

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

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Introduction

In counties in and around rapidly growing urban areas, considerable debate surrounds 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. Durham County is typical of such counties. The county's economic growth, as well as that of other counties of the Research Triangle, has 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 opportunities for the county's citizens and a significant increase in the county's tax revenue base. On the other hand, there is concern over the growing congestion and loss of green space associated with land use change, and with the increased financial demands on local government to provide the services needed to accommodate more residential and commercial development.

One important element of public debate over appropriate land use policies is whether or not increased county government expenditures on the 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 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

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.

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 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 Durham County. The residential sector contributes only 87¢ 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 \$3.03 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 \$1.70 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 here in attempting to gauge the impact of future patterns of development on local public finance in Durham County. 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 land use's contribution to the public purse exceeds its use of public funds. Conversely, a revenue-expenditure ratio less than 1.00 indicates that the land use's consumption of publicly financed services exceeds its contribution to the local budget.

The current analysis is based on the actual revenues and expenditures recorded for the 2008-2009 fiscal year reported in the Comprehensive Annual Financial Report for Durham County. 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 –

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.

100% of expenditures were allocated to the residential sector.³ For departments whose activities benefited both residences and businesses (including agricultural businesses), expenditures were allocated based on the proportion of total property value accounted for by each land use category. This “default” breakdown of assessed property valuation for 2009 was 61.1% residential, 38.7% commercial, and 0.2% agricultural. The expenditures of most of the county’s general administration departments were allocated in this way.

Revenues were handled in a manner similar to expenditures. Property tax revenues were allocated to specific land use categories based on the 2009 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. 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 2008-2009 were \$674.7 million. About 30% of this money came from ad valorem property taxes, while another 7% came from sales taxes.

Table 1 summarizes the overall breakdown of county expenditures for the 2008-2009 fiscal year. More detailed information is found in Appendix Table 2. Education and human

³ Durham 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.

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.

services⁵ departments accounted for over five-sixths of the total budget. Because all school expenditures, and nearly all of the activities of the human services departments are 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 Durham 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 eight studies that were conducted in Wake, Alamance, Orange, Chatham, Gaston, Henderson, Franklin, and Guilford Counties over the course of the past decade.

The revenue/expenditure ratio for the residential land use category is 0.87; this implies that for each dollar in property tax and other revenues generated by residential land uses, the county spends \$1.15 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 1.70 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 (3.03). This result indicates that the county spends only 33¢ 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 75,950 current housing units in the county and the average value of public services consumed by households.⁶ This “breakeven” house price was computed assuming that any new household would consume the average amount of services reflected in the 2008-2009 budget data – i.e., that they would

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

⁶ Note that the value of public services consumed by households does not include the portion of the budget surplus imputed to the residential sector.

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 2009 property tax rate of 70.81¢ per \$100. Based on these assumptions, the breakeven property value is just under \$337,000.

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 Durham 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 Durham 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 Durham County’s commercial sector pays for services provided to its residential sector – is somewhat smaller 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 Durham 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. Durham County Expenditures for 2008-2009

Item	Expenditure	%
Human Services ^a	437,814,875	67.3%
Education (including school debt)	110,299,829	16.9%
Public Safety	46,940,365	7.2%
General Administration	35,179,769	5.4%
Cultural and Recreational	11,183,313	1.7%
Economic and Physical Development	6,099,095	0.9%
Environmental Protection	3,439,455	0.5%
Transportation	12,500	0.0%

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

Source: *Durham County Comprehensive Annual Financial Report for 2008-2009*

Table 2. Revenues vs. Expenditures in Durham County

	Residential	Commercial	Agricultural
Revenues	\$554,894,525 (82.24%)	\$119,333,337 (17.69%)	\$497,487 (0.07%)
Expenditures	\$635,119,932 (94.13%)	\$39,313,586 (5.83%)	\$291,830 (0.04%)
Revenues/Expenditures ratio^a	0.87	3.03	1.70
	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		
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
Guilford County (2009)	0.74	3.44	1.62

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 Durham County

(1) Property tax rate (\$ per \$100)	0.7081
(2) Residential Non-Property Tax Revenue Contribution in 2008/2009	\$ 431,654,506
(3) Total residential expenditures in 2008/2009 ^a	\$ 612,758,237
(4) Total Expenditures needing to be paid for by property taxes [(3) - (2)]	\$181,103,731
(5) Number of residential properties in the county	75,950
(6) Per household expenditures needing to be paid for by property taxes [(4) ÷ (5)]	\$2,385
Breakeven property value [100 × (6) ÷ (1)]	\$ 336,748

a. Does not include the \$22.4 million in budget surplus allocated to residential sector.

