

**COSTS OF COMMUNITY SERVICES IN POST 2000 AMERICA:  
A CURRENT VIEW**

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**A report submitted in fulfillment of the requirement for successful  
completion of a supervised independent study.**

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## **EXECUTIVE SUMMARY**

The following study is a review of current literature and municipal fiscal data that refer to various costs of community services (COCS) studies that have been undertaken since the American Farmland Trust (AFT) study that was completed in 1993. That landmark study was widely used to make the case that preserving open space saves communities money because such land requires very few municipal services, and taxes collected from it pay more than the services cost. Conversely, the same study showed that with few exceptions, residential development costs more for municipal services than it provides in taxes, primarily property taxes. Usually, industrial and commercial lands were found to generate more in taxes than they cost for services, due to the fact that they don't require municipal services to the same extent that residential properties do. Because the AFT study and several companion studies are over a decade old, this contemporary study was undertaken in order to examine the current fiscal situation for several representative communities throughout the country, primarily in the Northeast. Since 2000, average property values have risen considerably in many areas of the country, and more retirement and empty nester housing is appearing in many communities. The primary reason for this study is the realization that the real estate picture changed considerably since the earlier report, and it is possible that the higher property values generate enough tax revenues to pay for services now, especially for homes without school age children. This study will show whether or not the findings from the AFT study still apply.

In most cases, recent reports applied the AFT methodology for determining the ratios of revenues to expenditures. These reports, some done by AFT itself, used the average cost method of measuring municipal revenues versus expenditures at a given point in time. When more detailed records were kept, more exact ratios could be calculated. Another purpose of this study was to review the methodologies and to determine in which circumstances they should be utilized. Another concurrent objective was to determine how to figure out a "break-even" point where residential municipal revenues equal expenditures. Finally, limitations to COCS studies were acknowledged and addressed, but they should not be used to discredit the information obtained from these studies. Limitations to COCS studies were duly taken into consideration when performing various fiscal impact analyses.

## **INTRODUCTION**

The majority of municipal expenditures go to services for that municipality's residential population, except in the cases where large sums of funds must be appropriated for capital projects. Even then, many such projects are undertaken for the benefit of town residents. While residential property taxes readily provide most municipalities with their largest sums of revenue, in many cases a majority of it, these tax revenues frequently fail to pay for the full costs of municipal services for residential lands. Back in the late 1980s and early 1990s, the American Farmland Trust (AFT) took a close look at the costs and benefits of preserving open spaces in over 80 communities throughout the country (American Farmland Trust, 2002.) These studies showed that residential land costs more for services than it returns in taxes, while commercial land, industrial land, and open space all generate more in taxes than they cost for services. This shows that although residential development may expand the tax base, it is not the best means for balancing a municipal budget, as service costs often increase substantially at the same time. Since 2000, average property values have risen substantially, while several communities have accommodated larger shares of retirement/and empty nester housing. Such trends could lead to fiscal circumstances that invalidate the AFT findings. This current examination of several communities nationwide was under-taken in order to ascertain whether or not residential development pays for itself today.

The term costs of community services (COCS) is the expenditure of public funds to service different classes of land uses. A cost of community services study is an examination of the financial operations of a community in a given year (Southern New England Forest Consortium, 1995.) It is used to measure the ratio of revenues to expenditures, most commonly by the average cost method. The average cost method takes the proportion of total municipal revenues and total expenditures that each individual land use represents, and it uses that proportionate figure in order to determine the cost of community services for that land use. For example, if residential land use represents 85% of all land on a town's tax rolls, then 85% of all municipal revenues that are not fully attributed to only one land use are attributed to residential. Similarly, municipal expenditures not completely attributed to one land use (expenditures for education serve only residential populations, for instance) are attributed to residential. The proportions derived from this method of calculation are called "fall back"

ratios which are used in the absence of more specific and detailed data. It is preferable to use actual recorded figures for each land use whenever it is possible to.

On a community scale, studies on the costs of development have been undertaken since at least the 1940s. One of the earliest regional studies was a study entitled Open Space Pays: The Socioenvironmental Economics of Open Space Preservation (Caputo, 1980) This study showed six economic reasons for preserving open space in New Jersey: (1) open space increases the value of adjacent property (2) outdoor recreation is big business in New Jersey (3) preservation of open space results in more cost efficient development (4) open space preservation saves public funds by preventing development of hazardous areas (5) open space preservation allows nature to continue its valuable work, and (6) open space preservation may be a less expensive alternative to development. The study was undertaken to address the growing development pressures facing the state even then, for development was seen not just as a threat to a way of life, it was also seen as a catalyst for the rising cost of living. The study cited several earlier reports showing the economic value of open spaces for maintaining environmental quality.

Today open space preservation is still considered to be a less expensive alternative to development, and it often facilitates more efficient development. It generates relatively little tax revenue, but it costs even less for services and maintenance. Open space preservation also saves money due to reduced costs for environmental remediation.

Prior to its 1993 study, the AFT published a report entitled Density Related Public Costs (American Farmland Trust, 1986.) From this study, the AFT derived the methodology that it would use in all its subsequent COCS studies. Their methodology has been used in many other COCS studies undertaken by regional planning agencies and educational institutions, chiefly universities. Modified versions of this methodology have been used in some regional studies, but all have used key components of the AFT system.

Because many planners and municipal officials still believe that growth is good for a community, they find it hard to believe that it may actually be a financial burden to a town, especially if a town's overall fiscal situation is good. Because average property values have risen steeply since the 1993 AFT study, this study was undertaken to see how municipal revenues and expenditures for open spaces, commercial and industrial lands, and residential properties match up in different communities now.

