

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

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Introduction

In counties 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. Davie 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, as well as a significant increase in the county's revenue base. On the other hand, there is concern that the increased local government expenditures on 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 the 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 finances.

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

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.

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 Davie County. The residential sector contributes just under 88¢ 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 \$2.01 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 \$1.50 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*. 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 2011-2012 fiscal year reported in the audited *Davie County North Carolina Comprehensive Annual Financial Report for the Fiscal Year Ending June 30, 2012*. 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 or activity 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

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 Davie 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.

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 2011-2012 was 78.2% residential, 20.4% commercial, and 1.4% 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 January 2012 property assessments. Taxes and other revenue sources that are linked directly to commercial activities – for example, Article 39 sales taxes⁴ – were allocated exclusively to the commercial sector. Revenues from sources associated exclusively with households (such as recreation fees) 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 (e.g., interest income) were allocated according to the “default” proportions 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 2011-2012 were just under \$46.0 million. About 58.7% of this money came from ad valorem property taxes, while another 13.2% came from sales taxes.

Table 1 summarizes the overall breakdown of county expenditures for the 2011-2012 fiscal year. More detailed information is found in Appendix Table 2. Health and human services⁵ and education departments accounted for approximately half of the total budget. All school expenditures, and nearly all of the activities of the health and 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 Health and human services include the Social Services, Public Health, Mental Health, and Other Human Services departments.

exclusive to the residential sector. Hence, 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 Davie 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 twelve studies that were conducted in Wake, Alamance, Orange, Chatham, Gaston, Henderson, Franklin, Durham, Guilford, Yadkin, Pitt, and Catawba Counties over the course of the past decade.

The revenue/expenditure ratio for the residential land use category is 0.876; this implies that for each dollar in property tax and other revenues generated by residential land uses, the county spends \$1.14 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 1.501 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 (2.014). This result indicates that the county spends slightly less than 50¢ 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 24,692 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 2011-2012 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 2012 property tax rate of 62¢ per \$100. Based on these assumptions, the breakeven property value is computed to be \$170,849.

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 Davie 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 health 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 Davie 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 Davie County’s commercial sector pays for services provided to its residential sector – is somewhat less than the median in other studies that have been conducted nationally. Closer to home, the relative balance of revenues and expenditures for the residential land use category is quite close to the median found in studies conducted in other rural North Carolina counties. For the commercial and agricultural land use categories, there is somewhat greater parity between revenues and expenditures for Davie County than has been found elsewhere in North Carolina.

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 Davie 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 political arena.

Table 1. Davie County Expenditures for 2011-2012

Category	Expenditure	Share
Public Safety	12,544,873	28.2%
Education	11,987,396	26.9%
Health and Human Services ^a	10,238,889	23.0%
General Government	5,301,693	11.9%
Culture and Recreation Services	1,158,301	2.6%
Economic and Physical Development	466,989	1.0%
Environmental Protection	45,512	0.1%
Debt Service	2,768,419	6.2%

a. Health and human services include the Social Services, Public Health, Mental Health, and Other Human Services departments.

Source: *Davie County North Carolina Certified Annual Financial Report for the Fiscal Year Ending June 30, 2012*

Table 2. Revenues vs. Expenditures in Davie County

	Residential	Commercial	Agricultural
Revenues	\$35,761,269 (77.8%)	\$9,765,102 (21.2%)	\$436,708 (1.6%)
Expenditures	\$40,824,335 (88.8%)	\$4,847,747 (10.6%)	\$290,996 (0.6%)
Revenues/Expenditures ratio^a	0.876	2.014	1.501
	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
Durham County (2010)	0.87	3.03	1.70
Guilford County (2010)	0.74	3.44	1.62
Yadkin County (2011)	0.89	2.63	1.63
Pitt County (2012)	0.77	2.76	1.62
Catawba County (2013)	0.81	1.87	1.34
Median	0.81	3.01	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 Davie County

(1) Property tax rate (\$ per \$100)	0.62
(2) Residential Non-Property Tax Revenue Contribution in 2011-2012	\$ 14,669,052
(3) Total residential expenditures in 2011-2012	\$ 40,824,335
(4) Total Expenditures needing to be paid for by property taxes [(3) - (2)]	\$ 26,155,283
(5) Number of residential properties in the county	24,692
(6) Per household expenditures needing to be paid for by property taxes [(4) ÷ (5)]	\$ 1,059
Breakeven property value [100 × (6) ÷ (1)]	\$ 170,849

