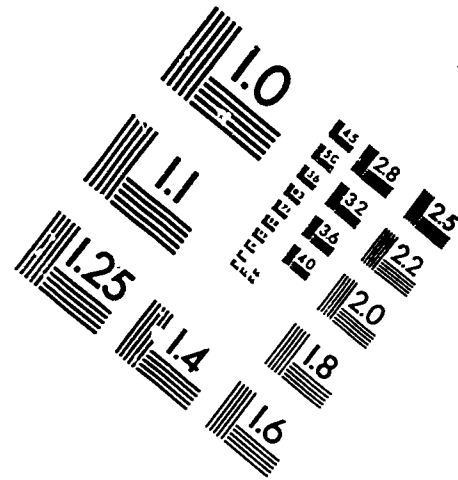
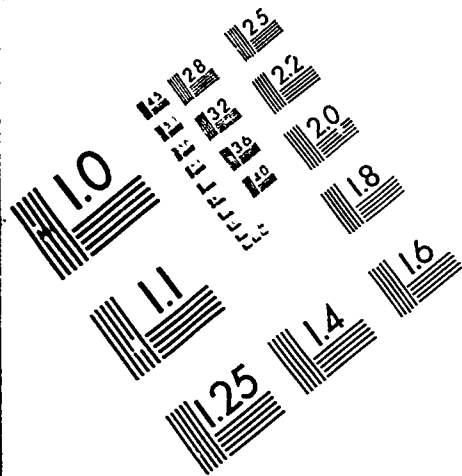




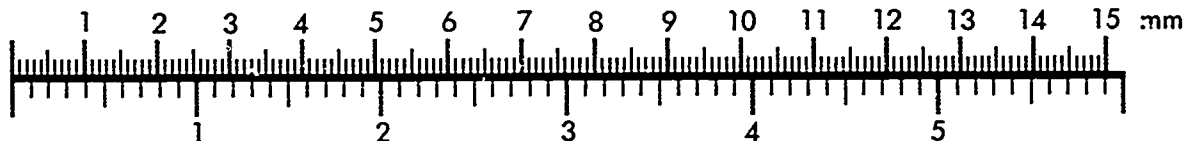
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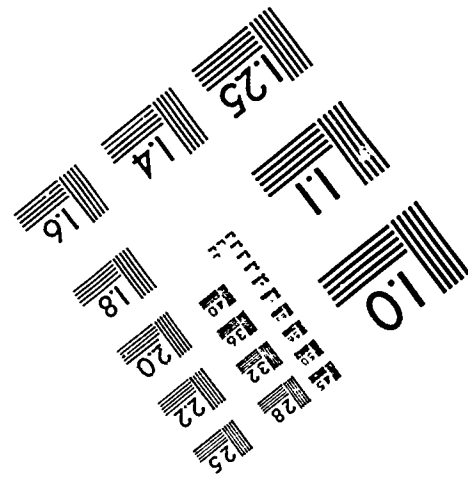
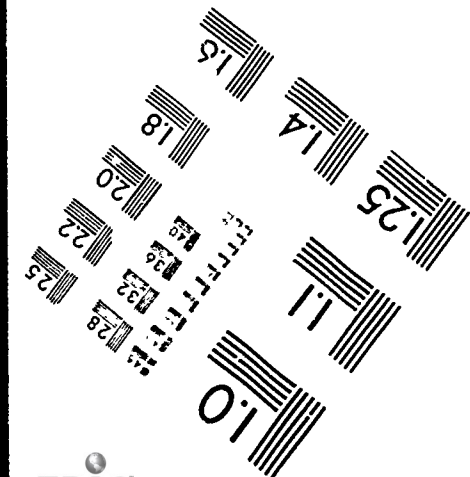
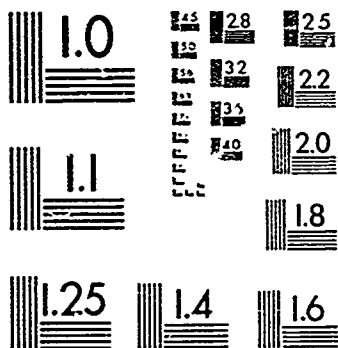
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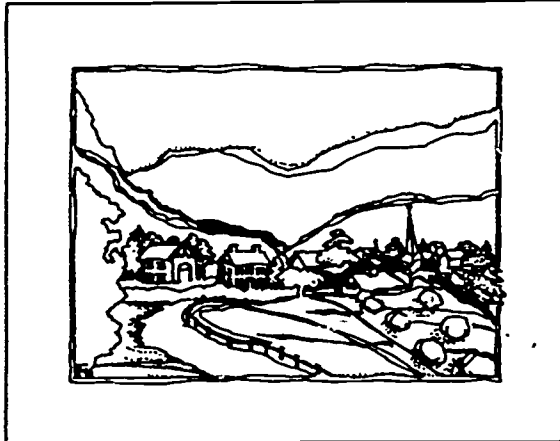
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ABSTRACT

