



The Public Finance Implications of  
Land Uses and Community Services:  
Antrim Township, Franklin County

Prepared for Antrim Township  
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## INTRODUCTION

The different land uses in a community have major implications for local governments. Land uses affect the types of services residents demand and which local governments must provide, and impact the tax base from which local governments raise their revenue.

This paper presents the results from a land use and community service study conducted in Antrim Township (Franklin County), which investigated the relationship between land uses and local government expenditures and revenues. It compares the local government and school district revenues provided by different land uses with the cost of providing services to those land uses.

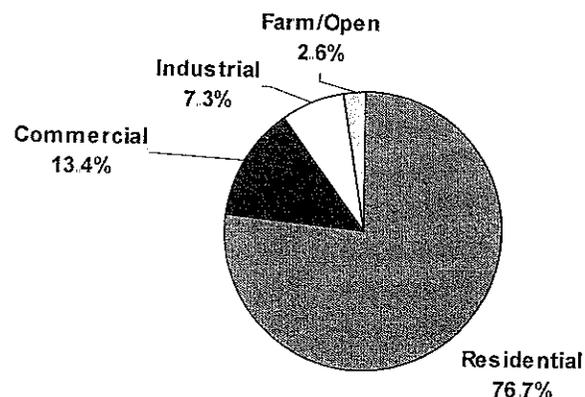
The study followed the methodology of similar studies by the American Farmland Trust. Four land uses were considered: Residential land, Industrial land, Commercial land, and Agricultural land. The definitions follow Pennsylvania tax assessment conventions, with one exception. The buildings and homes on farms (the homestead) were treated as residential properties. Land without buildings on farms was categorized as Agricultural land. This was done to make the study consistent with the earlier American Farmland Trust studies.

Township and school district finances were examined in the analysis. These included Antrim Township and the Greencastle-Antrim School District.

## STUDY METHODS

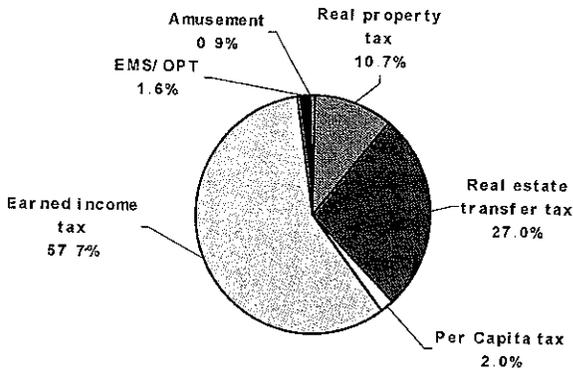
The ratios between local government revenues and expenditures for each land use were calculated by breaking down the township and school district budgets for 2005 by the land uses providing the revenue or using the services.

Real property taxes were broken down using Franklin County Tax Assessment Office records, splitting the assessed value of farm properties into the value of the land and of the buildings. The values of the farm homesteads were added to the residential component of the tax base (see Figure 1).



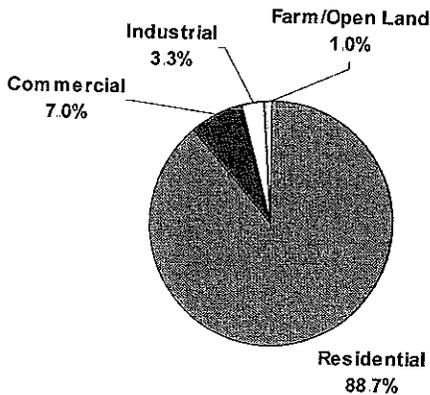
**Figure 1** Share of Real Property Tax Base in Antrim Township

The earned income tax is by far the most important local tax for the Antrim Township government, providing nearly three out of every five local tax dollars. The real estate transfer tax provides a prominent 27% of all revenue. The real property tax only provides 10.7% of all revenue. The per capita, EMS/OPT, and amusement taxes provide a combined 4.5% of the township's revenue (see Figure 2).



