

**THE COST OF COMMUNITY SERVICES
IN GUILFORD COUNTY**

Prepared by:

Mitch Renkow
Department of Agricultural and Resource Economics
North Carolina State University

January 2010

Acknowledgements

I would like to thank the many Guilford County officials who kindly contributed information and assistance in the course of conducting this research:

Reid Baker, Finance Director

Ben Chavis, Tax Director

Larry Conrad, Register of Deeds Office

Corporal Janet Deberry, Sheriff's Department

Greg French, Assistant Tax Assessor

Betty Garrett, Planning Director

Merle Green, Public Health Director

Clay Hicks, Finance Department

Alan Perdue, Emergency Services Director

Wick Wickliffe, Cooperative Extension Service

This study funded by the Piedmont Conservation Council. Special thanks are extended to Wick Wickliffe and Julie Elmore for facilitating the project. Able research assistance was provided by Xulei Ruan.

THE COST OF COMMUNITY SERVICES IN GUILFORD COUNTY

Introduction

In counties in and around near rapidly-growing urban areas, there is considerable debate over the desirable mix of land uses and the role that local government can and should play in affecting the rate at which new land uses supplant traditional ones. Guilford County is typical of such counties. The county's economic growth, as well as that of the adjoining counties of the Piedmont Triad, have created unprecedented demands for residential and commercial development, particularly in the county's rural areas.

On the one hand, this situation has been welcomed by many because it has created significant economic development opportunities for the county's citizens and a significant increase in the county's revenue base. On the other hand, there is concern that the cost of community services needed to accommodate accelerated residential and commercial development may exceed the contribution of that development to the county's revenue base.

One important element of public debate over appropriate land use policies is whether or not increased county government expenditures on community services needed to accommodate residential and commercial development exceed the contribution of that development to the county's revenue stream. This report presents the findings of a research project aimed at addressing this specific issue. The research quantifies the contribution to local government revenues of various types of land uses (residential, commercial/industrial,¹ and agricultural), and the demands on local government financial resources of those same land uses. This "snapshot" of current revenues and expenditures allows an assessment of the costs and benefits of different land uses from the perspective of local government finance.

The analysis presented here employs a methodology established by the American Farmland Trust, one that has been used in numerous Cost of Community Services (COCS) studies throughout the U.S. Like those studies, the current research was motivated by two questions: (1) Do the property taxes and other revenues generated by residential land uses exceed the amount of publicly-provided services supplied to them? (2) Does the fact that farm and forest lands are taxed on the basis of their Present Use Value – instead of their potential

¹ For simplicity, the term "commercial" will denote both commercial and industrial land uses for the remainder of this report. Likewise, "agricultural" will refer to farm and forest land uses.

value in residential or commercial uses – mean that they are contributing less in tax revenues than the value of publicly provided services they receive?

As has been found in other COCS studies, the answer to each of these questions is “no” for Guilford County. The residential sector contributes only 74¢ to the county’s coffers for each dollar’s worth of services that it receives. Commercial and industrial land uses are the largest net contributors to the public purse, contributing \$3.44 in revenues for each dollar of publicly provided services that they receive. Despite being taxed on the basis of current land uses, property in agricultural land uses is found to be a net contributor to the local budget, generating \$1.62 in revenues for every dollar of public services that it receives.

At the outset, it is important to recognize two important limitations of analyses such as the one presented here. First, COCS studies highlight the relative demands of various land uses on local fiscal resources *given the current pattern of development*. As such, one should be cautious in extrapolating from the results of studies such as this in order to gauge the impact of future patterns of development on local public finance. Nonetheless, the results of studies such as this are useful in informing debates over such issues as whether or not alternative types of land uses are likely to contribute more in tax dollars than they demand in the way of services.

