costs of roads would be allocated across all types of development; and expenditures on the Forestry Commission would likely be allocated to farm and forestland. The resulting totals for revenues generated and expenditures incurred can be presented as a ratio of expenditures-to-revenues for different land use types. Where expenses are difficult to allocate across land use categories, emphasis is placed on the expert knowledge of county staff to estimate service expenditures by land use category. Data on the acreage, population, and property value in each land use category are also used in determining some expenditure allocations.

COCS studies look at average revenues and expenditures, not changes at the margin, and are thus not capable of precisely predicting the impact of future decisions. Still, they provide the benefit of hindsight, a budgetary baseline from which to make decisions about the future. They can also allow for informed decision-making on such policy topics as tax abatements for farm or forestland (or even for commercial/industrial development). Further, educated guesses can often be made from these averages as to the likely marginal cost of development and the impact on a local government's financial situation as a result of land use transition. Finally, COCS studies look at the continuing operational cost of growth, not at one-time capital expenditure impacts.

Review of COCS Studies from Around the Nation and In Georgia

About 90 COCS studies have been completed by a variety of researchers around the country for cities and rural communities. The maximum, median, and minimum ratios of local government revenues-to-expenditures collected from these studies are shown in Table 1. The "Minimum" row states that for every dollar the county generates from the residential category, it spends \$2.11 in services. The commercial/industrial and farm/forestland categories show that, on average, the government receives more than it spends and therefore, these land uses create a surplus. The numbers show the fallacy of depending on residential development as a sound growth policy. In not a single instance did residential development generate sufficient revenue to cover its associated expenditures. Results for other Georgia counties that are relevant comparison counties for Lowndes County are shown in the appendix.

Table 1. A National Summary of COCS Study Results

County	Revenue: Expenditures		
	Residential	Comm./Ind.	Farm/Forest
Minimum	1 : 2.11	1 : 1.04	1 : 0.99
Median	1 : 1.15	1 : 0.27	1 : 0.36
Maximum	1 : 1.02	1 : 0.05	1 : 0.02

Footnote: these figures are for 83 COCS studies compiled by the American Farmland Trust (http://www.farmlandinfo.org/fic/tas/COCS_9-01.pdf).

Lowndes County

Three land use categories were defined for this study: residential, commercial/ industrial, and farm/forest/open space. Financial information was obtained from Lowndes County and the Lowndes County School System. For Lowndes County, the data are for the year ended June 30, 2007; for the schools, the data are for the 2007-2008 school year. For schools, the analysis is based on local revenues and expenditures, only; state and federal dollars are assumed to remain constant per pupil. The revenues and expenditures in the budgets were allocated to the land use categories based on the review of available records and interviews with local officials and service providers (farmhouses were included in residential category.) All revenues were included for the funds that were part of the study, including sales taxes. Because Valdosta is a regional shopping center that attracts residents from a number of surrounding counties (and even Northern Florida), studies have estimated that 42% of the sales tax collected in Lowndes County is paid by non-county residents. Of the remaining 58%, 85% is assumed to be paid by county residents (not farms or businesses); this amounts to 49% of the total. That leaves businesses paying 8% of the sales taxes (on items that are not inputs such as office supplies, furniture, business-related meals, etc., and farms paying 1%. Thus, new residential growth is credited with bringing an increase in LOST dollars to the county. Revenues and expenditures were totaled for each land use category and revenues-to-expenditures ratios were calculated. In calculating the ratios, an adjustment was performed to account for revenue generated from sources outside the county (which amounts to approximately 16% of the total revenues); this adjustment recognizes that all expenditures are partially funded from these outside sources. In practical terms, if a land use paid in \$0.84 and got \$1.00 back, that would be counted as \$1 to \$1 because the other \$0.16 come from outside sources. Thus, this outside revenue is very important in the financial health of the county budget and it is important to maintain Valdosta's status as a regional shopping and tourism magnet in order to maintain this de facto subsidy of county services by non-residents.

