Appendix F
Cost of Community Services Study

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Town of Warwick Orange County, New York

Revenues, Service Costs and Land Use

Prepared for:

Town of Warwick

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by

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Executive Summary

Introduction. The cost of services study and this report are part of a larger effort in the Town of Warwick to examine land use and development patterns. Members of the town board, planning board, and comprehensive plan committee are all working to secure the town's future. A variety of other activities are being conducted to improve land use and protect the town's future development.

A key concern for local leaders and elected officials is the fiscal impact of alternative land uses. The American Farmland Trust, AFT, developed a method that has become a popular tool for evaluating the public service costs and revenues associated with different local land uses. The AFT method is based on the Cost of Community Service Ratio (COCS ratio or "the ratio") which is described in more detail below. This study followed the general approach developed by AFT. The purpose of this report is to communicate Cost of Service Ratios calculated specifically for the Town of Warwick using local financial and public service data.

Methods. The cost of service ratio compares the total revenues generated by a land use type with the expenditures for public services related to the land use. The ratio will be 1:1 when expenditures equal revenues, greater than one if expenditures exceed revenues and less that one if revenues exceed expenditures. In this report, ratios are calculated for four land use types: (1) residential property, (2) commercial and industrial property, (3) agricultural property (not including farm residences) and (4) open space and forest property.

The ratios were calculated from revenues and expenditures taken from 1998 and 1997/98 town, village and school district budgets. Expenditures and revenues were allocated, by detailed budget category, to the appropriate property types (residential, commercial/industrial, agricultural and open space and forest).

Results. The results of the study indicate that different land uses (property types) vary in their relationship to local government revenues and expenditures. Residential property consistently demands more in town and school service expenditures than it contributes in tax revenues. Industrial/commercial, agricultural, and open space and forest property uses appear to require less in service expenditures from towns and schools combined than they contribute in revenues. The results for the Town of Warwick are generally consistent with cost of service ratios developed for studies in other New York communities and other Northeast states.

Implications. The Town of Warwick, like other towns, faces a distinct set of growth prospects and pressures. The results indicate that residential property consistently receives more in town and school service expenditures than it contributes in tax revenues. Industrial/commercial, agricultural land use and open space and forest land uses appear to require less in service expenditures from towns and schools combined than they contribute in revenues. These contrasts are not as strong when Town finances are considered alone. Ratios for the villages of Florida, Greenwood Lake and Warwick demonstrate a similar overall pattern.

Agricultural land and open space uses can be an important contributor in the local community and economy. The presence of active farms can provide livelihood, aesthetic value and cultural continuity to local communities. This study suggests that important fiscal benefits may be linked to agricultural and open space land uses as well. These fiscal benefits should be considered in assessing the merits of various tools to help shape the town's future.

School finances have the largest impact on town taxpayers in the Town of Warwick. Schools appear to be the major factor leading the large contribution made by non-residential land uses in the local revenue/expense equation.

These results cannot be used to predict the cost implications of new development either residential or commercial/industrial. The incremental costs of new development depend upon a number of factors, including the available capacity for increased service delivery and the need for additional capital facilities and expenditures.

Acknowledgements

Cooperation from a number of people made this report possible. Richard Hubner, Assessor for the Town of Warwick provided extensive help. This help included data preparation and advice on the interpretation and use of real property information for the town. Lucy Joyce, former staff person with Orange County Cooperative Extension provided helpful insights and coordinated the startup of this study.

Officials from the town and each of the three villages in the study were interviewed for revenue and service cost allocations and provided budget documents and other fiscal and organizational information. Each of the school districts provided needed budget, planning and assessment information to complete the study. Nancy Brenner-DeAngelo, Andy McLaughlin, and Elizabeth Figliancconi assisted in collecting information from school districts.

Frank McColl from the New York State Comptroller's Bureau of Municipal Research and Statistics assisted in providing financial data for towns and school districts in the study. Rebakah Hattery, a junior in the college of Agriculture and Life Sciences at Cornell University proved to be a skilled and responsible project assistant. She collected and summarized the historical town data.

Mary Chaffee, administrative assistant in the Department of Agricultural, Resource, and Managerial Economics helped prepare the final report.