Appendix Table 1. Davie County Revenues by Land Use Category for 2011-2012

	Total	Residential	Commercial	Agricultural	Breakdown^a
Ad Valorem Taxes	26,972,144	21,092,217	5,502,317	377,610	
Taxes	26,801,573	20,958,830	5,467,521	375,222	default
Penalties and Interest	170,571	133,387	34,796	2,388	default
Local Option Sales	6,046,336	3,542,405	2,503,932	0	
Article 39	2,039,407	0	2,039,407	0	0-100-0
Article 40	1,441,859	1,441,859	0	0	100-0-0
Article 42	1,636,021	1,636,021	0	0	100-0-0
Article 44	487	244	244	0	50-50-0
Medicaid Hold Harmless payment	928,562	464,281	464,281	0	50-50-0
Occupancy tax	72,681	0	72,681	0	0-100-0
Unrestricted Intergovernmental Revenues	1,503,873	810,279	690,685	2,909	
Hold Harmless revenue	1,295,633	647,817	647,817	0	50-50-0
Tax refunds - gasoline and sales	487	0	487	0	0-100-0
Town and fire dept reimbursements	207,753	162,463	42,382	2,909	default
Restricted Intergovernmental Revenues	5,851,023	5,673,081	140,480	37,461	
Federal and State grants	5,518,302	5,430,009	55,183	33,110	98.4-1.0-0.6
Court facilities fees	309,801	242,264	63,199	4,337	default
Controlled substance tax	21,887	0	21,887	0	0-100-0
Crime prevention	1,033	808	211	14	default

Appendix Table 1. Davie County Revenues by Land Use Category for 2011-2012 (continued)

	Total	Residential	Commercial	Agricultural	Breakdown^a
Sales and Services:	4,041,051	3,548,843	483,618	8,590	100%
Emergency medical service fees	1,399,406	932,004	460,405	6,997	66.6-33.9-0.5
Health fees	75,736	75,736	0	0	100-0-0
Other fees	45,850	35,855	9,353	642	default
Rents	12,982	10,152	2,648	182	default
Tax collection fees	54,960	42,979	11,212	769	default
Health - client and third-party fees	2,452,117	2,452,117	0	0	100-0-0
Licenses and Permits	494,625	302,558	187,670	4,398	100%
Building permits	55,594	42,807	12,787	0	77-23-0
Inspection and other related fees	106,588	0	106,588	0	
Other permits and fees	18,330	14,114	4,216	0	77-23-0
Register of Deeds	314,113	245,636	64,079	4,398	default
Investment Earnings	18,652	14,586	3,805	261	default
Miscellaneous Revenues	962,694	777,301	179,914	5,480	100%
Other revenues	913,268	727,875	179,914	5,480	79.7-19.7-0.6
Library - gifts, fines and fees	49,426	49,426	0	0	100-0-0
TOTAL REVENUES	45,963,079	35,761,269	9,765,102	436,708	
		(77.8%)	(21.2%)	(1.0%)	

a. Percentage breakdown by land use category (residential-commercial-agricultural). Default percentages were based on 2012 assessed property valuation (residential – 78.2%; commercial – 20.4%; agricultural - 1.6%).

Appendix Table 2. Davie County Expenditures by Land Use Category for 2011-2012

	Total	Residential	Commercial	Agricultural	Breakdown^a
General Government	5,301,693	4,145,924	1,081,545	74,224	100.0%
Governing Board	386,536	302,271	78,853	5,412	default
Administration	423,965	331,541	86,489	5,936	default
Grants Administration	67,203	52,553	13,709	941	default
Elections	170,644	133,444	34,811	2,389	default
Finance	431,677	337,571	88,062	6,043	default
Data Processing	557,095	435,648	113,647	7,799	default
Taxes	490,551	383,611	100,072	6,868	default
Revaluation	140,181	109,622	28,597	1,963	default
Legal	397,625	310,943	81,116	5,567	default
Register of Deeds	253,877	198,532	51,791	3,554	default
Public Buildings	1,407,881	1,100,963	287,208	19,710	default
Court Facilities	112,687	88,121	22,988	1,578	default
DAVIENET	39,023	30,516	7,961	546	default
Geographic Information Systems	225,248	176,144	45,951	3,153	default
Contributions to other agencies	197,500	154,445	40,290	2,765	default
Education	11,987,396	11,983,174	3,950	271	
Public schools - current expense	9,407,445	9,407,445	0	0	100-0-0
Capital outlay - 1/2-cent tax	1,336,021	1,336,021	0	0	100-0-0
Capital outlay - State and	437,227	437,227	0	0	100-0-0
Public schools - special project	143,153	143,153	0	0	100-0-0
Community College	644,185	644,185	0	0	100-0-0
Contributions to other agencies:	19,365	15,143	3,950	271	default
Public schools - current expense	9,407,445	9,407,445	0	0	100-0-0
Cultural and Recreational	1,158,301	1,131,804	24,796	1,702	
Recreation:	396,234	396,234	0	0	100-0-0
Library:	640,520	640,520	0	0	100-0-0
Contribution to other agencies	121,547	95,050	24,796	1,702	default