Appendix Table 1. Durham County Revenues by Land Use Category for 2008-2009

	Total	Residential	Commercial	Agricultural	Breakdown^a
Taxes	253,412,364	146,161,278	106,844,237	406,849	
<i>Ad Valorem Taxes</i>	201,702,158	123,240,019	78,058,735	403,404	default
<i>Local Option Sales Tax</i>					
Article 39	22,290,393	0	22,290,393	0	0-100-0
Article 40	9,090,798	9,090,798	0	0	100-0-0
Article 42	8,953,515	8,953,515	0	0	100-0-0
Article 44	6,773,501	3,386,751	3,386,751	0	50-50-0
<i>Other Taxes</i>	974,832	595,622	377,260	1,950	default
Prior year's Property tax	684,965	418,514	265,081	1,370	default
Tax penalties and interest	62,316	38,075	24,116	125	default
Payments in lieu of taxes	427,503	427,503	0	0	100-0-0
Animal tax	2,211,214	0	2,211,214	0	0-100-0
Occupancy tax	230,687	0	230,687	0	0-100-0
Gross receipts tax	10,481	10,481	0	0	100-0-0
Solid waste tax	974,832	595,622	377,260	1,950	default
Intergovernmental Revenues	399,272,928	394,757,246	4,468,626	47,056	
Beer and wine tax	131,833	0	131,833	0	0-100-0
Social services	361,449,117	361,449,117	0	0	100-0-0
Mental health	22,190,375	22,190,375	0	0	100-0-0
Public health	5,984,855	5,984,855	0	0	100-0-0
Library	362,200	362,200	0	0	100-0-0
ABC Board	1,010,000	0	1,010,000	0	0-100-0
Other	8,144,548	4,770,699	3,326,793	47,056	58.6-40.8-0.6

Appendix Table 1. Durham County Revenues by Land Use Category for 2008-2009 (continued)

	Total	Residential	Commercial	Agricultural	Breakdown^a
Charges for services	17,015,975	11,356,310	5,624,657	35,007	
Elections registration lists	961	587	372	2	default
Register of deeds	2,566,054	2,414,657	128,303	23,094	94.1-5.0-0.9
General government charges	2,560,047	1,564,189	990,738	5,120	default
Collection fees	1,269,974	775,954	491,480	2,540	default
Public protection	1,711,895	953,526	756,658	1,712	55.7-44.2-0.1
Environmental protection	695,963	425,233	269,338	1,392	default
Solid waste fees	1,282,190	576,986	705,205	0	45-55-0
Facilities fees	547,632	334,603	211,934	1,095	default
Library fees and charges	236,530	236,530	0	0	100-0-0
Mental health	77,261	77,261	0	0	100-0-0
Public health	709,246	659,599	49,647	0	93-7-0
Social services	304,921	304,921	0	0	100-0-0
Emergency medical services charges	5,027,434	3,016,460	2,010,974	0	60-40-0
Other charges	25,867	15,805	10,011	52	default
Licenses and permits	744,881	5,099	739,766	17	
Construction permits	288,147	0	288,147	0	0-100-0
Cablevision and franchise fees	429,425	0	429,425	0	0-100-0
Wine and beer licenses	18,964	0	18,964	0	0-100-0
Other licenses and permits	8,345	5,099	3,230	17	default

Appendix Table 1. Durham County Revenues by Land Use Category for 2008-2009 (continued)

	Total	Residential	Commercial	Agricultural	Breakdown^a
Investment and rental income	3,294,232	2,012,776	1,274,868	6,588	
Investment earnings	2,713,131	1,657,723	1,049,982	5,426	default
Rent	581,101	355,053	224,886	1,162	default
Other revenues	984,969	601,816	381,183	1,970	
Miscellaneous	620,852	379,341	240,270	1,242	default
Advertising and selling	41,949	25,631	16,234	84	default
Federal Investigation	22,699	13,869	8,785	45	default
Sale of property and materials	40,136	24,523	15,533	80	default
Other	259,333	158,452	100,362	519	default
TOTAL REVENUES	674,725,349	554,894,525	119,333,337	497,487	
		(82.24%)	(17.69%)	(0.07%)	

a. Percentage breakdown by land use category (residential-commercial-agricultural). Default percentages were based on 2009 assessed property valuation (residential - 61.1%; commercial - 38.7%; agricultural - 0.2%).