All remaining errors are the responsibility of the author.

Introduction

The cost of services study and this report are part of a larger effort in the Town of Warwick to examine land use and development patterns. Members of the town board, planning board, and comprehensive plan committee are all working to secure the town's future. A variety of other activities are being conducted to improve land use and protect the town's future development.

A key concern for local leaders and elected officials is the fiscal impact of alternative land uses. The American Farmland Trust, AFT, developed a method that has become a popular tool for evaluating the public service costs and revenues associated with different local land uses. The AFT method is based on the Cost of Community Service Ratio (COCS ratio or "the ratio") which is described in more detail below. This study followed the general approach developed by AFT.

The purpose of this report is to communicate COCS ratios calculated specifically for the Town of Warwick using local financial and public service data. The next section discusses town population and expenditure trends. This discussion is followed by: an overview of the methods used in the study, the results (calculated COCS ratios), a comparison with COCS ratios from other studies in New York and other states, and a discussion of the implications of the study's results. Additional pertinent information is included in an Appendix that follows the body of the report.

Town Population and Expenditure Trends

The Town of Warwick has experienced steady population growth throughout the post-war years (see Table 1, below). All three villages and the town outside village area have shared this growth. Between 1950 and 1970 the population of the town-outside village area grew from 50 to 56 percent of total town population. In the last two decades the town outside village population has remained a relatively constant percentage of the town's total. Population growth in the Town of Warwick has a comparable pattern to statewide changes in the population of similar towns over the same period (Hattery and Kay, 1998).

Table 1
Population Change in the Town of Warwick
from 1950 – 1990

	Population				
	1950	**1960**	**1970**	**1980**	**1990**
Village of Florida	1,376	1,550	1,674	1,947	2,497
Village of Greenwood Lake	819	1,236	2,262	2,809	3,208
Village of Warwick	2,674	3,218	3,604	4,320	5,984
Town Outside Village Area	4,959	6,547	9,416	11,900	15,504
Percent Growth		32%	44%	26%	30%
Percent of Total	50%	52%	56%	57%	57%
Total Town Population	9,828	12,551	16,956	20,976	27,193
Percent Growth		28%	35%	24%	30%

Source: Bureau of the Census and Cornell Local Government Program Database.

It is valuable to compare town population change with changes in town service delivery expenditures. Table 2, below, shows the growth in total expenditures for the Town of Warwick between 1955 and 1995. Both actual and inflation adjusted expenditure figures are included in Table 2. The growth in adjusted expenditures is sometimes greater and sometimes less than population growth over the postwar period. Over the entire 40 year period adjusted per capita town expenditures grew by 138% while townwide population grew by 177% and town outside village population grew by 213%.

Table 2
Town of Warwick Total Annual and Per Capita Expenditure

	For Fiscal Years Ending in:				
	1955	1965	1975	1985	1995
Total Expenditures	$201,815	$483,163	$1,592,306	$3,069,900	$7,709,700
Adjusted for Inflation	201,815	411,202	793,376	764,798	1,356,147
Per Capita Expenditures	$21	$38	$94	$146	$284
Adjusted for Inflation	21	31	47	36	50
% Growth in Per Capita Expenditures		54%	45%	22%	37%
% Growth in population Town outside (from Table l)		32%	44%	26%	30%

*Source: Total Expenditure figures were taken from the: *New York State Comptroller's Special Report on Municipal Affairs.* Volumes for Local Fiscal Years ending in 1955, 1965, 1975, 1985, and 1995. Per Capita figures were calculated using Total Town Population figures from Table 1.

In summary, after controlling for inflation, per capita town public service costs have more than doubled during a period when townwide population more than tripled. To keep this in perspective, note that total, inflation adjusted spending grew by a factor of six during the same period. The causes of growth in adjusted per capita expenditures would require additional analysis. At least part of this growth can safely be attributed to an increase in the level, breadth, and/or quality of services provided by the Town of Warwick over the period. Additional trend information for town and village finances is included in Table A1 in the Appendix to this report.