## **METHODOLOGY**

When defining the scope of a cost of community services study, one must take great care in gathering reliable data and figures from reliable sources. The framework that the American Farmland Trust uses in its methodology involves five steps: (1) first, meet with local officials and define land use categories, at least whenever possible (2) collect data, much of which can be gathered from existing town reports and budget statements (3) allocate revenues by land use, either directly or proportionately (4) allocate expenditures by the same means as revenues, and (5) analyze data and calculate the ratios of revenues to expenses for all the land use categories. A credible analysis requires this sequence, for it is this sequence that defines a cost of community services as such. A COCS study is a useful planning tool to help a community plan for so called “smart growth”, as much growth is driven by three underlying assumptions: (1) open lands, even productive farms and forests, are an interim land use that should be developed to their “highest and best use” (2) agricultural land gets an unfair tax break when it is assessed at its current use value instead of at its potential use value for residential, industrial, or commercial development, and (3) residential development lowers property values by increasing the tax base (American Farmland Trust, 2002.) These assumptions lead many town officials to believe that it is growth that best allows towns to balance budgets, as they feel that only by raising revenues, rather than by managing them, can they close fiscal gaps between revenues and expenses. But they frequently fail to see the upward pressures on town finances for increases in town services to accommodate growth.

Results from AFT studies around the country, even since 1993, show that open spaces still generate more revenues than it costs in expenses, as do commercial and industrial lands. Figure 1 shows that on average, residential land, costs \$1.16 for services for every \$1 that it provides in taxes (American Farmland Trust, 2002.) Commercial and industrial lands cost \$0.27 for every \$1 they return, and open spaces on average cost \$0.36 for every \$1 they contribute. What is notable about agricultural land is that even when it is assessed for its current use rather than for its development potential, it still generally yields a net financial surplus. Even land that is assessed as agricultural residential land usually yields a slight financial surplus to the community (University of Wisconsin, 2000.)

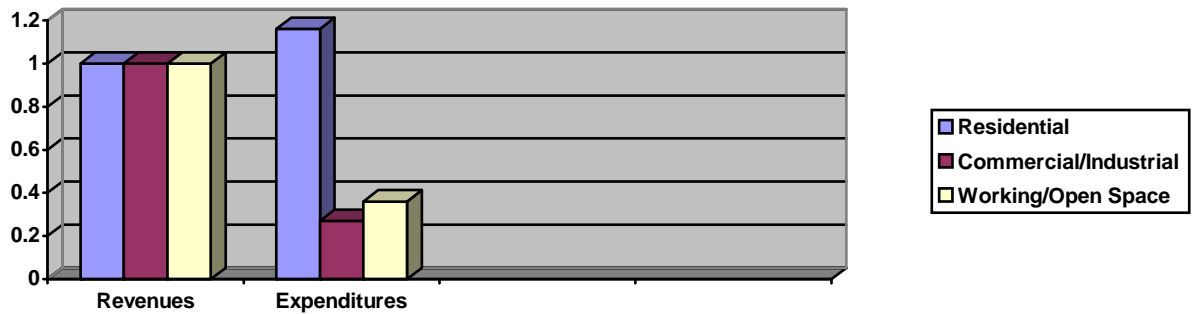


Figure 1. Nationwide median ratio between revenues and expenditures for different land uses in 2002.

Criticisms of COCS studies are many. Perhaps the chief one is that the conclusions about the costs of residential development are too general and limited in scope. By frequently putting all residential land in one category, these studies often fail to show that certain types of residential development (such as empty nester homes) may actually yield fiscal surpluses to a community. Another criticism is that the proportionate method of allocating revenues and expenditures by proportionate land use categories (fall back ratios) often can be quite inaccurate in estimating the full costs of municipal services, especially when agricultural lands are not also factored as residential properties needing residential services. Still another criticism is that a COCS study is only a snapshot view of a community's fiscal profile at a given point in time (usually a fiscal year), and by itself it can't be used to obtain a reliable estimate of the fiscal impact of any one new development. It is also unfortunate that COCS studies can't allocate capital depreciation, and incurred and deferred capital expenditures to the different land uses, thus reflecting how much they may fully share the load of all municipal expenditures. But while all these points are valid and are acknowledged here, they do not change the fact that residential properties still account for most municipal expenditures, regardless of exactly which factors are determining the costs. It certainly can't be said that businesses and farms require educational services and recreational services. And it has been shown that while new residential development may actually lower per capita municipal service costs for a time, overall municipal service costs tend to rise as development continues. Otherwise, services often have to be cut back in order to balance budgets.

The point where municipal revenues equal expenditures is the break-even point, and for residential properties, that point is dependent on property assessments and tax rates. At a certain tax rate, the break-even point is determined by the property value, and at a certain value, the break-even point is determined by the tax rate. One must first determine the service cost (expenditure per residence) and then divide that cost either by the current property value or tax rate to determine the break-even value or tax rate.

More than a dozen sample communities were examined nationwide for this study. Seven of these communities, representing a fairly broad cross section of the country, are presented here as case studies for review. These cases were selected due to their geographical distribution and to the cross section of agencies that performed the studies. At a minimum, each agency used the AFT methodology, but sometimes an agency was able to gather more detailed data. For Plymouth, Massachusetts, existing studies were not available, so a study was done for the town exclusively in this report.