Appendix Table 2. Durham County Expenditures by Land Use Category for 2008-2009

	Total	Residential	Commercial	Agricultural	Breakdown^a
General Administration	35,179,769	22,127,404	12,968,587	83,778	
Board of county commissioners	590,193	360,608	228,405	1,180	default
County manager	1,504,270	919,109	582,152	3,009	default
Finance	2,756,291	1,684,094	1,066,685	5,513	default
Tax	5,864,959	3,583,490	2,269,739	11,730	default
Legal	1,530,797	935,317	592,418	3,062	default
Court facilities	338,054	206,551	130,827	676	default
Human resources	3,004,936	1,836,016	1,162,910	6,010	default
Elections	1,174,514	717,628	454,537	2,349	default
Risk management and insurance	1,607,393	982,117	622,061	3,215	default
General services	7,568,335	4,624,253	2,928,946	15,137	default
Geographic information systems	375,058	229,160	145,147	750	default
Information systems	5,191,318	3,171,895	2,009,040	10,383	default
Register of deeds	1,916,865	1,803,770	95,843	17,252	94.1-5.0-0.9
Other	1,756,786	1,073,396	679,876	3,514	default
Economic & physical dev't	6,099,095	1,899,771	4,051,561	147,762	
Planning	1,105,879	660,542	443,789	1,548	59.73-40.13-0.14
Cooperative extension	1,090,745	1,055,560	35,185	0	30/31-1/31-0
Soil and water conservation	324,528	129,811	48,679	146,038	40-15-45
Open space management	51,126	31,238	19,786	102	default
Industrial extension	2,128,333	0	2,128,333	0	0-100-0
Other	1,398,484	22,621	1,375,789	74	1.6-98.4-0.01

Appendix Table 2. Durham County Expenditures by Land Use Category for 2008-2009 (continued)

	Total	Residential	Commercial	Agricultural	Breakdown^a
Human services	437,814,875	436,982,402	832,473	0	
Public health	20,811,834	19,979,361	832,473	0	96-4-0
Mental health	28,989,946	28,989,946	0	0	100-0-0
Social services	386,230,171	386,230,171	0	0	100-0-0
Other	1,782,924	1,782,924	0	0	100-0-0
Education	110,299,829	110,299,829	0	0	
Durham public schools	105,538,144	105,538,144	0	0	100-0-0
Durham Tech.community college	4,660,410	4,660,410	0	0	100-0-0
Other education	101,275	101,275	0	0	100-0-0
Total education					
Public safety	46,940,365	28,660,440	18,233,955	45,970	
Criminal justice partnership	2,145,360	2,145,360	0	0	100-0-0
County sheriff	15,802,273	8,801,866	6,984,605	15,802	55.7-44.2-0.1
County jail	13,591,598	8,304,466	5,259,948	27,183	default
Youth home	1,126,512	1,126,512	0	0	100-0-0
Animal control	1,656,650	1,656,650	0	0	100-0-0
Emergency communications center	919,483	229,871	689,612	0	25-75-0
Emergency medical services	7,568,645	4,541,187	3,027,458	0	60-40-0
County fire protection	2,529,605	834,770	1,694,835	0	33-67-0
Medical examiner	108,000	108,000	0	0	100-0-0

Other public safety	1,492,239	911,758	577,496	2,984	default
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Appendix Table 2. Durham County Expenditures by Land Use Category for 2008-2009 (continued)

	Total	Residential	Commercial	Agricultural	Breakdown ^a
Transportation	12,500	7,638	4,838	25	
Airport authority	12,500	7,638	4,838	25	default
Environmental protection	3,439,455	1,788,657	1,647,805	2,993	
Solid waste	1,943,165	874,424	1,068,741	0	45-55-0
Environmental engineering	1,454,897	888,942	563,045	2,910	default
Other	41,393	25,291	16,019	83	default
Cultural and recreational	11,183,313	10,992,095	190,190	1,028	
Library	9,127,209	9,127,209	0	0	100-0-0
Other	2,056,104	1,864,886	190,190	1,028	90.7-9.25-0.05
Total expenditures	650,969,201	612,758,237	37,929,409	281,555	
Budget Surplus	23,756,148	22,361,696	1,384,177	10,275	
TOTAL CURRENT EXPENDITURES	674,725,349	635,119,932	39,313,586	291,830	
		(94.13%)	(5.83%)	(0.04%)	

a. Percentage breakdown by land use category (residential-commercial-agricultural). Default percentages were based on 2009 assessed property valuation (residential - 61.1%; commercial - 38.7%; agricultural - 0.2%).