Study Methods

The COCS ratio compares the total revenues generated by a land use type with the expenditures for public services related to that land use. The ratio will be 1:1 when expenditures equal revenues, greater than one if expenditures exceed revenues and less than one if revenues exceed expenditures. In this report, ratios are calculated for four land use types: (1) residential property, (2) commercial and industrial property, (3) agricultural property (not including farm residences), and (4) open space. The total assessed value and percentage of property in each of these four categories was calculated using assessment data from the Town of Warwick Assessor's Office. Using assessment figures, the value of residences on farms was separated from farm parcels and was included with residential property. Residences are split off in this way to be consistent in handling residential property and with the practices of previous studies.

Table 3, below, indicates how assessment totals for the major property types vary in the Town of Warwick. Residential property constitutes the largest percentage of taxable property in all three villages and townwide. With one exception agricultural and open space property make up the smallest percentage of taxable value across communities. Appendix Table A2 contains more detailed tabulations of assessed value and parcel counts townwide (including villages).

Table 3
Distribution of Assessed Value by Residential, Commercial/Industrial, Agricultural, Open Space and Forested and Exempt Property in the Town of Warwick, 1998

Property Category	Townwide*	Town Outside Villages	Village of Florida	Village of Greenwood Lake	Village of Warwick
	distribution of assessed value including exemptions and exempt property				
Residential	71.15%	72.82%	76.71%	78.73%	59.92%
Commercial & Industrial	9.95%	6.98%	12.03%	14.61%	17.27%
Commercial	6.31%	3.22%	7.8%	12.00%	13.71%
Industrial	0.79%	0.75%	1.5%	0.17%	0.99%
Utilities	2.81%	2.95%	2.76%	2.43%	2.52%
Railroad	0.05%	0.06%	0.00%	0.00%	0.04%
Agricultural	2.51%	3.70%	0.52%	0.00%	0.29%
Black Dirt	0.41%	0.63%	0.00%	0.0%	0.00%
Upland	2.10%	3.07%	0.52%	0.0%	0.29%
Open Space & Forest	2.52%	3.54%	1.20%	0.87%	0.26%
Other Exempt	13.86%	12.96%	9.55%	5.78%	22.26%
Total	100%	100%	100%	100%	100%
	distribution of assessed value less exemptions and exempt property (taxable value)				
Residential	84.73%	86.66%	84.78%	83.12%	78.31%
Commercial & Industrial	11.71%	8.30%	13.82%	15.92%	21.31%
Agricultural	0.90%	1.37%	0.03%	0.00%	0.02%
Open Space & Forest	2.66%	3.67%	1.38%	0.95%	0.36%

* Townwide figures include town outside village and village property.

Table 3 demonstrates the relative taxable share of the major property types townwide and for the three villages. The figures in the top half of Table 3 demonstrate the significance of exempt property within the town. With some exceptions, exempt property is an important user of public services. For example, totally exempt state owned land (open space) will exert minimal demand on local public services. Many other forms of totally exempt property, like churches, will exert demand on public services in a manner similar to some types of commercial or residential property. The bottom half of Table 3 shows the distribution of *taxable* real property.

The amount of land in the four classes of property differs significantly from their proportions of assessed value. An estimate of current land use indicates the following percentages of land area (acreage): residential (49%), farm (15%), other open space (28%), commercial and industrial (4%), and exempt property (4%). Thus while agricultural and other open space represent less than 5% of taxable assessed value in the Town of Warwick, these land uses are over 40% of the town's land area.

In general, the distribution based on taxable property is used in this analysis. The manner in which this distribution is used is described later. Differences in the level of exempt property can have important influence on public finances and COCS ratios. Exempt property generates public service demands which vary with the type of property. While public services are demanded, fully exempt property generally does not pay property taxes directly. In some instances exempt property make "special" payments in lieu of taxes (Pilots) to compensate for this fiscal imbalance.

The COCS ratios were calculated for the town and the three villages using revenues and expenditures reported by the municipalities in their 1997-98 budget documents. With the exception of fire districts, the finances of *part-town* special districts were not included in the analysis. The revenues and expenditures for all fire and fire protection districts covering portions of the town were combined and included. The finances of other *part-town* districts could not be aggregated in this manner to create townwide service cost and revenue amounts to average.