The final results are displayed and tabulated in Figures 1 and 2 below. Figure 1 represents the county government only, with schools excluded. Figure 2 shows how the results change when schools are included. The figures are presented as dollars of revenue per dollar of expenditure; numbers greater than one signify land uses generating more in revenue than they are receiving in service expenditures.

Analysis of the revenue-to-expenditure ratio for the residential category in Lowndes County reveals a common result: residential development provides less in revenue than it requires in service expenditures (with or without schools included). Just looking at the county government, residential development pays \$0.99 in revenue for every \$1.00 in services received which is more in balance than most places studied. This is a large positive for Lowndes County meaning new residents are bringing in enough new revenue to pay for their associated operating budget expenditures, although the capital expenditure impacts of residential growth are still a concern. The commercial/industrial category produces a solid fiscal surplus for the county government, paying \$1.19 for every \$1.00 in services received. In a situation that often happens in rapidly developing counties, the farm and forest land in Lowndes County generates less in revenue than it costs in services provided (\$0.90 in revenue per \$1.00 in services). The reasons for this less common result are that farmland is being interspersed with houses, which raises the service costs, particularly for fire protection on the farmland. It is worth noting that county citizens receive other benefits from this land and likely feel these benefits offset the small cost shifted onto them of subsidizing the farmland's services. When school expenses are included, the

residential fiscal shortfall grows, with residents now paying in only \$0.74 for every \$1.00 returned in combined county and school services, while the commercial/industrial and farmland categories both show quite large fiscal surpluses (\$2.57 and \$1.94 per dollar, respectively).

Figure 1. Revenues per \$1 of Expenditures by Land Use (County Government Only)

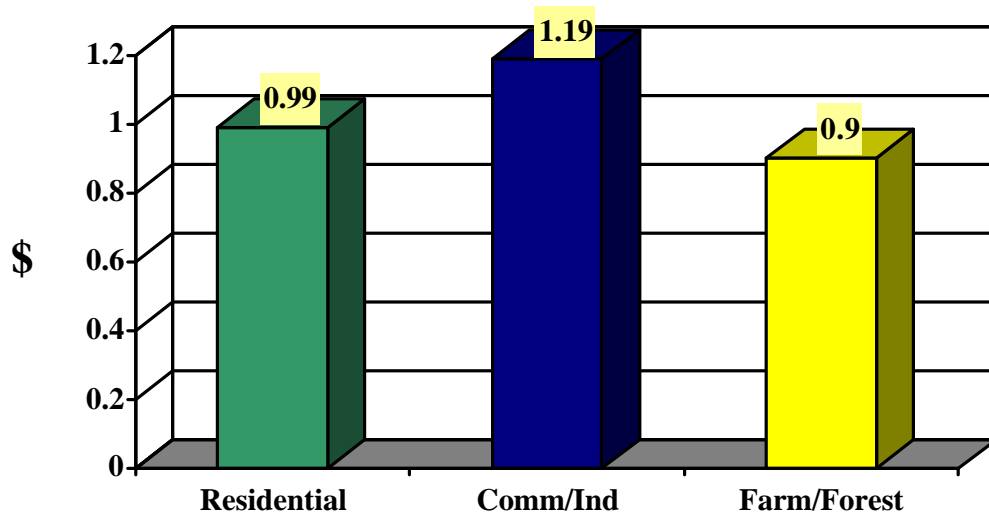
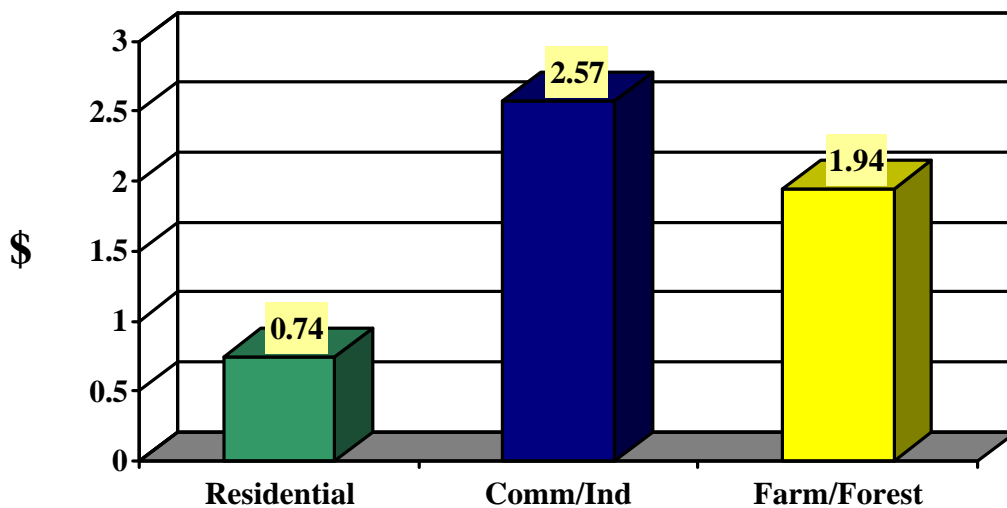