The property tax base in Vermont's towns are overburdened as property taxes are usually the only funding method available to finance schools, police departments, highway work, recreation programs, and government in general. Attempting to offer their citizens a balanced program of services without exorbitant taxes, local officials are striving to increase the tax base by enticing developers to locate within their town boundaries. While officials may be considering the tax consequences of new development, some Vermonters are complaining of inappropriate land use decisions, which they attribute to the quest for increased tax bases. Each town's situation is different, and the impact of a development on the tax rate depends on many factors including the type of development, the capacity of the existing municipal and educational infrastructure, the services necessitated by the development, the services desired by the voters, and the role of state aid to education. Designed for estimation and planning in small towns, this workbook was prepared to help public officials and citizens in Vermont to project the direct costs and revenues associated with proposed developments in their towns and to estimate the effect on the property tax rate. The workbook contains step-by-step explanations, detailed tables of data, and worksheets to estimate changes in capital and operating costs and changes in the tax rate. A list of useful references and groups that can help is included, and other information sources are cited on data tables. (ALL)

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The Tax Base and The Tax Bill



*Vermont League
of Cities and Towns*

*Vermont Natural
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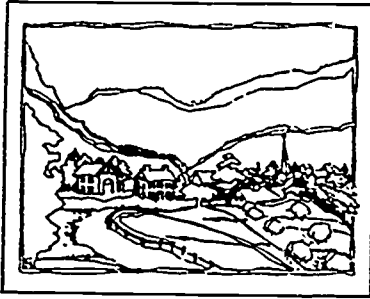
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September, 1990



The Tax Base and The Tax Bill

Vermont League
of Cities and Towns

Vermont Natural
Resources Council

Introduction

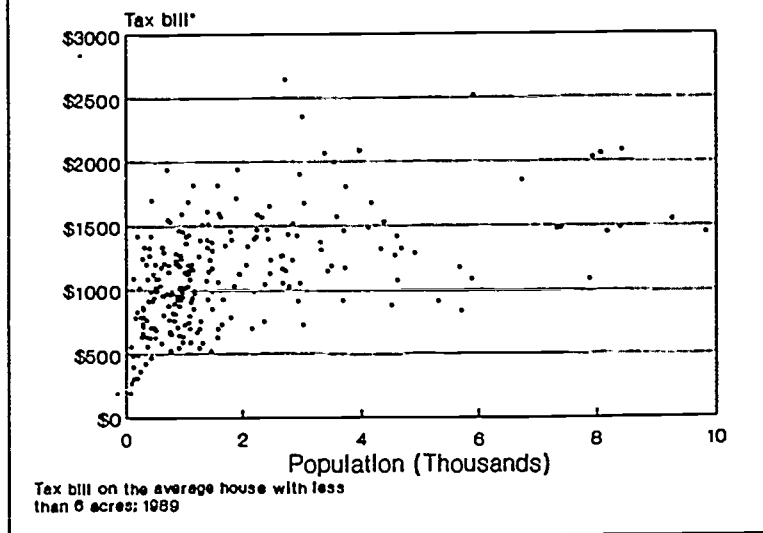
About the only way a Vermont town can fund its schools, police department, highway work, recreation program, and general government is through the property tax. And, if the recent rejection of 40 school budgets is an indication, the property tax is overburdened. Responsible town officials, attempting to offer their citizens a balanced program of services without exorbitant taxes, often strive to increase the tax base by enticing developers to locate within their boundaries. As the theory goes, a larger tax base means the budget is divided among more properties, keeping the tax rate down.

While local officials may be considering the tax consequences of new development, some Vermonters are complaining of ugly strip developments and inappropriate land use decisions which they attribute to the quest for tax base. After listening to Vermonters across the state, the Governor's Commission on Vermont's Future summarized their impressions this way: "Most towns, confronted with the rising cost of services, compete for development to increase their tax base. This competition conflicts with the planning process. Towns are forced to waive zoning requirements, make improper siting decisions, and, in general, pursue short-term objectives at the expense of long-term goals."

