



Fiscal Impacts of Different Land Uses

THE PENNSYLVANIA EXPERIENCE IN 2006

The way land is used in your community affects your taxes and the quality of your life. Land uses influence the size of your local government, the types of services it offers, the types of equipment it must purchase, and the taxes and tax rates it must levy. Land use also affects the number of students in the local school district, the sizes and number of school buildings, the number of teachers, and the taxes and tax rates the school district levies.

These impacts are significant not only because they affect taxpayers and local residents but because they affect the ability of local government to respond to the needs of its citizens. Identifying the impacts of different land uses will help you recognize what types of land uses should be encouraged in your municipality and what types should be treated cautiously.

This publication discusses the fiscal impact of different land uses in Pennsylvania and the implications for taxpayers and communities. It uses Cost of Community Service studies conducted during 2006 and 2007 to update an earlier extension publication on the same topic.

POTENTIAL IMPACTS

Land uses can affect the local government's and school district's finances by changing the revenues collected or the amount of public money spent on services. A housing development where many children live, for example, may generate a lot of tax revenue for the municipality while also requiring that the school district operate more classes.

Sorting out the net impact of different land uses requires a consideration of their impacts on both revenues and expenditures.

Impacts on Revenues

The revenues collected through local taxes, such as the real property and realty transfer taxes, depend directly on the land uses in a jurisdiction. High-value uses, like industrial and commercial enterprises or expensive homes, can generate much tax revenue.

Other local taxes depend less directly on land uses

but are still affected by them. Revenues from the earned income tax, occupation tax, and per capita tax are heavily influenced by how many people live in the jurisdiction and their economic status.

The ways people use land also affect the nontax revenues of municipalities and school districts. These include license and permit revenues, sewer and public service fees, highway aid, the amount of money school districts receive from the Commonwealth's Equalized Subsidy for Basic Education, and payments in lieu of taxes made by the Commonwealth and the federal government.

Impacts on Expenditures

How much revenue can be raised is only part of the overall fiscal impact of different land uses. The costs of providing local governmental and school district services for different land uses are also important.

Such services can include sewer, water, fire protection, police, refuse collection, streets, libraries, and

residents benefit from farm and open land. The tax revenue from these lands helps keep residents' taxes low.

When farmland is converted for residential purposes, these benefits are lost. If the number of children living in the new houses requires that the school district hire new teachers or build new schools or that the local government increase service expenditures (for roads, sewers, water systems, and so forth), the impacts of farmland loss can be especially dramatic. The land will be converted from a net contributor to the municipality and school district into a net drain.

Some farmland protection programs, such as Clean and Green, reduce the amount of real estate tax paid by farmers. This lessens the revenue that farmland contributes to the school district and municipality. The results in several townships, that had land enrolled in Clean and Green, demonstrate that even when these programs are in use in a township, farmland still contributes more than it requires. Even with preferential assessments, farmland ends up subsidizing the educational costs of residential land and plays a positive economic role in the community.

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space, roads, police, water treatment, parks, and road maintenance, among other services.

Land uses do matter, so it is important to think carefully when development is proposed in a community. Particular attention should be paid to how the development will affect local services and how well those existing services can accommodate new service demands.

IMPLICATIONS FOR DECLINE

When a community's major industry (such as the town steel mill) closes due to economic difficulties, the assessed value of that property can decrease, reducing tax revenues. Water and sewer fee revenues can also decline

drastically, making it difficult to operate the local systems without increasing usage fees for homes and other businesses. Because industrial and commercial land types in general help subsidize homeowners, the loss of their revenue can be especially damaging. The school district and municipality may be forced to choose between cutting services or raising tax rates to make up for the lost revenue. If a school district or municipality relies too heavily on a large commercial or industrial property to fund local services, it leaves itself vulnerable to these kinds of shocks.

IMPLICATIONS FOR MUNICIPAL COOPERATION

The influence of school revenues and expenses on the fiscal impacts of different land uses has an important implication for how neighboring boroughs, townships, and cities cooperate. Land uses throughout a school district affect all taxpayers living in the school district, not just taxpayers in the host municipality. Intensive residential land uses in a neighboring municipality will affect your school taxes as much as if those land uses were within your own municipality, if that neighboring community is located within your school district. Commercial, industrial, and agricultural land uses in neighboring municipalities similarly can help benefit school tax bills in your own municipality.

These effects illustrate the benefits of cooperation among neighboring municipalities. What happens in a neighboring municipality influences what happens in your municipality. It makes sense for municipal officials and planning commissions at least to communicate among themselves so they can be aware of what is occurring in neighboring municipalities. Cooperation between municipalities can ease coordination of planning activities and provide better control over what happens within the region.

