Chapter 6

Community Cost Savings
Introduction

How land is used in a community impacts the quality and amount of local services provided as well as the taxes that are needed to fund those services.

Residential land often costs municipalities and school districts more than other land uses because it is the only land use that contributes students to the local school district, and school-related taxes collected do not keep pace with actual per-student costs. For this reason, converting open space to housing generally has a negative fiscal impact on local taxes.

A planning tool that is designed to measure the fiscal impacts of protected open space on Pennsylvania’s municipalities and school districts, called a Cost of Community Services (COCS) ratio study, can be used to show the economic benefits of farmland and protected open space to municipalities and school districts. This tool was developed by the American Farmland Trust for use in New England but has since been applied in other parts of the country, including Pennsylvania.
Methodology

The American Farmland Trust’s model Cost of Community Services (COCS) ratio study was tailored for Pennsylvania’s municipalities by Timothy W. Kelsey, Associate Professor of Agricultural Economics with Penn State University’s College of Agricultural Sciences. A Pennsylvania State University Cooperative Extension Service publication prepared by Dr. Kelsey entitled “Calculating a Cost of Community Services Ratio for Your Pennsylvania Community, 2004” provides a step-by-step explanation of how to conduct such a study (see sidebar for summary).¹

The COCS study specifically analyzes the fiscal relationships between municipal and school district services, and four major land uses: residential, commercial, industrial, and agriculture. Farms and protected open space fall within the agriculture category, while farm houses fall in the residential category. The fiscal impact of land uses within the municipality is determined by comparing the expenditures for municipal and school district services with the tax and non-tax revenue generated within these four land uses. The study is a snapshot of a single year’s revenues and expenditures and shows which land uses were “paying their way” in terms of their municipal and school district costs.

The methodology relies upon county property tax assessments and municipal and school district financial data for a given year (or school district budget year). County taxes and services are not included, as this exercise analyzes the finances and land uses for specific municipalities and their associated school districts.

Actual tax revenues generated by the major land uses are different for every township and/or school district, depending on the combination of levied taxes (e.g., property, real estate transfer, earned income, per capita). Non-tax revenues include license and permit revenues, public service fees, highway aid, and school district funding from the Commonwealth, called the Equalized Subsidy for Education. The expenditures spent on the major land uses range from police and fire services, to parks and recreation, to highway, school, planning and zoning, and other governmental services.

Revenues and expenditures as well as the municipality’s portion of its school district revenues and expenditures are allocated to each of the major land uses, based either on how the funds were actually generated or spent, or by using a “default” allocation method derived from the property tax base.

Steps to Estimate Cost of Community Services

<table>
<thead>
<tr>
<th>Background</th>
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<tbody>
<tr>
<td>1. Collect data from the municipality, school district, and county tax assessment office.</td>
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</tbody>
</table>

**Municipal Calculations**

| 2. Determine property tax base percentages by land uses. |
| 3. Determine municipal tax revenues and allocate by land uses. |
| 4. Determine municipal non-tax revenues and allocate by land uses. |
| 5. Determine municipal expenditures and allocate by land uses. |

**School District Calculations**

| 6. Determine school district tax revenues and allocate by land uses. |
| 7. Determine school district non-tax revenues and allocate by land uses. |
| 8. Determine school district expenditures and allocate by land uses. |

**Results**

| 9. Calculate Cost of Community Services ratios and actual dollar differences by land uses. |
| 10. Interpret the results. |
Summary of Fiscal Impacts

After all the revenue and expense figures are entered, allocated, and tallied, gross revenues and expenditures for each land use are compared, and cost-revenue ratios are calculated. Cost revenue ratios depict the net impact of each land use, comparing how much was spent on that land use for each dollar the land use generated.

The information on the right shows the results of a COCS study for Elk Township, Chester County that examined the overall impact on the Township and the school district. The results from the study show that residential land in Elk Township pays less to the community than it receives in expenditures. That is, for every dollar generated in revenue, residential land required $1.11 in services. Both agricultural and commercial land generated substantially more tax revenue than they received in services. When using dollar numbers rather than ratios, differences between expenditures and revenue for the major land use categories can be more dramatic.

<table>
<thead>
<tr>
<th></th>
<th>Residential Costs</th>
<th>Agricultural Costs</th>
<th>Commercial Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>For every $1 in taxes paid</td>
<td>$1.11</td>
<td>4¢</td>
<td>8¢</td>
</tr>
</tbody>
</table>
COCS STUDIES AND FINDINGS IN CHESTER COUNTY

As of November of 2018, eleven Chester County municipalities have conducted COCS studies. Figure 6.1 summarizes the findings. In all eleven municipalities, one (or more) COCS studies show that residential land contributed less, on average, to municipal and school district revenue than it required back in expenditures. In Highland Township for example, for every dollar in revenue that was received from residential land, $1.14 was spent on services for that land. By contrast, farmland in Highland Township provided a net benefit of 97 cents to every dollar of revenue generated. In summary, farm and protected open space land in these municipalities provided more than they required back in expenditures.

Many of these eleven municipalities have used their study findings to show that the preservation of farmland and other protected open space can help their residents avoid the significantly higher costs of services that would be required if those lands were in residential use. In this case, the return on preserved open space is the savings to all taxpayers by eliminating the potential for farms and open land to be converted to residential land.