The Vermont League of Cities and Towns (VLCT) and the Vermont Natural Resources Council (VNRC) recognize the bind towns are in. Both organizations are calling for property tax reform, but, in the meantime, they believe town officials will be able to make better decisions if they have better information. VNRC and VLCT have cooperatively undertaken this project to bring local officials more information on the tax implications of growth. While the general trend is that tax burdens increase with growth, there are many exceptions. (Figures 1 and 2).

Each town's situation is different, and the impact of a development on the tax rate depends on many factors including the type of development, the capacity of the municipal and educational infrastructure in place, the services necessitated by the development, the services desired by the voters, and the role of state aid to education.

1. Population and Residential Tax Bills



This overview outlines the major findings of research on property taxes and growth. A workbook is also available from VLCT or VNRC which will help town officials calculate how a specific development would affect their tax rate.

Although the study focuses on the property tax effects of land use decisions, we do not want to give undue importance to the

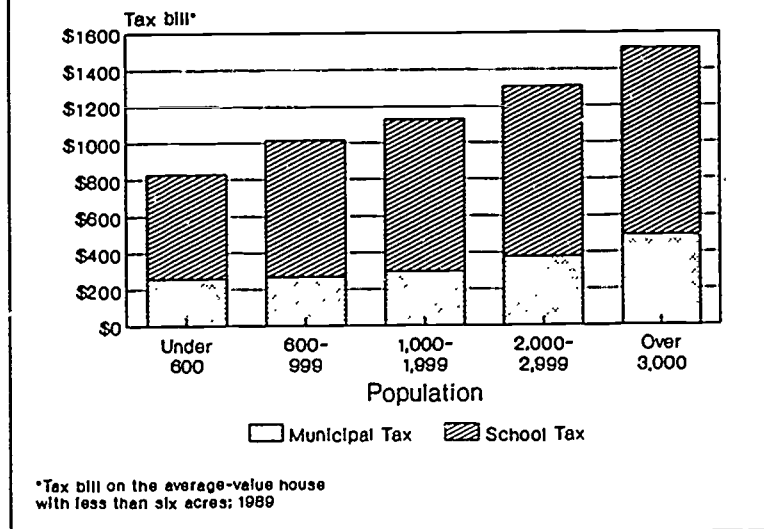
tax rate as a factor in deciding how a town should grow. The real purpose is to clear up some of the misconceptions and mystery about property taxes so fiscal considerations can be more accurately factored into decisions.

Growth and Taxes

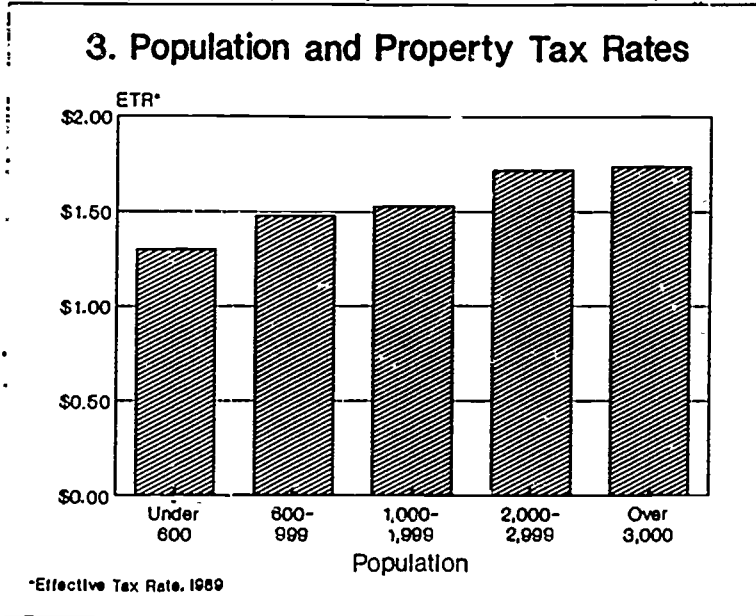
At one time, many people believed new houses would help the tax rate because they would share the costs of schools, roads, and town government. By the late 1960's, however, people began to suspect mobile homes did not pay enough in property taxes to cover the costs of educating their children. The

Legislature directed the Tax Department to conduct a special study and the results were somewhat surprising: it was true that mobile homes cost the town more than they brought in, but "standard" houses were even more of a drain. The reason was there were fewer children in mobile homes, perhaps because of rules at mobile home parks. By now, it is fairly well accepted that residences cost the town. In fact, it takes about a century of property taxes on the average-value house to pay towns back for the schooling of two