IMPLICATIONS FOR FARMLAND PRESERVATION

Some residents may not appreciate the smells, sounds, or other inconveniences of living near farms, but these things are reminders that all

Table 3.
Hierarchy of land uses and typical fiscal impacts.

Land use	FISCAL IMPACT ON:	
	Municipality	School district
Research office parks	+	+
Office parks	+	+
Industrial development	+	+
High-rise/garden apartments (studio/1 bedroom)	+	+
Age-restricted housing	+	+
Garden condos (1–2 bedrooms)	+	+
Open space lands	+	+
Retail facilities	–	+
Townhouses (2–3 bedrooms)	–	+
Expensive single-family homes (3–4 bedrooms)	–	+
Townhouses (3–4 bedrooms)	–	–
Inexpensive single-family homes (3–4 bedrooms)	–	–
Garden apartments (3+ bedrooms)	–	–
Mobile homes	–	–

Note: This is a general listing and may not apply accurately to any one specific development. The fiscal impacts must always be viewed in the context of the specific community, existing surplus capacity of local services, and other development occurring in the jurisdiction.

Source: Burchell and Listokin, 1993.

recreational facilities. School services can include adult enrichment and high school equivalency courses, as well as children’s education.

Net Impact

The overall fiscal impact of a land use depends on both its revenue and its expenditure impacts. A land use may generate a lot of revenue for the local government, for example, but if the services it requires cost the municipality and school district even more, it will end up costing local taxpayers. Only by considering the revenues and expenditures associated with a land type can you identify its overall impact.

THE PENNSYLVANIA EXPERIENCE

The experiences of eight Pennsylvania townships illustrate the potential fiscal impact of land uses. Among these are three townships from southwest Pennsylvania: a rural township that includes mountain and valley terrain, bedroom communities for nearby urban areas, and whose economy is primarily agricultural, lumber, and some tourism (Bullskin Township, Fayette County, population 7,782); a rural township with a considerable amount of farmland and open space but feeling the influence and expansion pressures from the Pittsburgh area (Mount Pleasant Township, Washington County, population 3,422); and a township of 8,826 residents with a mixture of old industry, a ring of suburban housing, and

agricultural areas close to Washington, Pennsylvania (Canton Township, Washington County).

Two townships are in northeast Pennsylvania: a residential community in southern Pike County, many of whose residents work in New York or New Jersey and which experienced a population increase of 146 percent between 1990 and 2000 (Lehman Township, Pike County, population 7,515); and a rural township near Scranton, which has a mix of small farms, dense wooded areas, and residential development (Scott Township, Lackawanna County, population 4,931).

Three townships are in central Pennsylvania: a large, rapidly growing township (23.7 percent increase between 1990 and 2000) that surrounds a borough near the Maryland border and is intersected by I-81 (Antrim Township, Franklin County, population 12,504); a largely rural township of 4,502 people that is seeing increased commercial development pressure along the U.S. State 15 transportation corridor north of Lewisburg and in which 47 percent of the tax base is commercial property (Kelly Township, Union County); and a rural agricultural township of 3,207 people that is facing increased growth and development pressure (Buffalo Township, Union County).

The fiscal impacts of different land uses in these townships appear in Table 1. The ratios, which compare revenues to expenditures, were calculated using the townships’ and school districts’ budgets. Note that homes

on farms were considered residential properties in these ratios, and that farm and open land was just the land itself without buildings. In these townships, residential land on average contributed less to the local municipality and school district than it required back in expenditures. In Bullskin Township, for example, for every dollar in revenue from residential land, \$1.11 was spent on services for that land (**Table 1**). In all but one township, residential land required more from the school district and township government than it contributed. Much of this negative fiscal impact occurred because of school expenses. The one exception, Lehman Township in Pike County, had a budget surplus of more than \$2 million between both the township and school district, equal to 8 percent of their total expenditures. If their taxes were equal to spending, residential land would cost more than it provided (ratios of 1:1.02).

By contrast, commercial, industrial, farm, and open land provided more than they required back in expenditures. In Bullskin Township, for example, for every dollar of revenue from commercial land, only \$0.02 was spent on services for that land. Commercial, industrial, farm, and open land contributed more to the local municipality and school district than they required, thus helping to subsidize the needs of residential land.

In other words, residential land generally costs local taxpayers, while commercial, industrial, farm, and open lands help taxpayers by paying more than they require back in services. These results are consistent with other states’ experiences and with other Cost of Community Service studies from across the country, including twelve similar studies conducted in Pennsylvania during the 1990s (**Table 2**).