Second, the current study in no way deals with the *social* value of each of these forms of development – i.e., their contribution (positive or negative) to the well-being of the county’s citizens. Rather it focuses on the more narrow issue of whether or not these land uses “pay their own way” with regard to county revenues and expenditures. It is important to bear in mind that there is nothing sacred about an exact balance between revenues and expenditures associated with a particular land use, even when balancing the local budget is an overriding priority. Indeed, one of the primary functions of a local government is to redistribute local financial resources such that services desired by citizens are supplied, even when those services cannot pay for themselves. Determining the optimal distribution of those resources is a public policy issue to be resolved in the political arena. A study such as this fits into the process wherein such issues are resolved by shedding light on the relative costs and benefits of the specific distribution of financial resources given the existing pattern of development.

Methodology

The basic approach used in this research was quite simple. Working from the most recent available county financial data, revenues and expenditures were allocated among three specific land use categories: (a) residential; (b) commercial; and (c) agricultural. This process was carried out in conjunction with a series of telephone interviews and email exchanges with a variety of local officials knowledgeable about the workings of specific departments.

Once revenues and expenditures were allocated to specific land use categories, the ratio of revenues to expenditures was computed for each. A revenue-expenditure ratio greater than 1.00 indicates that that sector's contribution to the public purse exceeds its use of public funds. Conversely, a revenue-expenditure ratio less than 1.00 indicates that the sector's use of publicly financed services exceeds its contribution to the local budget.

The basis for the current analysis is the actual expenditures recorded for the 2007-2008 fiscal year reported in the Guilford County Adopted Budget for 2009-2010. As noted above, the allocation of these data to specific sectors was done in consultation with a variety of local officials (listed in the Acknowledgements). These individuals were best equipped to assess the extent to which the various land uses partake of the services provided by their departments. Where feasible, expenditures were allocated to land use categories using available data on staff salaries and/or activities records.

Often, existing records were not amenable to being broken out into various land use categories. In many of these cases, we relied on a local official's best guess of how their department's efforts were allocated. Where the relevant officials were unable to make such a guess, one of two allocation schemes was used. For services that exclusively benefit households (as opposed to commercial establishments)² – for example, public schools and library services – 100% of expenditures were allocated to the residential sector.³ For departments whose activities benefited both residences and businesses (including agricultural businesses), expenditures were

² Note that the quality of “residential” services such as public schools may well have a positive influence on business formation, particularly the attractiveness of the county to firms considering relocation. These spillover effects are ignored here, however, because the information needs for quantifying them lie well beyond the scope of this research.

³ Guilford County separates the farm business from the farm residence, assessing the property value of farm residences in the same manner as any other residences. For this reason, farm residences were included in the residential land use category throughout the analysis.

allocated based on the proportion of total property value accounted for by each land use category. This “default” breakdown of assessed property valuation for 2007 was 62.7% residential, 37.1% commercial, and 0.2% agricultural. The expenditures of most of the county’s general administration departments were allocated in this manner.

Revenues were handled in a manner similar to expenditures. Property tax revenues were allocated to specific land use categories based on the 2008 property assessments. Taxes and other revenue sources that are linked directly to commercial activities – for example, Article 39 sales taxes⁴ and beer and wine excise taxes – were allocated exclusively to the commercial sector. Revenues from sources associated exclusively with households (such as animal control revenues) were allocated to the residential sector. Revenues raised by specific county government departments from fees charged for services or from inter-governmental transfers were allocated in direct proportion to the allocation of expenditures by those departments, unless respondents indicated otherwise (e.g., revenues collected by the Inspections department were allocated somewhat differently than that department’s expenditure). Any remaining revenues that could not be directly allocated in these ways were allocated according to the proportion of total property value accounted for by each land use category.

Results

A detailed breakdown of revenues sources is found in Appendix Table 1. Total county general fund revenues for 2007-2008 were \$542.5 million. About 54.9% of this money came from ad valorem property taxes, while another 15.8% came from sales taxes.