**Figure 2** Sources of Antrim Township Tax Revenue

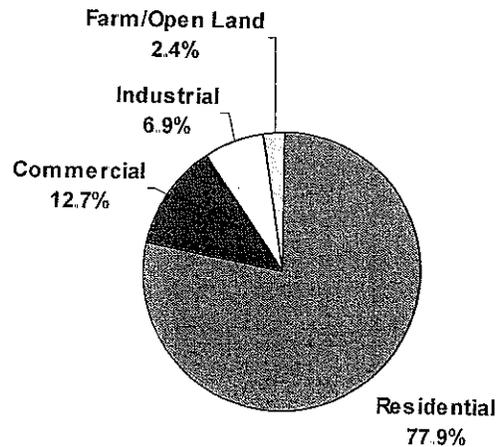
These tax revenues were broken down by the land type providing them. Non-tax revenues which could not be connected to specific land uses were allocated by using the percentages from all taxes as a default (see Figure 3). Because the township government relies very heavily upon the earned income tax, which is paid by residential land, a large portion of local tax revenue comes from such land.



**Figure 3** Antrim Township local tax revenues by land use

Township spending was allocated to land uses when possible, otherwise they were broken down using the percentages from all revenue as a default. Because most township expenditures were not specific to land uses, most expenditures were allocated by this default.

School district revenues specific to Antrim Township were broken down in a similar manner (see Figure 4). All school expenditures were allocated to residential land.



**Figure 4** Greencastle-Antrim school district tax revenues for Antrim Township, by land use

## RESULTS

The results of the study show that different land uses in Antrim Township have dissimilar impacts on local government finances. From the perspective of taxpayers who live in Antrim Township (who receive services from and pay taxes to the township government and the school district), residential land (including farm residences) requires more in services than it contributes in revenues.

For every dollar of revenue that residential land contributes to Antrim Township and the Greencastle-Antrim School District, it costs \$1.03 to provide services to residential land. Commercial and agricultural land provide more in local government revenue than they demand. For every dollar of revenue agricultural land contributes, for example, it only costs \$0.07 to provide services to that land. Commercial and agricultural land thus help subsidize the needs of residential land. The ratios of revenue to expenditures in Antrim Township illustrate this (see Table 1).

Table 1. Cost of Community Service Ratios by Land Use, Antrim Township

	Residential	Commercial	Industrial	Agricultural
Revenues: Expenditures	1 : 1.03	1 : 0.43	1 : 0.18	1 : 0.07

These results are consistent with those from similar studies in Adams County, Bucks County, Lebanon County, Perry County, and Potter County (see Table 2)

Table 2 Cost of Community Service Ratios, Pennsylvania Communities

Township	Residential	Commercial	Industrial	Farm & Open Land	Camps & Forest Land
Bedminster Township (Bucks County)	1 : 1.12	1 : 0.06	1 : 0.04	1 : 0.04	-
Buckingham Township (Bucks County)	1 : 1.04	1 : 0.16	1 : 0.12	1 : 0.08	-
Bethel Township (Lebanon County)	1 : 1.08	1 : 0.07	1 : 0.27	1 : 0.06	-
Walker Township (Centre County)	1 : 1.08	1 : 0.03	-	1 : 0.01	-
Strabane Township (Adams County)	1 : 1.10	1 : 0.17	1 : 0.05	1 : 0.06	-
Carroll Township (Perry County)	1 : 1.03	1 : 0.06	-	1 : 0.02	-
Maiden Creek Township (Berks County)	1 : 1.28	1 : 0.14	1 : 0.07	1 : 0.06	-
Richmond Township (Berks County)	1 : 1.24	1 : 0.11	1 : 0.06	1 : 0.04	-
Allegheny Township (Westmoreland County)	1 : 1.06	1 : 0.15	1 : 0.14	1 : 0.13	-
Bingham Township (Potter County)	1 : 1.56	1 : 0.26	-	1 : 0.15	1 : 0.15
Stewardson Township (Potter County)	1 : 2.11	1 : 0.37	-	1 : 0.12	1 : 0.31
Sweden Township (Potter County)	1 : 1.38	1 : 0.07	-	1 : 0.07	1 : 0.08

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The results are also consistent with studies in other states. These include studies in Connecticut, Massachusetts, and New York (see Table 3).