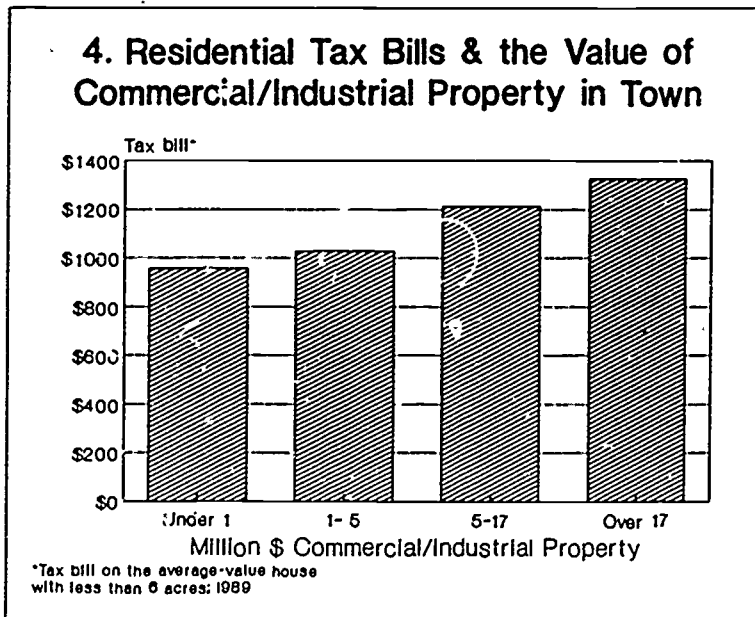
2. Population and Residential Tax Bills



children from kindergarten through high school. Although the new foundation formula which distributes state aid to education changes the rules by buffering the impact of additional children on the school tax rate, the general trend is that taxes increase with population (Figures 2 and 3).



To compare taxes between towns, we have used two measures: the effective tax rate, and the tax bill on the average-value house. The effective tax rate is the town's tax rate adjusted by the Division of Property Valuation and Review to compensate for the level of appraisal. Some people feel this measure hides the true tax burden in towns where property values are inflated. As a comparison, we also measure the tax bill on the average-value house (with less than six acres) in each town.



Towns have been looking instead for growth which does not have children: industrial, commercial, or vacation properties. These childless developments would pay school taxes without increasing school costs.

Because school taxes represent, on the average, about two thirds of the total tax bill, this contribution would be substantial, or so the thinking goes. However, the general trend is: the more commercial and industrial property value in a town, the higher the total tax burden. (Figure 4). To see how development affects the tax burden, we have looked separately at each component of the property tax -- the school tax and the municipal tax.

Development and the School Tax Rate

In Monkton, the planning commission held a public meeting to discuss the economics of growth. Citizens guessed what would happen to their school tax rate if a commercial development, assessed at \$10 million, moved into town. There was a wide range of guesses, but most people estimated the effect would be quite substantial.

Those who were fairly knowledgeable about their town taxes quickly calculated that, at the town's effective school tax rate of \$1.33, the development would bring in \$133,000 in taxes, equivalent to one quarter of the town's share of the school budget. They guessed the tax rate would drop by more than 20 percent.

One cynic in the audience said the tax rate would never go down. "The state will take away all the extra," she said. Her guess was the closest of all. Because the town is heavily dependent on state aid, the addition to the Grand List would result in a \$126,000 reduction in state aid. The \$10 million development would only lower the school tax rate by one and one half cents.

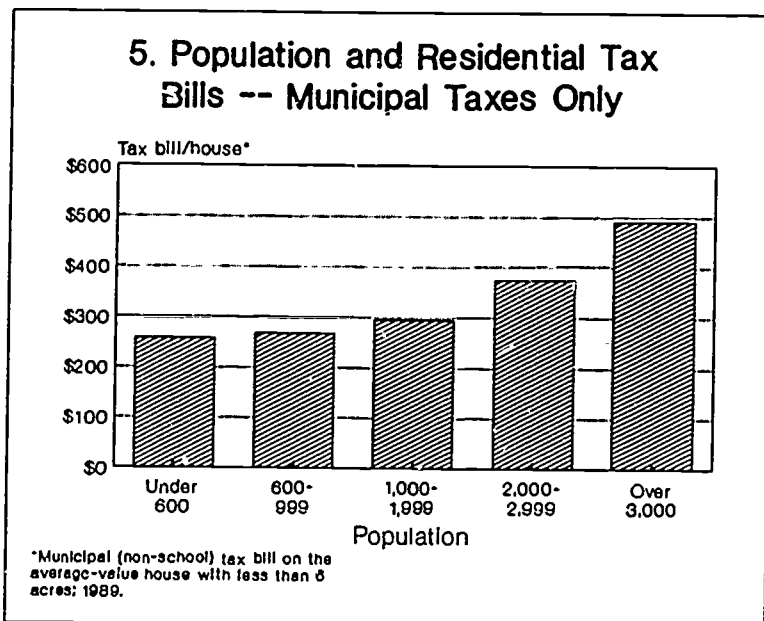
And this discussion hadn't moved on yet to the other fiscal impacts -- the costs of road maintenance, sewage treatment, water, police, fire protection, and the school addition required when more people with children move in to work at the new enterprise. With all those costs figured in, the municipal portion of the tax rate would increase. The net result would be taxes would go up -- not down -- if the new development materialized.