Figure 6.1
Summary of Findings, Cost of Community Services Studies in Chester County

<table>
<thead>
<tr>
<th>Township</th>
<th>Residential</th>
<th>Commercial</th>
<th>Industrial</th>
<th>Agricultural</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Nottingham</td>
<td>$1.11</td>
<td>4¢</td>
<td>4¢</td>
<td>4¢</td>
</tr>
<tr>
<td>Elk</td>
<td>$1.11</td>
<td>8¢</td>
<td>—</td>
<td>4¢</td>
</tr>
<tr>
<td>Highland</td>
<td>$1.14</td>
<td>5¢</td>
<td>—</td>
<td>3¢</td>
</tr>
<tr>
<td>Honey Brook</td>
<td>$1.07</td>
<td>6¢</td>
<td>6¢</td>
<td>6¢</td>
</tr>
<tr>
<td>Kennett</td>
<td>$1.12</td>
<td>51¢</td>
<td>12¢</td>
<td>12¢</td>
</tr>
<tr>
<td>London Britain</td>
<td>$1.01</td>
<td>20¢</td>
<td>—</td>
<td>20¢</td>
</tr>
<tr>
<td>London Grove</td>
<td>$1.13</td>
<td>14¢</td>
<td>15¢</td>
<td>19¢</td>
</tr>
<tr>
<td>Londonderry</td>
<td>$1.08</td>
<td>2¢</td>
<td>2¢</td>
<td>2¢</td>
</tr>
<tr>
<td>Lower Oxford</td>
<td>$1.08</td>
<td>2¢</td>
<td>2¢</td>
<td>2¢</td>
</tr>
<tr>
<td>West Fallowfield</td>
<td>$1.13</td>
<td>3¢</td>
<td>3¢</td>
<td>3¢</td>
</tr>
<tr>
<td>West Sadsbury</td>
<td>$1.33</td>
<td>3¢</td>
<td>3¢</td>
<td>3¢</td>
</tr>
</tbody>
</table>
RESIDENTIAL GROWTH AND SCHOOL DISTRICT BUDGETS

The primary reason for the shortfall between residential expenditures and revenues comes from residential demands on the local public school system. Although residents contribute only a portion of the full costs required to support local public school students, they receive all the benefits, for the simple reason that all students come from residential land uses.

For example, in 2014-2015, total expenses for the Oxford Area School District (OASD) in southern Chester County were reported at $56,828,634—double the expenditures ten years earlier of $27,892,691. That same year the OASD reported a total of 3,869 students, whereas in 2003 there were 3,306 students. In 2003, it cost an average of $8,437 to educate each student, but in 2014-15 it cost $14,688 per student.

In 2014-2015, 5.2 percent of the district (OASD), or 201 students, came from Elk Township. Accordingly, it cost approximately $2,952,328 to educate Elk Township students this year. Even though the students are entirely a product of residential areas, only $1,777,982, or $8,846 per student, came to the school district directly from the residents of Elk in the form of taxes. This meant a shortfall of $5,842 per student. While the deficit is partly subsidized by taxes on commercial and agricultural land, and partly by state and federal education subsidies, the per-student shortfall adds up quickly for a township that sends hundreds of students to their public school.
SLOWING TAX INCREASES THROUGH OPEN SPACE PRESERVATION

In contrast to the permanent increase in costs and taxes caused by new residential development, lands that are preserved normally require a one-time financial commitment. Every dollar spent to protect open space and farmland avoids the larger, perpetual costs of providing municipal and school district services, not to mention the positive effects on a community’s scenic resources, food security, and open space (see side bar). Any locally-required management or maintenance costs (such as where public access is allowed or for parks) are much smaller than the preservation costs and can be supplemented by grants, private donations, volunteer work or other funding sources.

As evidenced through the COCS studies conducted in Chester County, preserving farmland and protected open space can slow rising municipal and educational costs by protecting land that would otherwise be converted to new housing. The expense of protecting farmland and open space (through purchase of development rights or fee simple purchase of land) may require a modest initial increase in taxes, yet these expenses can be quickly recouped and surpassed and are a good financial investment. As mentioned in Chapter 1, many municipalities in Chester County have recognized these benefits and have passed modest ballot initiatives to create dedicated funds for preservation of open space. Not only does the municipality avoid new school and municipal costs when farmland is preserved, farm tax income is maintained. Using local funds to preserve agricultural lands greatly improves the chances of a property’s acceptance into county, state, and federal farmland preservation programs, and potentially leverages other private funding sources.

Example Scenario

Suppose a 150-acre farm property could accommodate 100 new homes based on the municipality’s zoning ordinance, and those 100 homes generated 60 students to district schools (conservatively). Using the $5,842/student shortfall calculated in the Elk Township example, these 60 students would generate an annual shortfall of $350,520. By buying the farm’s 100 development rights at $4,676 each, Elk residents would spend $467,600, but would enjoy permanent substantial tax savings relating to that property:

\[
4,676 \text{ per development right} \times 100 \\
\text{development rights} = \$467,600 \text{ in} \\
\text{conservation easement acquisition costs}
\]

\[
\$476,600 \text{ divided by}\$350,520/\text{year shortfall} \\= \text{a little under 1.5 months break-even period.}
\]

Such a preservation effort, fully funded by Elk Township, would be paid back in a little over a year of tax savings. Ten years ago in Elk Township, the break-even period for local funding to preserve open space was over two years; costs have risen now so that the Township can recoup its costs for preserving farmland and protected open space within the same budget year.
Conclusion

Preservation of farmland helps residents avoid the significantly higher costs of services that would be required if those lands were in residential use. The return on preserved open space is the savings to taxpayers recognized by eliminating the potential for farms and open land to be converted to residential land.

Endnotes

1 This publication is free to the public as a download at https://www.chesco.org/DocumentCenter/View/5684/.

2 East Nottingham

Elk

Highland

Honey Brook

Kennett
Brandywine Conservancy. (March, 2017). Kennett Township, Cost of Community Services Update.

London Britain

London Grove
Brandywine Conservancy. (February, 2006). London Grove Township, Cost of Community Services Summary.

Londonderry

Lower Oxford

West Fallowfield

West Sadsbury