The results for Buffalo Township, Union County, are presented in a range due to uncertainty about road expenses related to farms. The township’s supervisors estimated that a little more than half (60 percent) of their highway and street repairs and maintenance expenditures were a direct result of farming activities in the township due to several very large farms that receive

frequent deliveries by tractor trailers. Since these farms increased the scale of their operations, and thus increased the amount of large truck traffic along the roads, the township says it has had to dramatically speed up their road maintenance, repair, and rebuilding schedule along the affected roads. Since highways and roads make up a significant portion of the municipal budget, this means

a large share of township expenditures were allocated to agricultural land. Because the reported 60 percent figure was only an estimate, analysis was also conducted using the more standard proportional method of allocating road expenses.

The results occur largely because school-related revenues and expenditures far outweigh township government revenues and expenditures. All land uses contribute revenue to the school district even though all school district expenses are directly related only to residential land.

Schools accounted for 83 percent of all local spending in the eight townships, for example, while the township governments spent the remaining 17 percent. From local taxpayers’ perspective, schools have a much greater impact on their taxes.

Note that these estimated fiscal impacts are an average across all land in a community. Residential housing populated by the elderly, for example, will have a much different fiscal impact from similar housing units occupied by families with school-age children. The mix of local services required by these different populations varies greatly, with subsequent effect on the impacts. If a specific housing development or shopping center were examined, the ratio of revenue to cost may be widely different for that specific parcel of land.

Since these ratios are an average within each township, the numbers for any individual property may be very different from these. The ratios thus should not be applied to specific properties or to specific proposed land use changes. Some residential properties—for example, retirement communities—may provide more in revenues than they require back in services (since they do not increase demand for school services, yet they pay school taxes). Other residential properties may cost significantly

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more than these average ratios. Some individual farms similarly may have very different impacts than these averages. In one of the recently studied townships, for example, the township supervisors noted that several very large farms with frequent tractor trailer traffic have significant impact on road maintenance and repair costs, compared to the impact of smaller farms with less traffic.

IMPLICATIONS FOR TAXPAYERS

Homeowners benefit from industrial, commercial, farm, and open land in the local tax base because these other land uses help subsidize school expenses. This subsidy’s relative amount depends, in part, on the composition of the tax base. The more nonresidential land in a municipality’s tax base, the more these land uses help subsidize school expenses, and thus the less homeowners must pay.

IMPLICATIONS FOR GROWTH

These results demonstrate that the types of land uses in a community have implications for taxes and the cost of local government services. The ratios estimated in these townships are not direct measures of the cost of development (because they are based on existing land use patterns), but they suggest that careful examination be given to proposed land development.

The fiscal impacts of development depend on what type of development is to occur and the ability of existing public services to absorb that development. Different kinds of development have dissimilar effects on local governments, school districts, and taxpayers. Development that increases the tax base without increasing demands for services, such as some white-collar research office parks, can have positive impacts. Land development that dramatically increases service demands without significantly increasing the tax base, such as construction of inexpensive three- to four-bedroom townhouses (which are typically purchased by families with school-age children), can have negative fiscal impacts. Typical impacts of development are illustrated by a hierarchical listing of land uses arranged by their usual fiscal impacts (**Table 3**).

The ability of local governments and school districts to meet new service demands is also critical to how a specific development will affect taxpayers. If existing services can meet new service demands, the fiscal impact will be less than if existing services need to be expanded. If the existing sewage treatment plant has enough surplus capacity to handle waste from a new development, for example, impacts will be very different than if the treatment plant already is at capacity and needs to be expanded. This “surplus capacity” can involve classroom

Table 1. Summary of ratios from recent Penn State studies (all conducted 2006–2007).

County	Township	Residential	Commercial	Industrial	Farm and Open
Fayette	Bullskin	1:1.11	1:0.02	1:0.02	1:0.02
Franklin	Antrim	1:1.03	1:0.43	1:0.18	1:0.07
Lackawanna	Scott	1:1.13	1:0.14	1:0.14	1:0.14
Pike	Lehman ¹	1:0.94	1:0.20	—	1:0.27
Union	Buffalo ²	1:1.19–1:1.21	1:0.05–1:0.08	1:0.05–1:0.08	1:0.91–1:0.11
Union	Kelly	1:1.48	1:0.07	—	1:0.07
Washington	Canton	1:1.23	1:0.06	1:0.13	1:0.03
Washington	Mt. Pleasant	1:1.08	1:0.09	1:0.08	1:0.08

1. Lehman Township and the school district had a budget surplus of more than \$2 million, equal to 8 percent of total expenditures. With no budget surplus, the ratios would be as follows: residential 1:1.02; commercial 1:0.21; agricultural 1:0.30.
2. Buffalo Township reported significant road maintenance expenses related to large farms. The results give a range of possible impact.

Table 2. Cost of community service ratios, Pennsylvania communities (mid to late 1990s).

Township	Residential	Commercial	Industrial	Farm and Open	Camps and Forest
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	—
Straban 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