Monkton is not a special case. Two-thirds of Vermont's towns are "on the formula" (that is, they receive foundation aid to education). In these towns the amount of school taxes gained from a development will be matched by an opposite and approximately equal reduction in state aid. Only towns which already have a large grand list per pupil and which are not receiving formula aid will see a net gain equal to all the school taxes paid by a development. The state-aid formula was not designed to influence land use planning; its purpose is to ensure equal opportunities to a basic education, or to "allow a typical school district to provide each of its elementary pupils with an education meeting the requirements of the state board for approval of public schools."

Of course, the formula for state aid is a creation of the legislature and subject to change. The coefficients are adjusted annually, and the formula itself may be reconstituted at any time. The ability of the state to meet its financial commitments has proven somewhat erratic. However, as long as schools are funded through the local property tax and state aid is based on the principle of assuring that children in property-poor towns receive funding for education, the effects will follow the patterns outlined here.

Development and the Municipal Tax Rate

The other costs of development are paid for through the municipal tax. On the average, residents in towns with the most commercial and industrial development will pay the largest municipal tax bills (Figure 4). There are several possible explanations for this. First, industrial developments may need extra municipal services such as police protection, new traffic controls, or more frequent road maintenance. Second, commercial and industrial property does not appreciate as rapidly as other types of property so, in relative terms, the tax benefits of commercial and industrial properties decline each year.



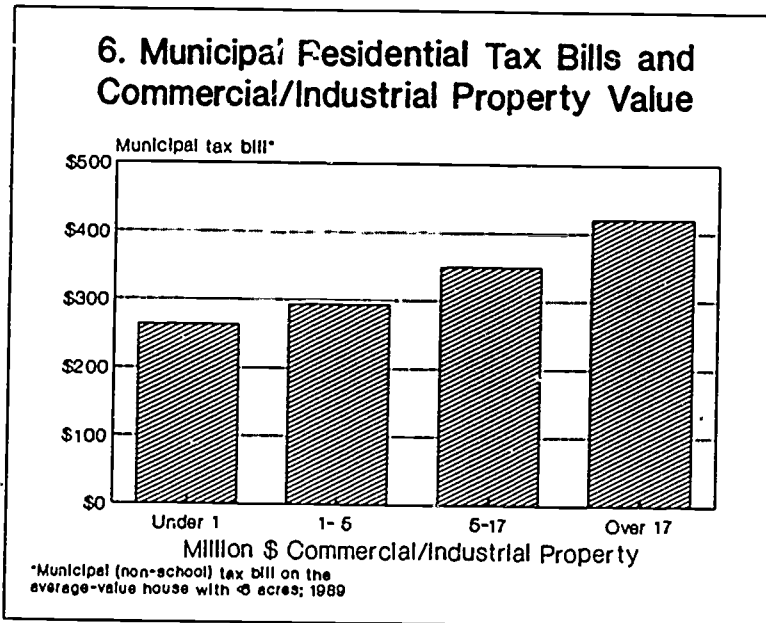
The most important reason, however, is that commercial and industrial developments tend to spur growth. They create jobs and, in many cases, people move in to fill at least some of those jobs. It is the combination of the new residents and the job-generating development itself which drives the tax bills up. Finally, as towns become more populated, voters often ask their

municipal government to provide more services such as sidewalks, police, town managers, etc. (However the big-money items commonly associated with population centers in Vermont -- sewers and water systems -- are not paid for through the property tax and are not a factor in explaining the higher tax bills in larger towns.)

I.B.M.'s presence in Essex Junction has been an object of municipal jealousy. Yet the average residence in Essex Junction pays quite a high tax bill for municipal services in the state (\$412 for services in 1989 vs. a statewide average of \$328).

"We're certainly blessed to have I.B.M. here," said William Dugan, Essex Junction village manager, "but we have a lot of costs to go along with it." He listed the following costs and problems local residents have to accept along with commercial and industrial development: additional traffic; a change in the character of the community; additional costs for water, sewer, roads and drainage; hazardous chemicals and other pollutants.