Table 1 summarizes the overall breakdown of county expenditures for the 2006-2007 fiscal year. More detailed information is found in Appendix Table 2. Education and human services⁵ departments – accounted for nearly three-quarters of the total budget. Because all school expenditures, and nearly all of the activities of the human services departments are

⁴ The state distributes Article 39 sales tax revenues back to counties on a point-of-sale basis. Article 40 and 42 sales taxes are distributed back to counties based on county population; revenues from these sources were allocated to residential land uses. Article 44 sales taxes are distributed to counties in part on the basis of point of sale and in part on the basis of county population; accordingly, these were allocated to residential and commercial land uses on a 50-50 basis.

⁵ Human services include both the public health and social services departments.

exclusive to the residential sector, the large “footprint” of these two departments in county government has a dominant impact on the results of this study.

Table 2 summarizes revenues and expenditures by land use category. Expenditures exceeded revenues for the residential land use category, while revenues exceeded expenditures for the commercial and agricultural land use categories. The computed revenue/expenditure ratios quantify the extent to which each of the three land use categories is either a net contributor or a net drain on Guilford County’s financial resources. For comparative purposes, the bottom of the table provides the results from some 103 other Cost of Community Services studies that have been conducted throughout the U.S., as well as five studies that were conducted in Chatham, Wake, Alamance, Orange, Gaston, Henderson, and Franklin Counties over the course of the past decade.

The revenue/expenditure ratio for the residential land use category is 0.74; this implies that for each dollar in property tax and other revenues generated by residential land uses, the county spends \$1.35 to provide services supporting those land uses. In other words, the residential sector is on balance a net user of local public finances. On the other hand, the other two land use categories are net contributors to local fiscal resources. The revenue/expenditure ratio of 1.62 for agriculture implies that revenues substantially exceed expenditures for this land use category. The commercial land use category stands out as having the highest revenue/expenditure ratio (3.44). This result indicates that the county spends only 29¢ on services benefiting commercial and industrial establishments for every public dollar generated by those establishments.

Finally, Table 3 presents an analysis which computes the residential property value needed to generate an exact balance between average revenues contributed by the 140,000-150,000 current housing units in the county and the average value of public services consumed by households. This “breakeven” house price was computed assuming that any new household would consume the average amount of services reflected in the 2007-2008 budget – i.e., that they would possess the average number of school kids, consume an average amount of public health and social services, etc. The computation further assumes that any new household would contribute the average amount of non-property tax revenues generated by existing residential properties, and takes as a benchmark the 2008/2009 property tax rate of 73.74¢ per \$100. Based

on these assumptions, the breakeven property value is computed to be somewhere between \$279,000 and \$299,000.

Discussion

The results presented above provide answers to the two questions posed at the beginning of this report. As regards the public services provided by Guilford County, commercial and industrial land uses emerge as being the largest net contributor to local financial resources. In contrast, the value of public services provided to residential land uses exceed the property taxes and other revenues that they contribute to the county budget. This finding contrasts with claims that are sometimes made that residential development is a boon to county finances due to its expansion of the property tax base. It would appear that the very large footprint of the education and human services expenditures in the overall county budget plays a dominant role in explaining this phenomenon. Finally, agricultural lands more than pay their own way. This is true despite these properties being taxed on the basis of their current use (as opposed to their potential use were they to be transformed into commercial or residential uses).

Qualitatively, these findings for Guilford County are consistent with the findings of nearly every Cost of Community Services study that has been carried out in other communities throughout the U.S. The degree of cross-subsidization of the residential sector – in particular, the extent to which the Guilford County’s commercial sector pays for services provided to its residential sector – is somewhat greater than the median in other studies that have been conducted nationally. Closer to home, the relative balance of revenues and expenditures for the residential and commercial land use categories is qualitatively similar to that which was found in comparable studies conducted in other North Carolina counties.

As was stressed at the outset, some degree of subsidization of certain land uses by other land uses is to be expected in virtually every community. The distribution of revenues and expenditures among various land uses in Guilford County that has been computed here is based on current land use patterns in the county. Determining whether or not this distribution is appropriate – either now or in the future – is an issue that can only be resolved in the local political arena.