School finances were examined for each of the three districts in the town. The school district revenues and expenditures used in this study were also taken from figures reported in 1997-98 budget documents. Care was taken to allocate school revenues and expenditures to village and town outside village areas of the district. The following procedure was used to allocate a portion of school district finances to the town outside and village areas. The districts revenues and expenditures were apportioned to town outside and village areas based on the proportion of assessed value. These revenue and expenditure amounts were then allocated to the different land uses.

Allocation of Revenues and Service Costs to Property Types

Town and village staff members were interviewed and asked to help estimate how revenues and expenditures should be assigned to the different property types listed in Table 3. The recommendations from town and village staff were used to allocate revenues and expenditures to the different property types. In some cases the percentages of taxable property (from Table 3) were used as a "fall back" method to allocate revenues and expenditures. In other cases a town or village staff person suggested the "fall back" method as their best estimate for allocating a revenue or service cost.

Expenditures and revenues were allocated, by detailed budget category, to one or more of the land uses (residential, commercial/industrial, agricultural, and open space and forest). Several sets of allocation percentages were used to split revenues and expenditures between one, two, three, or all property types. For example, 100% of expenses for youth services were allocated to residential property. In contrast, expenditures for highway services benefit all property types and were allocated to all property categories. On the revenue side, property taxes were distributed across all taxable property classes (again using the percent of taxable assessed value in each category) while recreational fees were

assumed to come totally from residential property. A total revenue and expenditure amount for each of the land use types was arrived at by summing up all of these individual revenue and expenditure allocations. Table A3 in the Appendix contains summary revenue and expenditure totals for the study. The figures in Table A3 are used to calculate the ratio results presented in the next section (Table 4). The magnitude of dollars across property categories in Appendix Table A3 are worth noting. When viewing the ratio results it is important to keep in mind the large differences in the amounts of revenues and expenditures for the major property types.

Results

The results of the study indicate that different land uses (property types) vary in their impacts on local government finances (see Table 4 below). The COCS ratio is meant to indicate, as far as possible, the direct revenue and expenditure effects of local government. For example, the ratio approach allocates all school expenditures to residential property (including farm residential parcels). Certainly farm enterprises and commercial/industrial property owners "benefit" in an indirect way from local education expenditures, but households with children living in residential property are the direct beneficiaries.

Table 4
Cost of Community Service Ratios by Land Use Type
For the Town of Warwick

	Land Use or Property Type			
	Residential	Commercial & Industrial	Agricultural	Open Space & Forest
Town Ratios for property outside villages and in:**				
Area 1	1:1.05	1:0.67	1:0.43	1:0.73
Area 2	1:1.08	1:0.51	1:0.61	1:0.46
Area 3	1:1.08	1:0.29	1:0.25	1:0.42

Source: The Cost of Community Service Ratios in this table were calculated from revenue and expenditure totals found in Table A3 in the Appendix to this report.
Table A3.2 contains additional COCS ratio estimates for: Town purposes only and property inside the three villages.
** Areas 1, 2, and 3 correspond to town outside village areas that are within The Florida School District, Greenwood Lake School District and Warwick School District, respectively.

Table 4 contains COCS Ratios for three areas outside the town's villages. These ratios reflect appropriate town government expenditures and revenues as well as the allocation of school district revenues and expenditures in town outside village areas. In the Town of Warwick, almost all of the property in the agricultural use and open space and forested categories are in these town outside village areas. Areas 1, 2, and 3 correspond to town outside village areas that are within the Florida School District, Greenwood Lake School District and Warwick School District, respectively. The overall COCS ratios vary across the three areas. Yet it is clear that residential land, in all three town outside village areas, requires more in direct services than it contributes in revenues. The other three major property types (commercial and industrial, agricultural, and open space and forestry) have an opposite pattern. These property groups contribute more in taxes and other revenues than they utilize in public service expenditures.

For example, considering town and school district finances together (Table 4), for every dollar that residential property in Area 1 contributes to town and school district finances it costs $1.05 to provide the current complement of local government services to residential property. In contrast, commercial/industrial property, agricultural property, and open space and forested property in Area 1 provide more in local government revenue to towns and school districts than they receive in direct public service benefits. For every dollar that commercial and industrial property contributes to public purposes in Area 1 only $.67 in service benefits are returned to that type of property.