Figure 2. Revenues per \$1 of Expenditures by Land Use (County Government Plus Schools)



Break-even Home Values

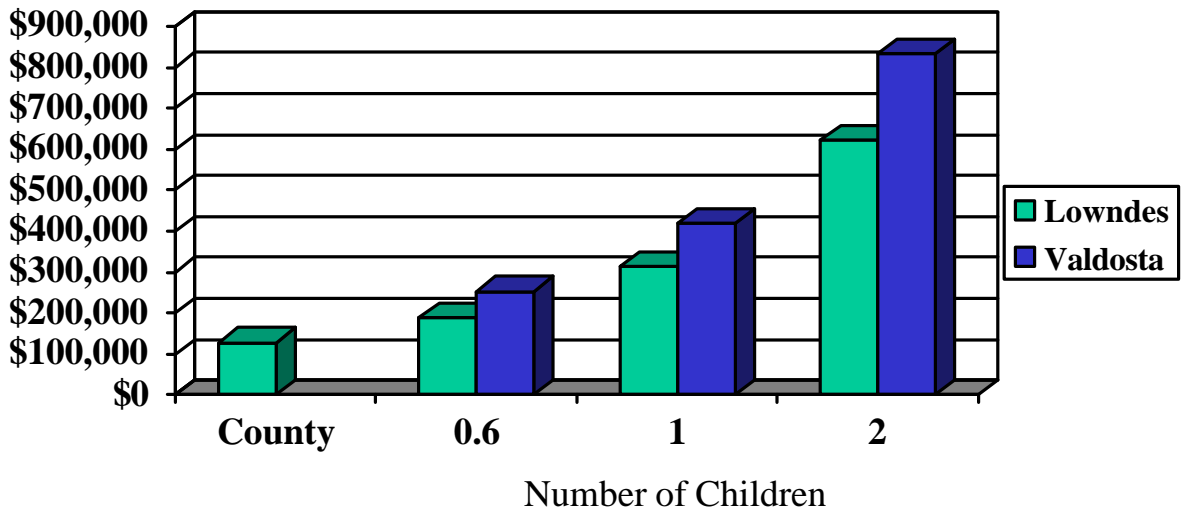
The cost of service and revenue generation numbers that lie behind the ratios reported above can also be used to calculate the home value necessary for a county or school board to break-even. If one assumes that service cost is fairly constant across houses relative to the home value, such computations are straightforward. Further, this is not an unreasonable assumption as local government service costs will vary with location, lot size, and (for schools) with number of school children, but are not particularly correlated with home value. Given this assumption, the county government's average service cost per house is easily calculated, as is revenue from all residential sources other than property tax from houses. Then, using the county millage rate and homestead exemption one finds the home value where revenue will exactly equal service cost; this is the break-even home value. For schools, the average per pupil cost from local tax money is computed (state and federal money excluded) and then the school millage rate and exemptions allow the computation of a break-even home value needed to generate sufficient local revenue to cover the locally-generated expenditures for whatever number of children per household is expected or is being modeled. Figure 3 shows the break-even home value for Lowndes County to be \$128,600 (the Census estimate of median home value in Lowndes County was \$122,500 for 2006). New homes being constructed far exceed this (averaging around \$220,000). Thus, new residents do not impose (county) government costs on existing residents.