Table 1. Guilford County Expenditures for 2007-2008

Item	Expenditure	%
Education (including school debt)	226,834,437	42.1%
Human Services ^a	172,861,739	32.1%
Public Safety	80,919,267	15.0%
General Government	21,400,998	4.0%
Support Services	14,889,794	2.8%
Non-school debt service	12,519,167	2.3%
Community Services	9,236,108	1.7%

a. Human services include both the Social Services and Public Health departments.

Source: *Guilford County Annual Operating Budget 2009-2010*

Table 2. Revenues vs. Expenditures in Guilford County

	Residential	Commercial	Agricultural
Revenues	\$360,550,408 (66.93%)	\$177,442,355 (32.94%)	\$668,747 (0.13%)
Expenditures	\$486,634,851 (90.34%)	\$51,614,331 (9.58%)	\$412,328 (0.08%)
Revenues/Expenditures ratio^a	0.74	3.44	1.62
Revenue/Expenditure ratios from national studies^b			
Minimum	0.47	0.96	1.01
Median	0.87	3.57	2.78
Maximum	0.99	20.00	50.00
Revenue/Expenditure ratios from local studies			
Chatham County (1998)	0.90	2.13	1.09
Wake County (2001)	0.65	5.63	2.12
Alamance County (2006)	0.68	4.29	1.69
Orange County (2006)	0.76	4.21	1.38
Chatham County (2007)	0.87	3.01	1.72
Gaston County (2008)	0.81	2.41	1.13
Henderson County (2008)	0.86	2.52	1.03
Franklin County (2009)	0.89	1.90	1.32

a. This ratio measures the amount of county revenue contributed by a given land use sector for each dollar in public services used by that sector.

b. These figures are derived from 103 Cost of Community Services summarized on the American Farmland Trust website (http://farmlandinfo.org/documents/27757/FS_COCS_8-04.pdf).

Table 3. Breakeven Analysis for Residential Property Value in Guilford County

(1) Property tax rate (\$ per \$100)	0.7374
(2) Residential Non-Property Tax Revenue Contribution in 2007/2008	\$177,611,781
(3) Total residential expenditures in 2007/2008	\$486,634,851
(4) Total Expenditures needing to be paid for by property taxes [(3) - (2)]	\$309,023,070
(5) Number of residential properties in the county ^a	140,000-150,000
(6) Per household expenditures needing to be paid for by property taxes [(4) ÷ (5)]	\$1,188
Breakeven property value [(6) ÷ (1)]	\$279,381-\$299,337

a. The number of residential properties in the county is an estimate provided by the Guilford County tax department. The smaller breakeven property value corresponds to the larger estimate (and vice-versa).

Appendix Table 1. Guilford County Revenues by Land Use Category for 2007-2008

	Total	Residential	Commercial	Agricultural	Breakdown^a
TAXES					
Ad Valorem Taxes	295,837,946	185,490,392	109,755,878	591,676	62.7-37.1-0.2
Local Option Sales Tax	85,270,606	38,508,093	46,762,513	0	
Article 39	38,992,876	0	38,992,876	0	0-100-0
Article 40	15,455,652	15,455,652	0	0	100-0-0
Article 42	15,282,804	15,282,804	0	0	100-0-0
Article 44	15,539,275	7,769,637	7,769,637	0	50-50-0
Other Taxes	2,991,744	1,814,302	1,176,459	983	
Refund of Sales and Use Tax Paid	1,092,147	493,651	598,497	0	45.2-54.8-0
Refund of Mecklenburg Public Transp. Tax	27	27	0	0	100-0-0
Refund of Motor Fuels Tax Paid	3,710	0	3,710	0	0-100-0
Beer & Wine Excise Tax	391,922	0	391,922	0	0-100-0
Scrap Tire Disposal Tax	491,458	308,144	182,331	983	Default
White Goods Disposal Tax	178,226	178,226	0	0	100-0-0
Video Programming Distribution	834,254	834,254	0	0	100-0-0
DEPARTMENTAL REVENUES					
Community Services Total	128,153	100,842	3,096	24,214	
Cooperative Extension Service	5,000	4,360	135	505	87.2-2.7-10.1
Culture-Recreation	6,300	6,300	0	0	100-0-0
Planning And Development	94,173	86,168	7,911	94	91.5-8.4-0.1
Soil & Water Conservation	29,519	5,313	590	23,615	18-2-80
Solid Waste	(6,839)	(1,299)	(5,540)	0	19-81-0