## **CASE STUDIES**

### **CASE STUDY #1: BREWSTER, MASSACHUSETTS**

In 2001, The Association for the Preservation of Cape Cod (APCC, now the Association to Preserve Cape Cod) published its own COCS study for the town of Brewster. The APCC used data compiled from annual town reports from 1997-1999, and related data collected by the Cape Cod Commission in order to develop a comprehensive demographic profile of the community. Although they had to use fall-back ratios to estimate the proportionate revenues and expenses for each land use, they were also able to study the costs of community services for seasonal residences versus those of permanent ones. The town used records of addresses for tax bills to arrive at an average estimate of 39 percent seasonal residential properties. Certain revenues and expenditures accounted for higher or lower proportions, because the town was able to sort out those figures in several cases. When fall-back ratios had to be used for expenses, the figures were 45.3% for year round residences versus 54.7% for seasonal homes. The APCC first did a COCS analysis for all residential properties versus businesses, commercial properties, farms, and open spaces. It did a separate analysis of just year round

residences versus seasonal homes, because in this second analysis it had more precise data to work with. Also, this second analysis allowed the association to develop a couple of growth scenarios for the town, where it would be able to do good fiscal impact analyses of projected new growth. One scenario showed the impacts of converting seasonal homes to year round homes.

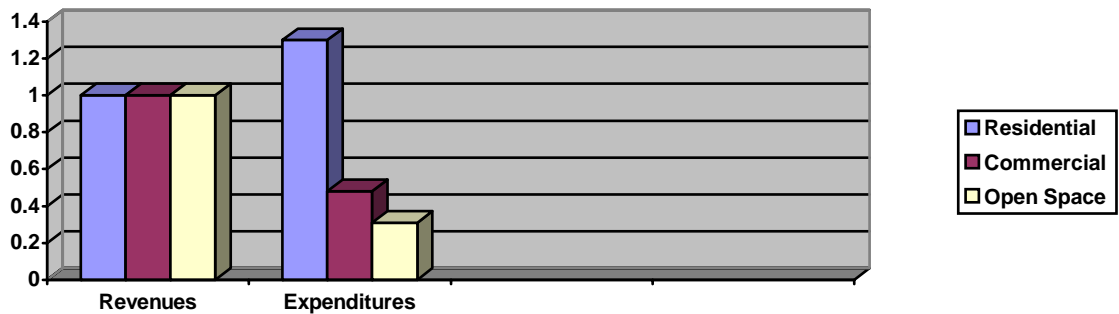


Figure 2. Revenues versus expenditures for land use classes in Brewster, Massachusetts during Fiscal Year 2000.

Figure 2 shows that residential properties had an average cost of \$1.30 for each \$1 generated in taxes. Commercial properties required only \$0.48 and for open spaces only \$0.31 for each \$1. At the time, average property assessment was \$173,704 and the tax rate was \$11.92 per \$1000. Then the average single family tax bill was \$2,062 while the estimated average service cost was  $(1.3) (\$2,062) = \$2,681$ . The current situation shows the average assessment has now jumped to \$431,736 (Massachusetts Department of Revenue, 2005), which is in step with rising assessments throughout the state. Although the tax rate has fallen, the average family's bill is now \$2,616, which helps to reflect the rising costs of growth and associated services.

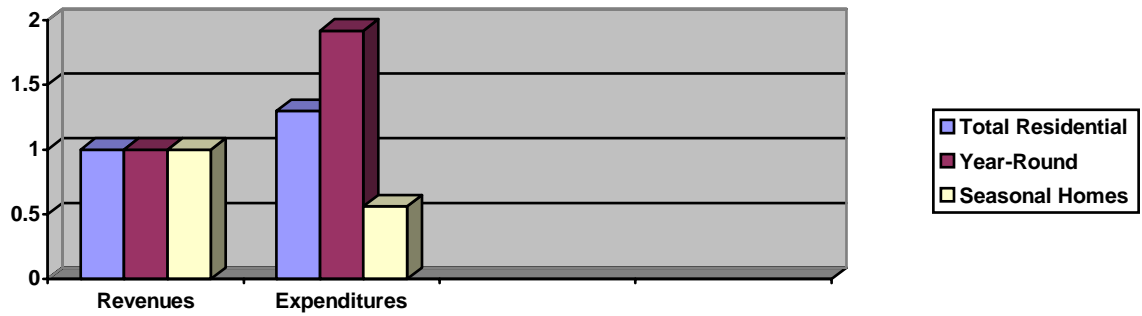


Figure 3. Revenues and expenditures for seasonal versus year round residences in Brewster in 2000.

A closer look at the residential properties in Brewster showed that the year-round residences were the real “budget busters” for the town. Figure 3 shows that they cost almost four times more than seasonal homes. Year-round residences cost \$1.92 for each \$1 they contributed, but seasonal residences only cost \$0.56 per \$1. A major reason for the difference is that seasonal residents paid larger shares of the real estate taxes while they did not cost the town anything for education. Although these residences required more government service than year round homes did, overall they accounted for only about 20% of residential expenses while they also accounted for 46% residential generated revenues. Basically, the positive fiscal effect of these seasonal homes is comparable to the estimated lower cost of empty nester homes in Plymouth at that same time. The cost of education is always a major part of a town’s budget.

## **CASE STUDY #2: HARFORD COUNTY, MARYLAND**

The American Farmland Trust itself completed a COCS study of Harford County, Maryland (American Farmland Trust, 2004.) This study used standard AFT methodology for determining land use ratios, but was also able to examine the farm fiscal situation that is distinct for that county. Although as a group, farms still paid their way in property taxes, the average surplus was lower because a large number of farms were enrolled in current use programs that lower their assessed values. The lower values brought their tax payments closer in line with the revenues they generated, almost to a break-even point. The sums of money spent to enroll these farms in current use programs reduced the farm share of county property taxes paid to only

2.38%, well below the 5% to 20% average observed in other COCS studies elsewhere. But it was also noted that by enrolling these farms in the current use programs, the county saved substantial revenues that would have been spent to accommodate new growth. Residential real estate transfer taxes accounted for 92% of the revenues used to preserve farms in the county.