Some municipal budget items are influenced by economies of scale, and the per capita costs actually decrease as the town grows. According to census data, the per capita cost of highways decreases as town population increases. However, most other per capita expenses increase and new services are added to the budget. For example, consider police. Most small towns don't have local police forces at all, while all the largest towns do. Among those towns which have police forces, the more commercial development in town, the higher the police budget and the higher the taxes needed to fund it.



Although the general pattern is that municipal (non-school) tax bills are higher in towns with larger populations (Figure 5) and with more commercial and industrial development (Figure 6), there is a great deal of variation. These developments would be most likely to have a positive effect if the town has already invested in the infrastructure needed to

accommodate the development, and if the development is not likely to cause residential growth.

Higher Tax Bills, Higher Income?

Many people have argued that high tax bills may reflect success. The income of the voters is high enough that they choose to have many extra services and public facilities such as hockey rinks, swimming pools and a new town office. An examination of the fifty towns in which the average residential tax bill is the highest shows this may be true in some cases, but not all. In some of the towns at the top of the list, such as Charlotte and Shelburne, residents have high incomes as well as high tax bills, indicating they are willing and able to tax themselves. But the list of high tax towns also includes towns where the average income is not high: Brattleboro, Winooski, Burlington, Bennington, Fairfield, St. Albans, Barre, and Springfield.

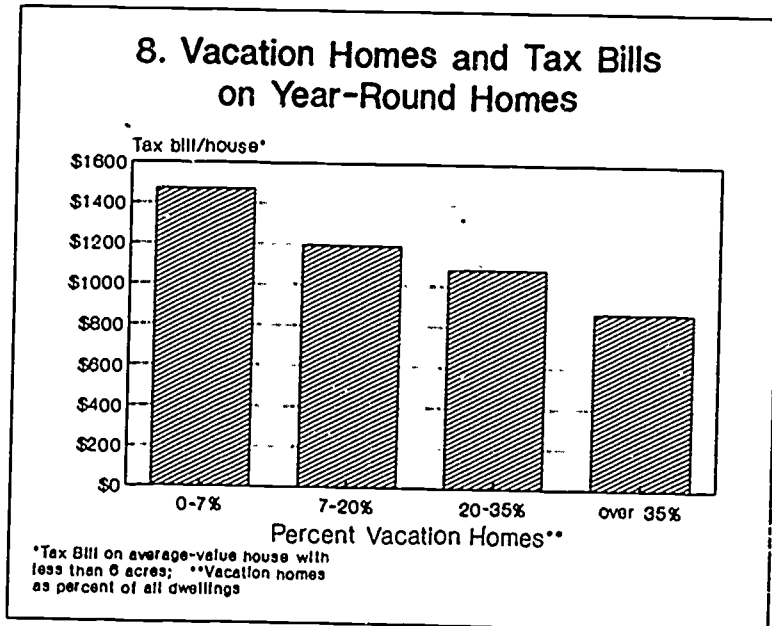
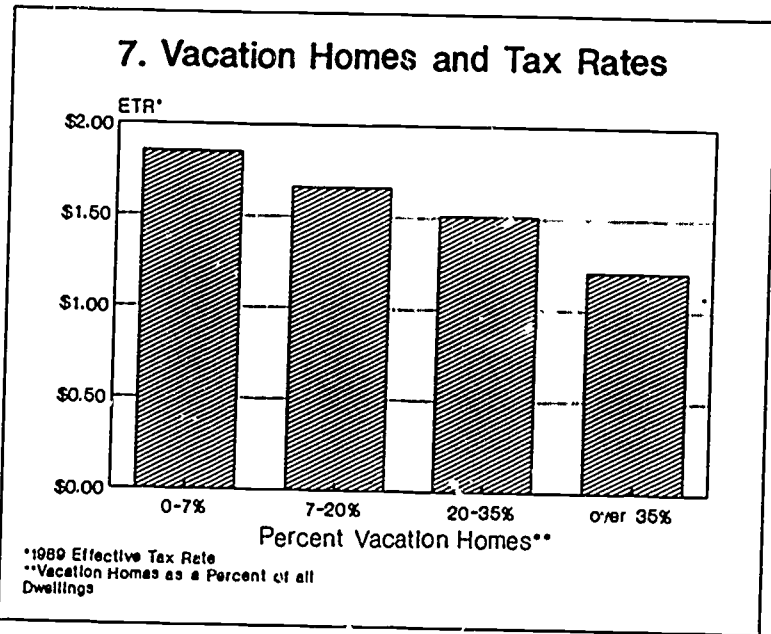
This comes as no surprise to many residents and officials of the more urban areas in Vermont. While the foundation formula seeks to equalize the disparity in school tax rates by distributing education aid to towns which would have to have high school tax rates, there is no consideration of the municipal tax burden. As

a result, even after the equalizing of the foundation formula, the total tax bill (combining the school tax and the municipal tax) on the average residence tends to be highest in the most heavily populated areas.