The ratios adjust when the town's revenues and expenditures are considered separately, excluding school district finances. These ratios have a similar pattern but it is not as strong. Results from other New York studies have tended to indicate that when town finances are considered alone, direct service costs for all four land use types are roughly equal to the revenues they contribute. The Warwick ratios tend in this direction, but residential property still requires more in service expenditures than it contributes in revenues and the other three classes generally display the opposite pattern. See Appendix Table A 3.2 for these results. Open space and forest land property have a ratio of greater than one for two of the "Town Purposes Only" ratios

The results for the Town of Warwick make clear that school district finances are the major factor leading to the disparity in overall COCS rates between residential land and the other three property groups (commercial and industrial, agricultural, and open space and forested property). School district finances as they are utilized in the COCS approach, are a significant factor leading to residential property receiving more in direct services than it contributes in revenues. Similarly, school finances are a major determinent in the other three property types contributing more in taxes and other revenues than they utilize in public service expenditures.

It is important to note that this is the first COCS study (to the author's knowledge) that has computed separate ratios for villages. The overlapping taxing and service provision in town and village finances in New York State requires an approach that incorporates town and village finances in an overall picture. The COCS approach is generally utilized in municipalities with substantial agricultural, forest and open space property resources. These property resources are usually minimal inside villages. The three villages in the Town of Warwick have very limited agricultural and open space property (see Appendix Table A2 for detailed figures on this point). The pattern of public service costs and beneficiaries is also different in village areas. The demand for police services, for example,

Table 5
Cost of Community Service Ratios
From Other New York Communities

Town/County (population)	Residential	Commercial & Industrial	Agricultural & Open Space
	Total Ratios (Town and School District)		
New Hartford, Oneida County (21,640)***	1:1.48	1:0.17	1:0.25
Ithaca, Tompkins County (17,797)*	1:1.14	1:0.41	1:0.40
Fish Kill, Dutchess County (17,655)****	1:1.23	1:0.31	1:0.74
Beekman, Dutchess County (10,447)**	1:1.12	1:0.18	1:0.48
Red Hook, Dutchess County (9,656)****	1:1.11	1:0.20	1:0.22
Lansing, Tompkins County (9,296)*	1:1.56	1:0.16	1:0.16
Amenia, Dutchess county (5,195)****	1:1.23	1:0.25	1:0.17
WARWICK: Townwide Ratios for property outside village and in **:			
Area 1	1:1.05	1:0.67	1:0.73
Area 2	1:1.08	1:0.51	1:0.61
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Source: Figures in this table are from four sources:
**Cost of Community Service Study: Tompkins County New York* by Mary Castner. Ithaca, NY: Cornell Cooperative Extension of Tompkins County, 1995.
***Cost of Community Services Study: Towns of Beekman and Northeast, Dutchess County, New York* by Judy L Schneyer, David R. Tetor and Robert C. Wagner. Millbrook, NY: Cornell Cooperative Extension of Dutchess County, 1989.
****Oneida County Cost of Community Services: Revenues, Service Costs and Land Use* by Michael Hattery, Cornell Local Government Program, Cornell University, Ithaca, NY, 1997.
*****The Real Cost of Development* by Christopher P. Bucknall, Poughkeepsie, N.Y.: Scemic Hudson, Inc. 1989.

Table 6
Cost of Community Service Ratios
From Other Communities in the Northeast*

Town/State (population)	Residential	Commercial & Industrial	Agricultural & Open Space
Farmington, Connecticut (20,608)	1:1.33	1:0.32	1:0.31
Litchfield, Connecticut (8,365)	1:1.11	1:0.34	1:0.34
W. Greenwich, Rhode Island (3,492)	1:1.46	1:0.40	1:0.46

Source: The ratios in the table are from: *Cost of Community Services in Southern New England,* Commonwealth Research Group, Inc., Chepachet, RI: Southern New England Forest Consortium, 1995.
*The ratios in this table reflect combined town and school district finances.