Figure 4 shows the ratios of revenues to expenditures in Harford County. For every \$1 collected in taxes from residential properties, \$1.11 was spent for services. Commercial and industrial lands only required \$0.40 per \$1, while farms and open spaces required \$0.91. (American Farmland Trust, 2004.)

Substantial residential growth over the past 25 years created a need for an expanded infrastructure, which was not able to keep pace with development. County officials realized that they would have to procure \$675 million for the capital improvement budget in order to support the needed infrastructure through 2009. County personnel estimated that \$139.25 million of this amount would have to be paid by local revenues, preferably over 20 years at a 4.5% interest rate. The resulting annual debt service payment of almost \$11 million would

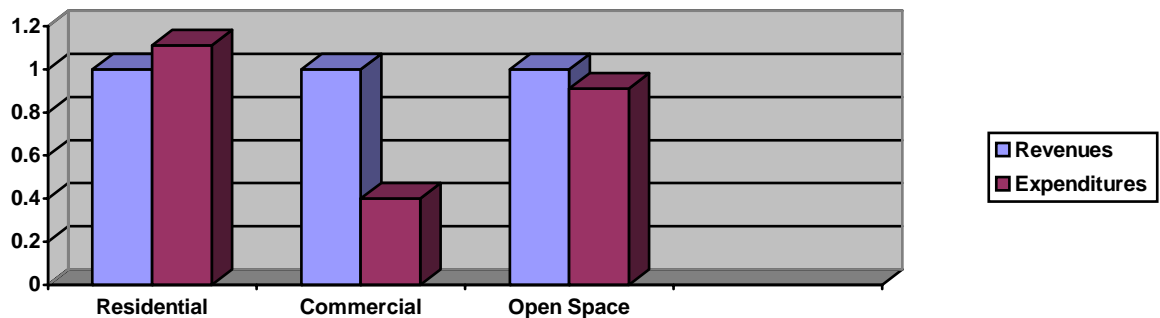


Figure 4. Ratios of revenues versus expenditures for Harford County in Fiscal Year 2002.

be borne almost entirely by the residential properties. The average COCS would then rise to \$1.14 per \$1 for residential land and to \$0.94 per \$1 for farmland, while it would only rise to \$0.41 per \$1 for commercial land. Still, this would be a burden to the county, and the great care that county officials have taken to preserve county farms shows that they are not eager to accelerate the trend of development.

### CASE STUDY #3: TETON AND SUBLETTE COUNTIES, WYOMING

The Wyoming Department of Audit published a report entitled The Cost of Maintaining County Government in Wyoming back in 1999. It took a look at counties throughout the state, and noted that in rural areas, the costs of community services were substantially higher than they were elsewhere. Teton and Sublette Counties, each with rural residential populations well over 50%, had average costs of community services more than three times the state average of \$559 per person in 1998. From 1990 to 1998, the two counties experienced growth rates of 28.6% and 18.5%, respectively, which was well above the state average of 6%. This accelerated growth also accelerated the demand for more goods and services, especially as farmland area continues to decline.

The rapid growth and the steady loss of farmland greatly concerned county officials and the public. They became interested in doing COCS studies in order to predict the fiscal impacts of more development. They expanded upon the AFT methodology by using a statistical model (unfortunately, not reproduced here) that predicted county government revenues and expenditures based on assessed valuation, acres of agricultural land, rural population, urban population, and personal income. The Department of Audit used its county finance report to obtain necessary data. With this model, the Department felt it had more flexibility with data analysis, and that it could make projections. The Department also felt that this model was less arbitrary in allocating costs than was the AFT methodology. (Wyoming Department of Audit, 1999.)

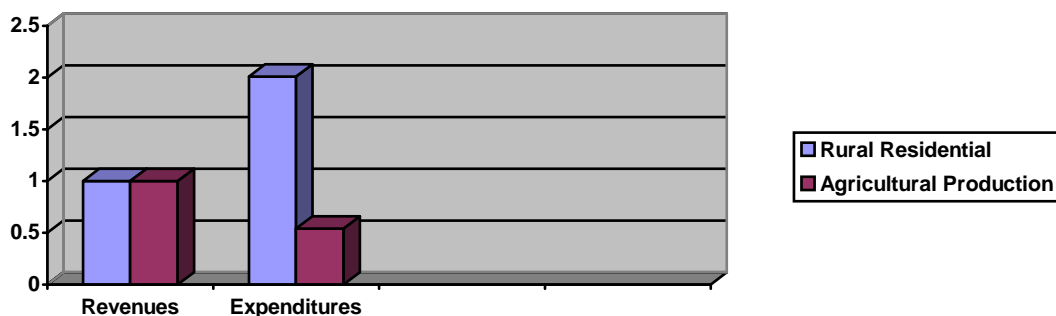


Figure 5. Revenues versus expenditures for rural community services in Wyoming in 1998.

It is apparent from the data in Figure 5 that rural residential land is very costly to county government in Wyoming, primarily because of school district costs. With school costs factored in, rural residences cost \$2.01 for each \$1 they contributed; otherwise, the ratio stood at \$1.25 per \$1. For agricultural lands, county government expenditures almost exactly equaled their revenues from agricultural production at \$20.1 million and \$20.6 million, respectively. Revenues came out just slightly ahead, until property tax revenues were also factored in. These revenues helped pay for schools while farms added nothing to the associated costs, so the ratio of expenditures to revenues fell from \$0.99 per \$1 to \$0.54 per \$1. It seems that continuing to maintain the farms in Wyoming makes good economic sense.