While the county government breaks-even on a \$128,600 house, they are just one government entity in the county. From the county school system perspective, the results are quite different. If a home contains just one child attending the public schools, the break-even home value is \$313,900 for the county schools and \$419,000 for the Valdosta schools from the point of view of the schools' budget (that is the home value that would pay enough in *local* school property taxes to cover the *local* expenditures per pupil).. Thus, the county government will be earning a fiscal surplus off a house with a single child long before the schools. With two children in school, the break-even home price increases to \$622,800 for the Lowndes County Schools and \$833,100 for the Valdosta City Schools. Census data provides an estimate of 0.6 public schoolchildren per home in Lowndes County. The break-even value for homes for the school system using an average of 0.6 pupils per household is \$193,300 for the County Schools and \$253,400 for the Valdosta Schools. This is near the average value of new houses being constructed in Lowndes County (recently estimated to be in the range of \$220,000). Thus, Lowndes County is in the enviable situation of its new growth being approximately fiscally neutral for the local school systems. The danger would be if new residents had a higher number of public school children per household than the current population. Given the reputation of the Lowndes County Schools in the region, this is a legitimate concern.

How Much Does Farm Preservation Cost?

There has been an ongoing debate over the equity of state and local government programs that provide tax relief for farm and forestland. These programs provide tax relief by assessing the land at its "current use" in place of its "highest and best use." In return, landowners must agree to keep the land in its current use for 10 years or be subject to financial penalties. These programs help to slow development and preserve farm/forestland and green space. In Georgia, agricultural lands are eligible for enrollment in the Conservation Use Valuation Assessment (CUVA) or the Agricultural Preferential (AG PREF) program to receive these tax incentives.

Figure 3. Lowndes County Breakeven Home Values



*All values to the nearest \$100. Values do not account for dedicated capital fund revenues and expenditures.

A major underlying question, however, is: How much of a tax burden is shifted to homeowners to make up for this loss in revenue? This question can be answered in Lowndes County by empirical investigation of the tax digest and the results of the COCS. Table 2 below was compiled from the Lowndes County Tax Digest Consolidated Summaries and shows the loss in revenue for Lowndes County as a result of the CUVA program (no parcels in Lowndes County are under Agricultural Preferential assessment).

Table 2. Lost Revenue in Lowndes County from Conservation Use Assessment

Government Program	Parcel Count	Value Eliminated	State Tax Loss	County Tax Loss	School Tax Loss	Total Tax Loss
CUVA	892	\$29,570,941	\$7,393	\$261,999	\$447,970	\$717,361

To compute the impact of the conservation use tax programs, the reduction in the tax digest (the sum total of property value in the county) due to conservation use assessment is added back into the tax digest. This yields a hypothetical tax digest as if this program did not exist. Then a millage rate is computed to produce the same revenue as collected currently by the local government and school combined. This produces a slightly lower millage rate that property owners would pay if these tax incentive programs for farms did not exist. The difference between this lower, hypothetical rate and the actual millage rate (0.284 mills in the County Schools district, 0.105 mills in the Valdosta City Schools district) allows computation of the fiscal impact of these tax programs for any specified property value. Table 3 shows the amount of additional property tax (both county and school) a homeowner pays because of the existence on property tax benefits for agricultural landowners. For example, the owner of a \$150,000

house in the City School District pays an additional \$6.07 per year. The owner of an equivalent house in the County School District would pay on extra \$16.45 per year. These tax increases are quite small, particularly given the environmental amenities provided by these lands such as improved air and water quality. It seems likely that a majority of Lowndes County taxpayers would consider this additional tax worthwhile in exchange for helping to preserve farmland in their county, particularly given that owners of this land still pays their “fair share” toward the services it receives.