Appendix Table 1. Guilford County Revenues by Land Use Category for 2007-2008 (continued)

	Total	Residential	Commercial	Agricultural	Breakdown^a
General Government	9,122,651	5,719,902	3,384,504	18,245	
County Administration	21,906	13,735	8,127	44	Default
County Attorney	1	1	0	0	Default
Elections	396,601	248,669	147,139	793	Default
Finance	88,138	55,263	32,699	176	Default
Human Resources	368	231	137	1	Default
Internal Audit	7,000	4,389	2,597	14	Default
Purchasing	18	11	7	0	Default
Register of Deeds	7,262,400	4,553,525	2,694,350	14,525	Default
Tax	1,346,219	844,079	499,447	2,692	Default
Public Safety Total	23,134,195	17,502,265	5,623,867	8,063	
Animal Services	1,239,994	1,239,994	0	0	100-0-0
Court Alternatives	1,973,125	1,973,125	0	0	100-0-0
Emergency Services	10,687,868	7,220,724	3,460,732	6,413	67.5-32.4-0.1
Inspections	1,397,736	1,034,325	363,411	0	74-26-0
Law Enforcement	7,467,916	5,695,780	1,770,643	1,494	76.2-23.7-0.1
Other Protection	289,171	289,171	0	0	100-0-0
Security	78,385	49,147	29,081	157	Default
Education	6,000,000	6,000,000	0	0	
Guilford County Schools	6,000,000	6,000,000	0	0	100-0-0

Appendix Table 1. Guilford County Revenues by Land Use Category for 2007-2008 (continued)

	Total	Residential	Commercial	Agricultural	Breakdown^a
Support Services Total	2,359,465	1,479,385	875,362	4,719	
Facilities	832,790	522,159	308,965	1,666	default
Information Services	(9,396)	(5,891)	(3,486)	(19)	default
Parking/Fleet Operations	309,913	194,315	114,978	620	default
Property Management & Courts	1,226,158	768,801	454,905	2,452	default
Human Services Total	104,839,373	98,467,845	6,371,528	0	100%
Child Support Enforcement	5,802,288	5,802,288	0	0	100-0-0
Coordinated Services	1,056,237	1,056,237	0	0	100-0-0
Medical Assistance	2,225,794	2,225,794	0	0	100-0-0
Mental Health	28,606,421	28,606,421	0	0	100-0-0
Public Health	19,114,585	12,743,057	6,371,528	0	67-33-0
Social Services	46,848,871	46,848,871	0	0	100-0-0
Transportation-Human Services	1,183,177	1,183,177	0	0	100-0-0
Veteran Services	2,000	2,000	0	0	100-0-0
Investment Earnings	12,789,708	8,019,147	4,744,982	25,579	default
Fund Balance	(3,812,331)	(2,551,765)	(1,255,833)	(4,733)	default
TOTAL REVENUES	538,661,510	360,550,408	177,442,355	668,747	
		(66.93%)	(32.94%)	(0.12%)	

a. Percentage breakdown by land use category (residential-commercial-agricultural). Default percentages were based on 2008 assessed property valuation (residential - 62.7%; commercial - 37.1%; agricultural - 0.2%).