#### **CASE STUDY #4: HAYS COUNTY, TEXAS**

Hays County, Texas experienced explosive residential growth during the period of 1980 to 1999, when its population more than doubled. To accommodate this growth, many family farms and ranches were converted to subdivisions. The county had limited authority to regulate this development, but officials still had to find the means to provide services. Although county officials welcomed the additional tax revenues, they found that revenues did not keep pace with the necessary expenditures. The American Farmland Trust and Molly Bowden, a University of Texas graduate student, completed the first COCS study ever done in Texas (American Farmland Trust, 1999) and found that residential expenditures outpaced revenues by a ratio of \$1.26: \$1. Commercial and industrial lands cost only \$0.30 per \$1, and agricultural land only cost \$0.33 per \$1. (American Farmland Trust, 1999.)

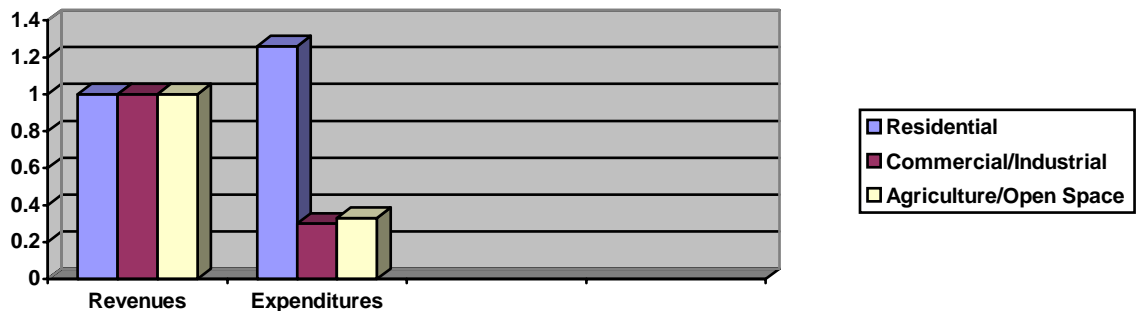


Figure 6. Ratios of revenues versus expenditures for developed lands and open spaces in Hays County, Texas.

Figure 6 shows the ratios of revenues to expenditures for all land use classes. This case study shows that farms and ranches provided substantial financial benefits to the citizens of Hays County. They generated over \$10 million in sales of agricultural products, and another \$3 million in other goods and services, including aquifer recharge. On the other hand, residential expenditures exceeded revenues by almost \$22 million, primarily because education expenses comprised more than half (53%) of all expenditures. The results of this first ever Texas COCS study were intended to help guide planners in managing future growth.

### **CASE STUDY #5: RED HILLS REGION OF SOUTHWEST GEORGIA & NORTH FLORIDA**

Another fast growing region of the country is the Southeast, and Georgia and Florida are in the heart of this region. The 300,000 acre Red Hills region located between Thomasville, Georgia and Tallahassee, Florida, is a naturalist's treasure, for it is home to more than 60 protected species of plants and animals (1000 Friends of Florida, 2003.) Private landowners have been great stewards of the land for generations, but encroaching development is impacting it badly.

In 2002 and 2003, 1000 Friends of Florida, The Conservation Fund, The Georgia Conservancy, and The Tall Timbers Research Station commissioned COCS studies for three Red Hills Counties: Grady and Thomas in Georgia and Leon in Florida. As one can see in Figure 7, these studies showed very high ratios of expenditures to revenues for residential properties in all three counties. They were \$1.72 per \$1 for Grady County, \$1.64 per \$1 for Thomas County, and \$1.38 per \$1 for Leon County. At the low end of the scale were the commercial and industrial properties, with respective figures of \$0.10, \$0.38, and \$0.36 per \$1 for these counties. All three counties had revenue surpluses for farms and forests, with ratios of \$0.38, \$0.67, and \$0.42. Even more distressing is the fact that manufactured homes for the two Georgia counties cost \$3.70 to \$3.85 for each \$1 of revenue, because these homes comprise a large share of the new growth (1000 Friends of Florida, 2003.) Data from these studies increased the awareness of county officials, who will be watching future development with a keener and sharper interest.

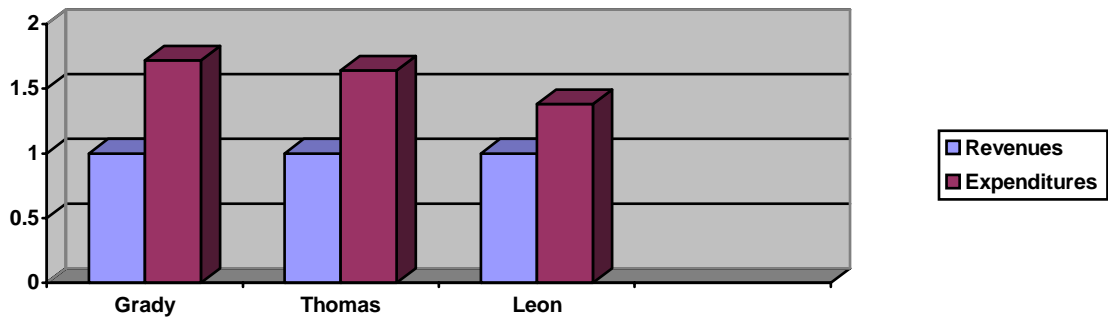


Figure 7. Ratios of revenues to expenditures for counties in the Red Hills Region of Georgia and Florida.