Vacation Homes

Vacation homes break all the rules. In general, towns with a large percentage of their Grand List in the "vacation" category have the lowest tax rates (Figure 7). Even though the road commissioner may grumble about the flatlanders who demand the ruts be removed from the roads in mud season, vacation homes generally pay more in taxes than they require in the way of town services. In the 50 towns with the highest ratio of vacation homes to year-round homes, the average tax bill on a house is \$870 -- about two-thirds of the state average. (Figure 8).

Most of the towns which have a high proportion of vacation homes do not receive foundation aid because they can raise all their school taxes with a relatively low tax rate. These towns will see the full benefit of the taxes of each additional vacation home. For example, in one of these towns with a tax rate of \$1.25, a \$200,000 vacation home would bring in \$2,500 in taxes.



While vacation homes seem like the perfect development, there are some drawbacks to recognize. First, vacation homes will not bring the same tax benefits to all towns. In towns which are on the formula, there would be little benefit to a new development of vacation homes. In general, the school taxes which the vacation home paid would be offset by a loss in state aid. If, for example, a vacation home paid \$2,500 in taxes to a formula town, the town would lose about \$1,750 in state aid.

Second, vacation homes tend to raise the value of property in town. These higher values mean, to the formula at least, that the town is "richer" and needs less state aid. To compensate for the loss in state aid due to rising land values, the tax bills will increase.

Finally, the town's profit could be affected if the state were to adopt one of the many proposals to levy a state tax on second homes. Some of the proposals call for a state tax in addition to the local tax, so the local tax collections would not be affected. Others, however, call for the school tax on second homes to be collected by the state -- not the town -- and redistributed to all towns through the foundation formula.

Final Word

If there is a general rule, it is that many common assumptions about the impact of developments on taxes may be wrong. While it is impossible to calculate future tax rates exactly, the workbook is designed to help people analyze the fiscal situation in their town and compare the likely tax consequences of various land use options.

The workbook contains step-by-step explanations, detailed tables of data, and worksheets to help you estimate changes in capital and operating costs and changes in the tax rate.

Copies of the workbook are available from:

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THE TAX BASE AND THE TAX BILL
The Tax Implications of Development:
A Workbook

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THE TAX BASE AND THE TAX BILL
Tax Implications of Development:
A Workbook

1.0 HOW TO USE THIS WORKBOOK

1.1 Scope

This workbook was prepared to help public officials and citizens in Vermont project the direct costs and revenues associated with proposed developments in their towns and estimate the effect on the tax rate. It should be used for rough estimates for planning purposes, rather than for detailed or exact fiscal analysis.

The workbook will give a reasonable estimate of a new tax rate rather than a precise answer. We recommend preparing several estimates by varying the assumptions -- such as the number of children per house, or the costs of facilities and services -- so that you calculate a range of possible tax rates.

Only direct costs and revenues are covered. Direct costs include governmental expenditures caused by a proposed development and not those used by other connected developments. Indirect costs -- such as changes in adjacent property values, adjacent land uses, employment, income -- are important to consider but almost impossible to predict accurately. For the most part, they are not covered in this workbook.

Many towns have capital plans which will help them anticipate the capital facilities which will be needed when certain types of growth occur. Although the workbook would be most useful in towns which already have these plans, the information and methodology also may help other towns begin their capital planning.

This workbook focuses on the property tax. Some towns will pay for certain facilities through user fees or through impact fees. These will not be covered in this workbook.

1.2 How the Property Tax Works

The property tax basically works like this: The town's budget is divided among all property owners in town in proportion to the value of their taxable property.

The town appraises all taxable property and compiles a list, called the Grand List, which actually includes one percent of the value of each parcel. The total Grand List, then, represents one percent of the value of all taxable property in town.

The voters decide on the budget. Town officials then divide the budget by the Grand List to calculate a tax rate. The tax rate is used to calculate each property owner's tax bill.

Example: Calculating the tax rate in a town with a Grand List of \$400,000 and a budget of \$500,000. Assumes no other revenue than property taxes.