Appendix Table 2. Guilford County Expenditures by Land Use Category for 2007-2008

	Total	Residential	Commercial	Agricultural	Breakdown^a
General Government	21,400,998	13,418,426	7,939,770	42,802	
Budget And Management	452,812	283,913	167,993	906	default
Clerk to Board	183,304	114,932	68,006	367	default
County Administration	968,440	607,212	359,291	1,937	default
County Attorney	635,215	398,280	235,665	1,270	default
County Commissioners	428,583	268,722	159,004	857	default
Elections	2,256,127	1,414,592	837,023	4,512	default
Finance	2,534,991	1,589,439	940,482	5,070	default
Human Resources	4,433,576	2,779,852	1,644,857	8,867	default
Internal Audit	385,556	241,744	143,041	771	default
Purchasing	462,192	289,794	171,473	924	default
Register of Deeds	2,652,696	1,663,240	984,150	5,305	default
Tax	6,007,506	3,766,706	2,228,785	12,015	default
Public Safety	80,919,267	61,308,536	19,584,817	25,914	
Animal Services	2,365,676	2,365,676	0	0	100-0-0
Court Alternatives	2,959,731	2,959,731	0	0	100-0-0
Emergency Services	20,623,982	13,933,562	6,678,045	12,374	67.5-32.4-0.1
Inspections	2,777,457	2,277,515	499,942	0	82-18-0
Law Enforcement	49,476,234	37,735,524	11,730,815	9,895	76.27-23.71-.02
Other Protection	894,045	894,045	0	0	100-0-0
Security	1,822,142	1,142,483	676,015	3,644	default

Appendix Table 2. Guilford County Expenditures by Land Use Category for 2007-2008 (continued)

	Total	Residential	Commercial	Agricultural	Breakdown^a
Human Services	172,861,739	160,820,396	12,041,343	0	
Child Support Enforcement	5,669,704	5,669,704	0	0	100-0-0
Coordinated Services	1,349,984	1,349,984	0	0	100-0-0
Medical Assistance	19,024,749	19,024,749	0	0	100-0-0
Mental Health	36,472,660	36,472,660	0	0	100-0-0
Public Health	36,124,028	24,082,685	12,041,343	0	67-33-0
Social Services	68,025,039	68,025,039	0	0	100-0-0
Special Assistance To Adults	3,380,040	3,380,040	0	0	100-0-0
Temp Asst Needy Families	11,959	11,959	0	0	100-0-0
Transportation-Human Services	2,704,652	2,704,652	0	0	100-0-0
Veteran Services	98,924	98,924	0	0	100-0-0
Support Services	14,889,794	9,335,901	5,524,114	29,780	
Facilities	4,374,577	2,742,860	1,622,968	8,749	default
Information Services	8,336,372	5,226,905	3,092,794	16,673	default
Parking/Fleet Operations	696,048	436,422	258,234	1,392	default
Property Management & Courts	1,482,797	929,714	550,118	2,966	default
Community Services	9,236,108	7,067,638	1,879,676	288,794	
Cooperative Extension Service	524,780	457,608	14,169	53,003	87.2-2.7-10.1
Culture-Recreation	5,154,091	5,154,091	0	0	100-0-0
Economic Devel. & Assistance	1,034,865	0	1,034,865	0	0-100-0
Planning And Development	1,351,198	1,236,346	113,501	1,351	91.5-8.4-0.1
Soil & Water Conservation	293,050	52,749	5,861	234,440	18-2-80
Solid Waste	878,124	166,844	711,280	0	19-81-0

Appendix Table 2. Guilford County Expenditures by Land Use Category for 2007-2008 (continued)

	Total	Residential	Commercial	Agricultural	Breakdown^a
Education	188,441,857	188,441,857	0	0	
Guilford County Schools (excl. debt)	172,165,521	172,165,521	0	0	100-0-0
Guilford Tech Community College	16,276,336	16,276,336	0	0	100-0-0
DEBT SERVICE	50,911,747	46,242,098	4,644,611	25,038	
Non-School	12,519,167	7,849,518	4,644,611	25,038	default
Guilford County Schools	38,392,580	38,392,580	0	0	100-0-0
TOTAL EXPENDITURES	538,661,510	486,634,851	51,614,331	412,328	
		(90.34%)	(9.58%)	(0.08%)	

a. Percentage breakdown by land use category (residential-commercial-agricultural). Default percentages were based on 2008 assessed property valuation (residential - 62.7%; commercial - 37.1%; agricultural - 0.2%).