**CASE STUDY #6: PORTSMOUTH, RHODE ISLAND**

In 1998, the Coastal Resources Center at the University of Rhode Island in Narragansett completed a COCS study for the town of Portsmouth (Johnston, 1997.) The town’s growth rate accelerated from 1980 to 1990, when its population increased by 18%. During the same period, the town lost a significant proportion of its open space and farmland, although it still remained predominantly rural. The town had the fastest growth rate of the three towns on Aquidneck Island (Middletown, Newport, and Portsmouth), and this fact was a concern to members of the Aquidneck Island Partnership, an association of several agencies. They commissioned a COCS study in the fall of 1997 to see how Portsmouth compared with other New England towns that had also been studied. They chose the Fiscal Year 1996-1997, the year with the most recent data at that time.

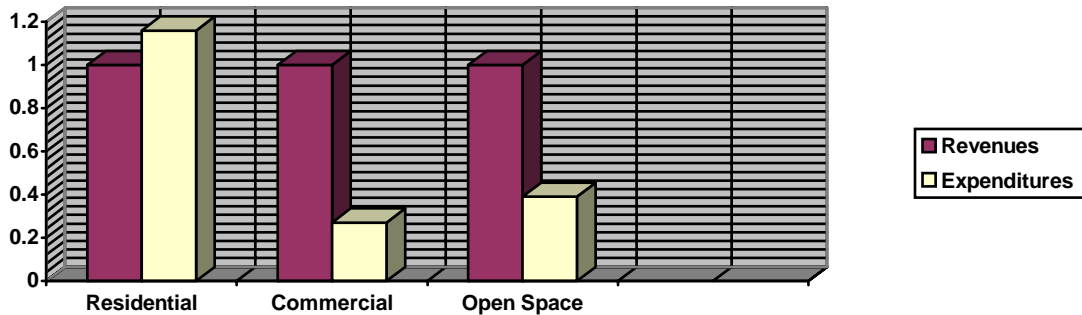


Figure 8. Revenues versus expenditures for different land use categories in Portsmouth, Rhode Island.

Portsmouth's situation is similar to all the other communities described in the previous case studies. Its COCS ratio for residential land was \$1.16 of expenditures for every \$1 of revenue, the same as the national average. The ratio for commercial land (and industrial) was just \$0.27 per \$1, and for open space and farmland it was \$0.39 per \$1. All these values are presented in Figure 8 above. These values were determined using the same methods used in standard AFT studies (Johnston, 1997.) Some were precise figures, and when such figures weren't available, they were calculated by using fall-back ratios. Even with this approach, tax revenues did not appear to keep up with new expenditures.

### **CASE STUDY #7: PLYMOUTH, MASSACHUSETTS**

In 2001, RKG Associates, Inc., a planning consulting agency from Durham, New Hampshire, completed a master plan update for the town of Plymouth. One section of the plan was devoted to the estimated costs of community services for the different residential and non-residential properties in town. RKG did not use the AFT methodology, and they did not determine ratios of revenues to expenditures. Instead, for residential units they determined what the estimated service costs (expenditures divided by the number of units) and the average non-tax revenues (impact fees and other fees) were per unit, and from those data they determined what the break-even property values and property tax bills had to be for units in each category. They used a tax figure of \$16.50 per \$1,000, slightly above the actual 2001 figure of \$16.30. Single family rural residential homes were the most expensive residential category to serve, and each home had to generate \$7,829 in taxes (based on a \$474, 500 value) in order to break even. Empty nester homes had much lower costs and values, and each only required \$1,773 in taxes to break even. Single family homes in high density zones were by far the most numerous, and they alone required almost half (47%) of all municipal expenditures. Each home had to pay \$3,595 in taxes, based on a \$217,900 assessment, to break even. Data from this summary are presented in Appendix I (RKG Associates, Inc., 2001.)

Because no COCS study used to determine ratios of revenues to expenditures was done for Plymouth, it has been performed as part of this study. It was not possible to reproduce the RKG methodology for this study, so the AFT methodology was used. Data were taken from the 2004 Annual Town Report (Pizer, 2004), and because exact figures for revenues and expenditures

were not tabulated for each land use, fall-back ratios were used to obtain proportionate figures for those categories. Fortunately, the assessing department provided the figures for those ratios (Pizer, 2004.) It was assumed that all educational expenditures were attributed to residential properties.

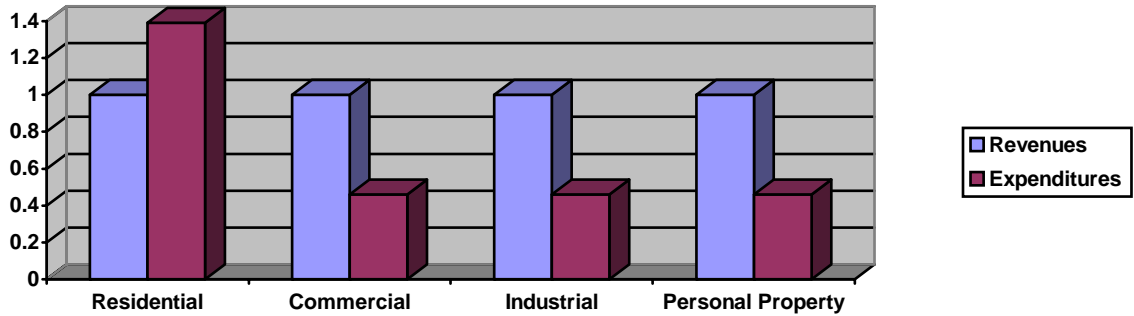


Figure 9. Ratios of revenues versus expenditures for different assessed categories in Plymouth in 2004.