Table 3. Homeowner Tax Increases as a Result of Farmland Assessment Programs

House Value	\$75,000	\$100,000	\$150,000	\$200,000	\$300,000
Additional Tax, County Schools	\$7.94	\$10.78	\$16.45	\$22.12	\$33.46
Additional Tax, City Schools	\$2.93	\$3.98	\$6.07	\$8.16	\$12.35

Additional Aspects of Residential Development Service Costs and Revenues

New commercial development does bring some demand for service expenditures with its new revenue, but almost always provides more than enough revenue to pay for those services. The big concern in the economics of growth is whether residential development pays its own way or if some of the costs of providing services are shifted to existing taxpayers. The numbers shown so far indicate that, on average, Lowndes County loses money on residential development as every county studied in Georgia does, but that new development provides more revenue to the County than it costs in terms of operating budget service costs. While that is a good situation, there are a few concerns that are still worthwhile to keep in mind relative to the fiscal impact of residential development.

The first is the fiscal impact on schools. Lowndes County’s new residential development is near the breakeven price on average for school costs if those new residences house the current county average of 0.6 public school children per household. In many locations, new residents have higher rates of public school children per household because new residents in places like Lowndes County tend not to be older citizens, but young couples or families. Thus, because of the high cost of public education both in terms of operating and capital budgets, it is vital to keep a close watch on the average yield of school children in new developments so that proper planning can take place.

The location of new residential development can have a large impact on its fiscal impact. Keeping growth contiguous to existing development greatly lowers the cost of providing services. Conversely, leapfrog development that is miles from other development surrounded by farms or forest land is far more expensive than average to serve. All the vehicles that provide services (school buses, sheriff’s cars, etc.) have to drive miles down a road with no other purpose to help spread the cost; similarly newly installed infrastructure such as roads and water and sewer lines is of much greater expense on a per household basis since there are fewer households per linear foot of infrastructure. Managing growth so that developments occur in a compact pattern can help ensure that residential development does not lead to tax increases for existing residents.

The density of residential development also has a large influence on the cost of providing local government services. A common rule of thumb is that the cost of providing services goes down at half the rate of land use. Thus, if houses are built on half acre lots instead of one acre lots, land use decreases by 50% and the cost of providing local government services will drop by 25%. In many cases, density changes can turn a proposed residential development with a projected negative fiscal impact into one with a projected positive fiscal impact. Increasing the density of residential development also saves the developer money as there is less infrastructure to install. Clustering of houses with a development, even while keeping average density the same, has a similar effect as first shown in a National Association of Home Builders study back in 1976. Flag lots (long and narrow) or pie-piece -shaped lots are planning approaches that can yield large lot sizes while still achieving clustering-type cost savings.

The final item to pay attention to for residential development is non-property tax revenue. Residential development provides much more revenue than simply what is collected by the County in property taxes on those parcels. For Lowndes County, property tax revenue makes up roughly half the revenue received from residential development. Sales taxes make up an additional quarter of the residentially-based revenue. The remaining quarter of the revenue comes from a wide array of sources including the intangibles tax, real estate transfer taxes, fines and forfeitures, and rent of county facilities. The large role of sales taxes in this non-property tax revenue category shows the importance of having local businesses to collect those sales taxes, something that Lowndes County is blessed with in considerable number. Overall, it is important to remember when planning for the impacts of growth that new residential development will likely provide double the revenue that would be projected if only property taxes were accounted for in the calculations.

Implications for Governments and Land Use Planning

The main finding of this study is that residential development does not pay for its services directly in Lowndes County, but it is very close. Residents pay \$0.99 for every \$1.00 they receive in services from the county government; when schools are included the deficit grows bigger (\$0.74 revenue per dollar of services). The shortfall is recovered from businesses which pay in \$1.19 for every \$1.00 they receive back in county services (\$2.57 with schools included). For schools, the shortfall is covered by both businesses and farm/forest land (\$1.94 in revenue for every dollar of services). Because businesses get their money from customers, the residents are paying indirectly (as a hidden tax on their local purchases) for that part of the services they do not pay for directly. Even though in Lowndes County farmland also generates a slight fiscal shortfall for the county government (\$0.90 revenue per dollar of services), the value is much smaller on a per acre basis. One could think of farmland as breakeven for the county simply because the shortfall generated is so small in dollars as to be meaningless. Thus, the conversion of farmland to houses will worsen the financial condition of the county government somewhat if the new homes have an average value below break-even value of \$128,600. Further, because farmland does generate a surplus for the county school district, the school system is in more danger of negative fiscal impacts from new growth. Currently, new homes built in Lowndes County are averaging in the low \$200,000s in value. Thus, new development on average is more than providing revenue equal to or exceeding the county's operating budget expenses of new services required by that growth. The two items that Lowndes County needs to watch carefully as it plans its future growth are school impacts and capital expenditures. If new homes yield much more than the current average of 0.6 public school children per household, then that