Appendix Table 2. Davie County Expenditures by Land Use Category for 2011-2012 (continued)

	Total	Residential	Commercial	Agricultural	Breakdown^a
Human Services	10,238,889	10,015,805	219,732	3,352	
<i>Health</i>					
Administration-Basic Programs	265,365	265,365	0	0	100-0-0
Clinical Services	102,107	102,107	0	0	100-0-0
Family Planning	239,843	239,843	0	0	100-0-0
Adolescent Pregnancy Prevention	22,164	22,164	0	0	100-0-0
Maternal and Child Health	597,221	597,221	0	0	100-0-0
Home Health Program	2,008,420	2,008,420	0	0	100-0-0
Women, Infants, and Children	234,064	234,064	0	0	100-0-0
Environmental Health	341,772	170,886	170,886	0	50-50-0
Health – Other	411,253	411,253	0	0	100-0-0
<i>Mental Health</i>	234,325	234,325	0	0	100-0-0
<i>Social Services</i>					
Administration	2,384,826	2,384,826	0	0	100-0-0
AFDC Program	1,246,738	1,246,738	0	0	100-0-0
Medicaid Program	6,693	6,693	0	0	100-0-0
Other Programs	1,301,833	1,301,833	0	0	100-0-0
<i>Other Human Services</i>					
Veteran's Service Officer:	28,799	28,799	0	0	100-0-0
Senior Center	574,026	574,026	0	0	100-0-0
Contributions to Other Agencies	239,440	187,242	48,846	3,352	default
Economic and Physical Dev't	466,989	355,677	50,296	61,015	100.0%
Planning and Zoning	175,093	153,031	18,210	3,852	87.4-10.4-2.2
Agricultural Extension	194,065	126,142	12,129	55,794	65.0-6.3-28.7
Contributions to other agencies	97,831	76,504	19,958	1,370	Default

Appendix Table 2. Davie County Expenditures by Land Use Category for 2011-2012 (continued)

	Total	Residential	Commercial	Agricultural	Breakdown^a
Public Safety	12,544,873	9,674,591	2,810,537	59,744	
Sheriff	3,916,511	3,047,829	863,199	5,483	77.8-22.0-0.2
Jail	1,786,976	1,397,415	364,543	25,018	default
Davie Domestic Violence Service	190,065	190,065	0	0	100-0-0
Davie Domestic Violence United Way	16,145	16,145	0	0	100-0-0
Child Advocacy Center	185,257	185,257	0	0	100-0-0
Fire	2,224,903	1,842,665	379,123	3,115	82.8-17.05-0.15
Inspections	308,152	237,277	70,875	0	77-23-0
Medical Examiner	21,400	21,400	0	0	100-0-0
Emergency Medical Service	2,936,107	1,955,447	965,979	14,681	66.6-33.9-0.5
Emergency Management	191,631	149,855	39,093	2,683	Default
Animal Protection	141,624	141,624	0	0	100-0-0
Communication	625,102	488,830	127,521	8,751	Default
Contribution to National Guard	1,000	782	204	14	Default
Environmental Protection	45,512	0	0	45,512	
Forestry Service	45,512	0	0	45,512	0-0-100
Debt Service	2,768,419	2,228,577	503,852	35,989	80.5-18.2-1.3
Current Expenditure	44,512,072	39,535,553	4,694,709	281,810	
Revenues over expenditures	1,451,007	1,288,782	153,038	9,186	88.8-10.6-0.6
Total Expenditure	45,963,079	40,824,335	4,847,747	290,996	
		(88.8%)	(10.6%)	(0.6%)	

a. Percentage breakdown by land use category (residential-commercial-agricultural). Default percentages were based on 2012 assessed property valuation (residential – 78.2%; commercial – 20.4%; agricultural - 1.6%).