Table 3. Summary of Ratios from Other Studies

	Residential	Commercial & Industrial	Farm & Open
Hebron, CT	1 : 1.06	1 : 0.42	1 : 0.36
Agawam, MA	1 : 1.05	1 : 0.41	1 : 0.30
Deerfield, MA	1 : 1.16	1 : 0.37	1 : 0.29
Gill, MA	1 : 1.15	1 : 0.34	1 : 0.29
Beekman, NY	1 : 1.12	1 : 0.18	1 : 0.48
North East, NY	1 : 1.36	1 : 0.29	1 : 0.21
<b>Median Ratios</b>	<b>1 : 1.14</b>	<b>1 : 0.36</b>	<b>1 : 0.30</b>

Much of this result occurs because school related revenues and expenditures far outweigh township government revenues and expenditures in the township (see Figure 5). From local taxpayers' perspective, schools have a much greater impact on their taxes. All land uses contribute revenue to the school district, even though all school district expenses are directly related to residential land.



Figure 5 Proportion of local spending in Antrim Township

## IMPLICATIONS

### 1. Implications for Antrim Township

Antrim Township has been experiencing growth pressures which impact the type and quantity of services it must provide residents. Residential land can require extensive service infrastructure, such as sewer and water lines. It also contributes to school tax expenses by increasing the number of children enrolled in the public schools.

Agricultural and open land can play an important role in local land uses. Farms provide employment, livelihood, recreation, and quality food to residents. Such land, through the scenic views it often provides, helps create the aesthetic nature

of a community and a link to the community's cultural heritage. The results of this study also suggest that agricultural and open land provide fiscal benefits to the community by providing tax and other revenues without also making large (and costly) demands on services.

The results also demonstrate the advantage of having a wide tax base, with a variety of different land types. Without agricultural, commercial, and industrial land types, it would be more difficult to generate the revenues necessary to provide services to residential land.

## **2. Implications for Local Taxpayers**

School finances have the largest impact upon taxpayers in Antrim Township. The size of Antrim Township's portion of the Greencastle-Antrim School District budget far outweighs the size of the Antrim Township government budget. Despite the large role residential land plays in the tax base, other land uses end up contributing towards school expenses.

Agricultural land provides clear economic benefits to all residents of the township by providing more in revenue than it requires in local expenditures. Agricultural land in Antrim Township, for example, provided approximately \$243,486 in real property taxes towards school district expenses. This is above and beyond the property taxes farmers paid for their buildings and homes.

If growth must occur and farm land must be lost, commercial and industrial development have a potentially beneficial impact on the tax base as long as they do not dramatically raise the demand for services. The large assessed valuation increases from such development can expand property tax revenues, potentially paying for any new service demands.

This is in strong contrast to residential development, which in general does not pay for itself. Because of the potential increases in school expenses, all land uses can end up paying for this growth.

## APPENDIX

Table 4 Calculation of Cost of Community Service Ratios, Antrim Township (township government and township's share of school district)

	Total	Residential	Commercial	Industrial	Agriculture/ Open
<b>Revenues</b>					
General Fund Municipal Tax Revenues	\$2,378,078	\$2,110,398	\$166,738	\$78,606	\$23,336
General Fund Municipal Nontax Revenues	\$745,482	\$674,360	\$45,453	\$19,783	\$5,886
Special Fund Municipal Revenues	\$6,031,655	\$4,102,631	\$1,667,164	\$298,071	\$8,627
School district revenues	\$17,781,225	\$13,855,457	\$2,262,280	\$1,231,168	\$431,721
<b>Total revenues</b>	<b>\$26,937,441</b>	<b>\$20,742,846</b>	<b>\$4,142,235</b>	<b>\$1,627,628</b>	<b>\$469,569</b>
<b>Expenditures</b>					
General Fund Municipal Expenditures	\$1,946,742	\$1,761,469	\$116,199	\$53,256	\$15,817
Special Fund Municipal Expenditures	\$5,656,476	\$3,778,955	\$1,654,655	\$236,686	\$16,415
School District Expenditures	\$15,732,036	\$15,732,036	\$0	\$0	\$0
<b>Total expenditures</b>	<b>\$23,335,254</b>	<b>\$21,272,461</b>	<b>\$1,170,854</b>	<b>\$289,942</b>	<b>\$32,232</b>
<b>Ratios</b>	<b>1 : 0.87</b>	<b>1 : 1.03</b>	<b>1 : 0.43</b>	<b>1 : 0.18</b>	<b>1 : 0.07</b>