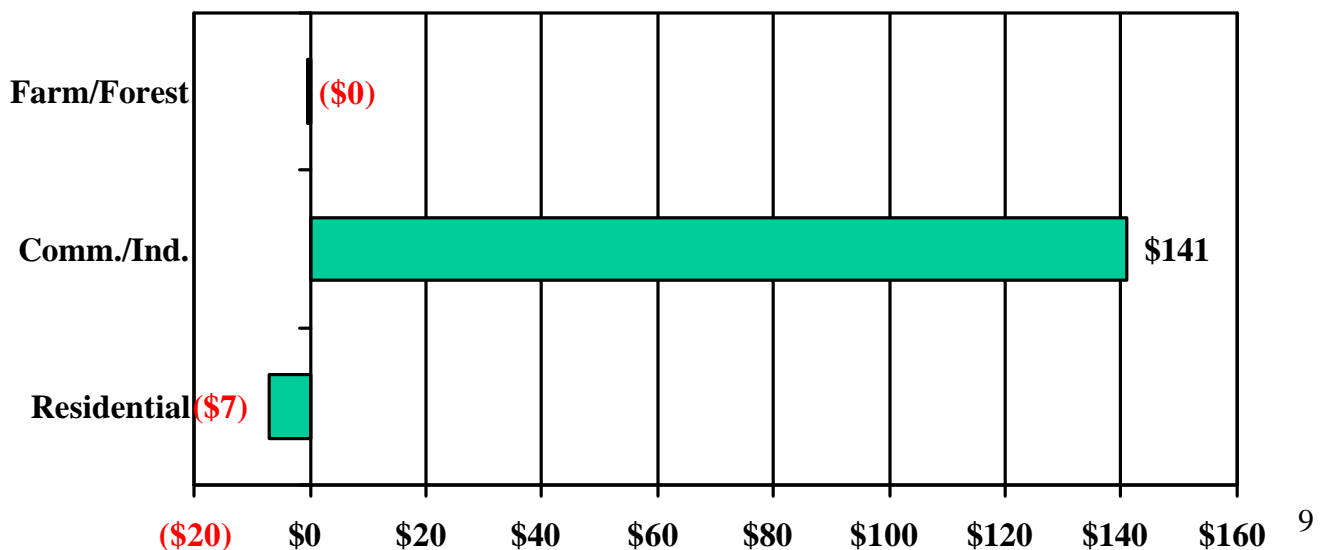
growth will have a negative fiscal impact on the county and city schools. Also, this report focuses on the operating budgets, not the capital budgets, so as new growth occurs (residential or commercial) the capital expenditures required as a result of that new growth (road widening, more traffic lights, new schools, etc.) will be borne by all county residents in the absence of impact fees.

On a per acre basis, residential development averages a \$7/acre shortfall, commercial/ industrial land averages an \$141/acre surplus, and farm and forest lands average a \$0.41/acre deficit. These numbers are displayed in Figure 4 below. Placed on this metric, one can see how close to fiscal balance Lowndes County is in all land use categories.

It is important to remember that the numbers in this report are affected by the style of development. For example, denser residential development, multifamily development, and residences closer to the city center are all likely to produce a fiscal surplus for the county government and possibly the schools, as well. Including green spaces in new developments, even when the total units in the development remain the same, also reduces service delivery costs by helping with stormwater management and reducing the amount of infrastructure to be maintained. Finally, while residential development is essentially fiscally neutral in Lowndes County overall, new development on the edges of the county would be more expensive to service and likely would have a negative fiscal impact.