The full data summary is presented in Appendix II, while the ratios of revenues versus expenditures are presented here in Figure 9. The town provided no figures for open space, so it was not examined here. Personal property, though, comprised a larger amount of tax revenues than did commercial and industrial land combined, so it had to be included. This category includes items such as machinery and other equipment not taxed by excise taxes. All state aid and other government revenues were subtracted from the totals before the calculations were done, and it was then assumed that the town would have to pay for all educational expenditures. The \$25 million in state aid, which included \$16 million for schools, actually gave the town a slight revenue surplus in 2004, but otherwise, town generated revenues lagged behind expenses. Residential properties lagged far behind, as they required \$1.39 for every \$1 of revenue. All the other categories each only required \$0.46 in services for each \$1 of revenue. Government aid makes it difficult to see that costs for services may actually be higher than they appear.

Since the RKG report, property assessments have increased but tax rates have decreased, and the two trends continue to maintain the gap between revenues and expenditures. The average

property value in Plymouth now stands at \$308,979 while the current tax rate is \$10.43 per \$1,000 (Massachusetts Department of Revenue, 2005.) The average family's \$3,223 tax bill does not fully pay their average \$6,308 service cost, which was determined by dividing the residential expenditures by the number of residential parcels. To reach a break-even point, one must either divide the service cost by the assessment to get the break-even tax rate ( $\$6,308 / \$308,979 = \$20.42$  per \$1,000) or else divide the service cost by the current tax rate to get the break-even assessment ( $\$6,308 / 0.01043 = \$604,794$ .) It is not likely that tax rates will be raised, but assessments are steadily increasing.

## **DISCUSSION**

All these different case studies revealed the same major results: open space pays for itself while residential development does not. The only residential development that generated more revenues than expenses was the seasonal housing examined in the Brewster, Massachusetts study. This is because seasonal residents don't send any children to school in Brewster, so they don't need any educational services. These residents don't need certain other services such as snow removal either, and for many other services, they require less than year round residents. The Harford County study showed that farmland assessed at a current use value (as farmland) rather than as a potential subdivision generates more revenues than expenses, even if it requires residential municipal services. The Wyoming study showed that rural residential land, which is the most likely category to require additional municipal services (e.g., an expanded infrastructure), can have expenses twice as great as its payments. Rural residential development definitely proves that new development generates additional costs for a community.

The Hays County study showed that even in southern states, where there is plenty of land available for development and costs are presumably lower than in the north, rapid growth puts a lot of pressure on municipal services, which often can't keep up with demand. To support such growth, property taxes would have to rise to keep up, and community leaders are loath to do that. The study commissioned by the 1000 Friends of Florida and its partners (2003) showed the same pattern, and in their case, they saw average residential expenditures exceed revenues by a factor of greater than 1.5 to 1. The Portsmouth, Rhode Island study simply showed that the

town's fiscal situation regarding residential development was similar to that of other New England towns that were studied.

The Plymouth study also showed that rural residential development is more expensive than other types, and it also showed that some towns have greater overall municipal revenues than expenditures due to state aid programs. When such aid is taken away and only town generated revenues and expenditures are considered, expenditures often exceed revenues by a substantial sum. Although the 2004 annual town report (Pizer, 2004) did not record exact figures for revenues and expenditures for each land use category, it provided enough other data to make it easy to use fall-back ratios to obtain reliable estimates, which showed results similar to all other studies. All throughout these examples residential properties generate more expenses than revenues, while commercial lands, industrial lands, and open spaces all produce revenue surpluses.

Among the criticisms directed at COCS studies is the claim that residential development is not necessarily the cause of increased costs of community services. A 2003 study undertaken by the University of Massachusetts Donahue Institute found that for many Massachusetts communities, costs of services rose at much higher rates than population growth, and sometimes even rose when population declined (Nakosteen, 2003.) A major purpose of this study was to admonish planners to develop a broader perspective when considering the impacts of new residential growth. Due to the fact that average cost analyses, often called per capita analyses, can be substantially inaccurate when doing fiscal impact studies for new development, the report recommends doing marginal cost analyses. A marginal cost analysis examines the infrastructure and current capacity of a community so that it is easier to determine whether or not new development will add anything to the costs of services. Infrastructure should only expand when its carrying capacity is reached. Average cost analyses are assumed to always add to the costs of services, although experience sometimes showed otherwise.

The Donahue Institute did not address COCS directly; rather, it focused on fiscal impact analysis. This analysis is mentioned here only because it seems critical of the underlying assumptions about the negative impacts of growth, assumptions that often seem justified because of the results of COCS studies. It does not support simplistic analyses or conclusions.

Costs of community services should not be used to make projections about fiscal impacts, but data they contain are essential to making such projections. Fiscal impact analyses are used to show what the costs and benefits of particular development projects are. They don't just record revenues and expenditures for a category; they also obtain physical data about a particular development so that one can make projections. A COCS study records what exists, while a fiscal impact analysis projects what the probable impacts of individual and multiple projects are, based on various sets of data.

Fiscal impact analyses allocate revenues and expenses for different land use classes basically the same way that COCS studies do, but then they have to try to estimate future costs of development based on sets of assumptions. New projects may not fit the particular models that are used very precisely, which is why more detailed studies of the type of development that is proposed often are required. These analyses also are often used to estimate new service costs for new business employees and for capital projects that need to be paid for over an extended period. For a closer look at a detailed methodology for doing a fiscal impact analysis, one should look at a website designed by the University of Wisconsin. This website has an online guide to work you through the steps of doing different development impact analyses (University of Wisconsin, 2005.) The site is:

[http://www.lic.wisc.edu/shapingdane/facilitation/all\\_resources/impacts/analysis\\_fiscal.htm](http://www.lic.wisc.edu/shapingdane/facilitation/all_resources/impacts/analysis_fiscal.htm).