Implications

The Town of Warwick, like other towns, faces a distinct set of growth prospects and pressures. The results in this report indicate that residential property consistently receives more in town and school service expenditures than it contributes in tax revenues. Industrial/commercial, agricultural land and open space and forest land uses appear to require less in service expenditures from towns and schools combined than they contribute in revenues. These contrasts are not as strong when Town finances are considered alone. Ratios for the villages of Florida, Greenwood Lake and Warwick demonstrate a similar overall pattern.

Agricultural land and open space uses can be an important contributor in the local community and economy. The presence of active farms can provide livelihood, aesthetic value and cultural continuity to local communities. This study suggests that important fiscal benefits may be linked to agricultural and open space land uses as well. These fiscal benefits should be considered in assessing the merits of various tools to help shape the town's future.

School finances have the largest impact on town taxpayers in the Town of Warwick. Schools appear to be the major factor leading to the large contribution made by non-residential land uses in the local revenue/expense equation.

These results cannot be used to predict the cost of new development either residential or commercial/industrial. The incremental costs of new development depend upon a number of factors, including the available capacity for increased service delivery and the need for additional capital facilities and expenditures.

Making Future Land Use Decisions

There is a renewed interest in the relationship between development, public services and taxes. In part this interest is linked to the concerns of citizens and local leaders that are grappling with how to make decisions and plans that will provide a good future for their communities. To help local leaders sort through the implications of development alternatives, Robert Burchell and David Listokin of Rutgers University has developed a "Cost-Revenue Hierarchy of Land Uses." This hierarchy is presented in Figure 1 below. This hierarchy is designed to help decisionmakers understand what kinds of development tend to have positive fiscal benefits for local governments and schools. The hierarchy is based on the authors' experience as researchers and consultants in evaluating the cost and revenue impacts of new development.

Other work is being done that focuses on the location of development rather than the kind of development. This work is based on the long-standing concern over the costs of dispersed development or urban "sprawl." Many observers believe that dispersed patterns of residential development make it more expensive to provide essential public services like road maintenance, fire and police protection, and education. Some observers believe that even when the capital costs of new residential development are partially offset by fees, higher longer term operating costs become the burden of all residents and local governments (Sierra Business Council, 1997). A number of studies are being done explore these issues. For example, the Southeast Michigan Council of Governments commissioned a study to estimate the public service capital and operating cost savings from a planned compact land use strategy (Brunett, et.al. 1997). This strategy is based on the land use planning strategy that has been pursued in the Portland, Oregon region. This study, using 18 communities from three distinct regions in Michigan, projected that significant capital, debt service and operating cost saving could be achieved through the compact growth strategy. Ten similar studies have been conducted with similar results for projected savings.

Figure 1
The Cost-Revenue Hierarchy of Land Uses

		RESEARCH OFFICE PARKS	
		OFFICE PARKS	
		INDUSTRIAL DEVELOPMENT	
		HIGH-RISE/GARDEN APARTMENTS (STUDIO/1BEDROOM)	
		AGE-RESTRICTED HOUSING	
MUNICIPAL BREAK-EVEN	(+)	GARDEN CONDOMINIUMS (1-2 BEDROOMS)	
		OPEN SPACE & AGRICULTURE	
	(-)	RETAIL FACILITIES	
		TOWNHOUSES (2-3 BEDROOMS)	
		EXPENSIVE SINGLE-FAMILY HOMES (3-4 BEDROOMS)	
			(+) SCHOOL DISTRICT BREAK-EVEN
		TOWNHOUSES (3-4 BEDROOMS)	(-)
		INEXPENSIVE SINGLE-FAMILY HOMES (4+ BEDROOMS)	
		GARDEN APARTMENTS (3+ BEDROOMS)	
		MOBILE HOMES	

Note: The above list contains too many disclaimers to include here. Suffice it to say that cost-revenue impacts always must be viewed relative to the context of other properties' impacts in the jurisdiction of development. On the above list, the higher the position the more positive the impact.

Source: Fiscal Impacts of Alternative Land Development Patterns in Michigan. The Cost of Current Development Versus Compact Growth, Final Report. Southeast Michigan Council of Governments. P. 1-32, June 1997.

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