The findings of COCS studies should be carefully evaluated. COCS studies should not be used to promote one land use type over another without a careful and full understanding of their limitations. They use average revenues and expenditures and may not reflect the costs and revenue of a particular development project. Also, this study focused on operating budget revenues and expenditures, not one-time capital expenditures. New growth of all types often requires one-time increases in community infrastructure such as new roads, traffic signals, water and sewer capacity, and new schools. These items must either be paid for with impact fees or their costs will be spread among all community citizens. The key finding is that communities must ensure that their development is balanced with enough commercial and industrial development to “support” residential development that does not generate enough local government revenues to cover the expenditures it requires.

Figure 4. Lowndes County Fiscal Impact by Land Use per Acre



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About Dorfman Consulting

Jeffrey H. Dorfman earned a Ph.D. in agricultural economics from the University of California, Davis in 1989. Since then he has been a professor in the Department of Agricultural & Applied Economics at The University of Georgia where he is also currently co-director of the Land Use Studies Initiative. From 1998-2000 he was the founding director of the Center for Agribusiness and Economic Development at The University of Georgia. He has written one book, co-authored another, authored or co-authored over 50 academic articles, and published a number of pieces for popular press outlets. He is a recognized expert in the economics of growth, sprawl, green space, and farmland preservation. On these topics he has been invited to present talks around the nation, appeared on television, radio, and been quoted in numerous newspaper articles. He has worked for American Farmland Trust, the Turner Foundation, The Georgia Conservancy, 1000 Friends of Florida, and numerous local governments on growth related issues. In addition to his work on the economics of development issues, Dr. Dorfman also does research in the areas of Bayesian econometrics, productivity measurement, and e-commerce's effect on agribusiness. He consults on a range of economic and statistical issues for a variety of companies, government agencies, and non-profit organizations.

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Appendix – Focus on Lowndes’s Benchmark Counties

Figure A1. Revenues per \$1 in Expenditures by Land Use (County Government Only)

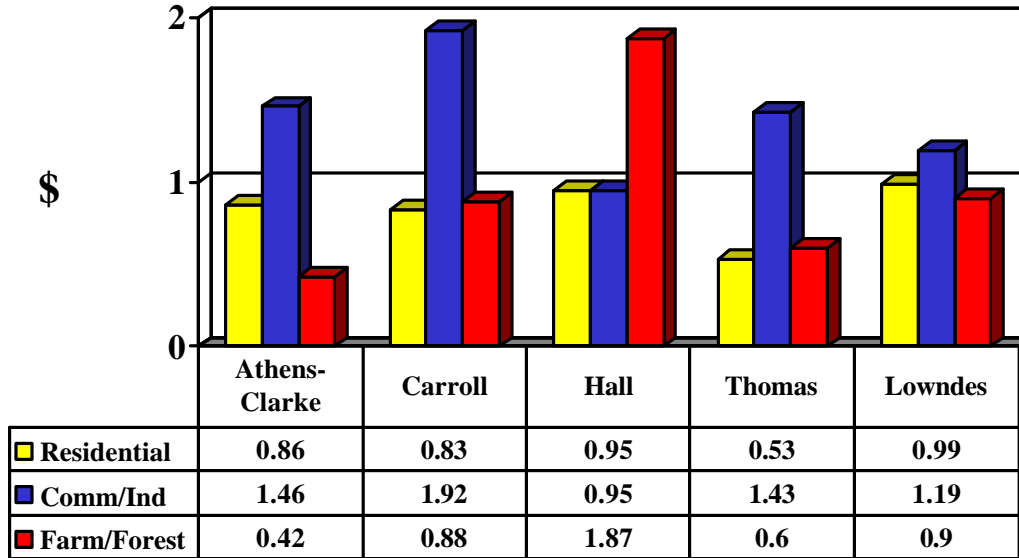


Figure A2. Revenues per \$1 in Expenditures by Land Use (County and Schools)