Fiscal impact analyses go hand in hand with COCS studies when they show the positive fiscal impacts obtained from land preservation. A particular case in point was the preservation of the Perry Family Farm in Middleton, Rhode Island. A fiscal impact analysis study was used to show what additional costs the town would incur if the farm were developed as a 49-house subdivision (Johnston, 1998.) The study reviewed all possible primary fiscal impacts over a 30-year period, subject to variable interest rates and average home assessments. It demonstrated that if all houses in the subdivision were assessed at \$190,000, the maximum figure used in a sensitivity analysis, at a 12% interest rate the town would pay an additional \$920,680 over a 30-year period. On the other hand, if all the houses were assessed at \$150,000 at no discount rate, the town could pay up to \$4,810,602 in additional taxes over the same period. Fortunately, the Aquidneck Island Partnership and its community partners raised \$675,000 to purchase the property and maintain it as open space. The first 25 acres became a winery, while the remaining 55 acres became a golf course. It is estimated that the agreement saved taxpayers

between \$1,671,614 and \$2,089,378. Because Middleton is adjacent to Portsmouth, where residential properties already cost more for services than they return in taxes as was noted earlier, this analysis helps to discredit the myth that residential development is an economic windfall for a municipality.

## **CONCLUSION**

It appears that residential development is still a financial burden to many communities, regardless of the particular reasons why. No other single land use category needs as many goods and services, and even when growth rates decline from one period to the next, costs for services still usually increase. Seasonal residential properties comprise a separate category that appears to pay more than it costs, but relatively few communities have a high proportion of seasonal homes. So called “empty nester” homes need fewer services than homes with school age children, but most new housing is designed to accommodate families with children. Even in the less densely populated and less expensive regions of the country where there is plenty of space to accommodate more growth, such as Texas and Florida, costs for community services still exceed revenues. Though increased growth does bring in more tax revenues, these revenues usually do not keep pace with rising costs.

Although open space and farm preservation do not bring in much revenue, they save substantial money. It is not wise to let development set its own pace, for it may drive expenditures up beyond the reach of a community’s ability to pay without assistance. It is good if a community can keep precise records of the development it sustains so that it can see which ones are most likely to require services that cost more than their tax revenues (all development should not be deemed equally good or bad.) Although rising housing prices and assessments often bring in more revenues, property tax rates are often lowered so that families are not taxed beyond their abilities to pay. Unfortunately for many municipalities, this only serves to maintain the gap between revenues and expenditures. A community needs balanced growth that follows the guidelines of its master plan if it hopes to avoid financial crunches.

Fortunately, several of the communities surveyed here did have revenue surpluses due to open space, commercial growth, and government aid of various kinds. They should continue to

manage future growth so that they won't reach build-out development without the means to support it.

## APPENDIX I

Table 1. Estimated 2001 municipal and school service costs for Plymouth, Massachusetts land uses

<b>Residential</b> (Per Unit)	<b>Total Estimated</b> <b>Service Cost</b>	<b>Average Non-Tax</b> <b>Revenue</b>	<b>Break-Even</b> <b>Property Tax</b>	<b>Break-Even</b> <b>Assessment</b>
Single Family HD	\$4,186	\$590	\$3,595	\$217,900
Single Family Rural	\$8,641	\$812	\$7,829	\$474,500
Empty Nesters	\$2,215	\$442	\$1,773	\$107,500
Multi Family	\$3,223	\$408	\$2,825	\$171,200
<b>Nonresidential</b>	(Per SF)	(Per SF)	(Per SF)	(Per SF)
Retail/Service	\$0.39	\$0.34	\$0.05	\$2.96
Office	\$0.65	\$0.34	\$0.31	\$18.64
Industrial	\$0.56	\$0.34	\$0.22	\$13.48
Other	\$1.69	\$0.20	NA	NA

## APPENDIX II

Table 2. Town revenues versus expenditures for Plymouth, Massachusetts in 2004.

	<b>Residential</b>	<b>Commercial</b>	<b>Industrial</b>	<b>Personal Property</b>	<b>Open Space</b>
Fall Back Ratios	74.97%	5.73%	4.68%	14.62%	0.00%
<b>Revenues</b>					
Property Taxes	\$64,775,718	\$4,950,845	\$4,043,622	\$12,632,000	NA
Other Revenues*	\$11,456,828	\$875,652	\$715,192	\$2,234,211	NA
Total Revenues	\$76,232,546	\$5,826,497	\$4,758,814	\$14,866,211	NA
<b>Expenditures</b>					
Education	\$70,904,379	\$0	\$0	\$0	NA
Public Safety	\$11,619,069	\$888,052	\$725,320	\$2,265,850	NA
Public Works	\$3,088,479	\$236,054	\$192,758	\$602,288	NA
Fixed Costs	\$16,540,080	\$1,264,168	\$1,032,514	\$3,225,503	NA
General Government	\$2,386,476	\$182,400	\$148,976	\$465,390	NA
Health & Human Services	\$524,229	\$40,067	\$32,725	\$102,230	NA
Culture & Recreation	\$1,104,840	\$84,444	\$68,970	\$215,456	NA
Total Expenditures	\$106,167,552	\$2,695,185	\$2,201,263	\$6,876,717	NA
Expenditures/Revenues Ratio	\$1.39/ \$1.00	\$0.46/ \$1.00	\$0.46/ \$1.00	\$0.46/ \$1.00	NA

- All other revenues were only those collected by the town and not given by the state.

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