Town Budget: \$500,000
Total value of taxable property in town: \$40,000,000
Grand List: \$400,000 ($\$40,000,000 / 100$)
Tax Rate: \$1.25 ($\$500,000 / \$400,000$)
Tax Bill on \$100,000 house: \$1,250 ($\$1,000 \times \1.25)

Development, growth, zoning, and conservation purchases can affect both the budget needed to run the town, and the value of the property which will pay for the budget. Without considering federal and state aid or hidden costs, if something increased the Grand List without increasing the budget, the tax rate would go down and tax bills would be lower. If, on the other hand, the budget increased but the Grand List did not, the tax rate and tax bills would go up.

Most changes in a town will affect both parts of the equation: the budget and the Grand List. It is important to estimate the net result.

Example: A development worth \$10 million, which would need \$10,000 worth of municipal services moves into town:

New Town Budget: $\$500,000 + \$10,000 = \$510,000$
New Grand List: $\$400,000 + \$100,000 = \$500,000$
New Tax Rate: \$1.02, down 18%
New Tax Bill on \$100,000 house: \$1,020, down \$230

This picture is considerably different in towns which receive state aid to education. Part of the budget is shared between the town and the state, and gains or losses caused by development are often offset by gains or losses in state aid.

This simple analysis is complicated further by differences in assessment levels. Because towns don't reappraise each year, the values in the Grand List will not keep up with inflation, and the changes in the tax rate may appear exaggerated and uneven.

In this workbook, to get a true picture of what is happening, all values will be fair market value. The state's figures for the Equalized Grand List (adjusted to 100 percent of fair market value) and the effective tax rate (calculated by dividing the budget by the Equalized Grand List) will be used. These figures are published annually by the Department of Property Valuation and Review.

When you are looking at the effect a development would have on your town's tax rate, it is important to compare the present effective tax rate (budget divided by Equalized Grand List) with the effective tax rate calculated in these worksheets.

There are two basic components of the tax rate: the school rate and the municipal rate. On the average, school taxes comprise about two thirds of the total, although municipal taxes become more and more important as towns grow.

Each of these components has two parts: operating costs, and capital expenditures. To evaluate the effect of growth and development, this workbook will consider each component separately.

The first step is to estimate the new budget for each of the four components. The second step is to calculate a new equalized Grand List, and to divide it into the budgets to come up with a tax rate.

1.3 The Worksheets and Data Tables

Seven worksheets were designed to help you estimate the effects of proposed land use changes on your local budgets and tax rates. Blank worksheets are included in the text; examples of completed worksheets are available upon request.

SUMMARY OF WORKSHEETS

- 1: Estimating Change in School Operating Budgets
 - 2: Estimating Minimum Aid
 - 3: Estimating Supplemental Aid for Above Average Expenditures
 - 4: Estimating School Capital Budgets
 - 5: Estimating Municipal Operating Budgets
 - 6: Estimating Municipal Capital Budgets
 - 7: Estimating the New Effective Tax Rates
 - 8: Estimating When the Town Will Be Off the Formula
-

1.4 About the Numbers

Many proposed developments will be phased in over several years, thus spreading the costs over time. This workbook is designed to help you tally the direct costs and revenues that would result as if the development were fully completed and operating today.

This approach assumes the relationship between costs and revenues will not change much over time since both will rise at approximately the same rate due to the effects of inflation.

To compare costs and revenues from different years, you must convert them to a constant base year to neutralize the effects of

2.0 ESTIMATING SCHOOL BUDGETS

2.1 Overview

Schools are the biggest budget items, making up about two-thirds of the property tax in most towns -- even after state aid has been subtracted. On average, state funds cover one third of the local school expenses. Because of this, it is important to estimate total school costs, to estimate the state aid, and then to calculate the amount that will be raised by property taxpayers in town.

This must be done separately for operating costs and capital costs. Before beginning, gather information from your town's latest budget about actual school costs, and separate these into operating costs and capital costs.

2.2 Estimating School Operating Budgets

Here are the steps for estimating the change in school operating budgets caused by new developments. Worksheets for you to use and completed examples accompany this explanation.

RECOMMENDATION

Before you complete Worksheet 1, see Table B to determine if your town is on the formula now and will be after the development you are analysing.

If your town is on the formula now, and will be on the formula after the development, it is reasonable to skip Worksheet 1 and assume the operating portion of your school tax rate will not change. Look up your present school operating tax rate (Table C) and write it in on Worksheet 7, Line 6.

If your town will not be on the formula after the development, you will not receive Foundation Aid but you may be eligible for Minimum Aid. Use Worksheet 2 to see if you will receive Minimum Aid. If so, begin Section C of Worksheet 1 at Line 18 (Minimum Aid). If you will not receive either Foundation Aid or Minimum Aid, skip Section C of Worksheet 1 entirely.

The following sections correspond with steps A through D of Worksheet 1:

A. Estimate New Equalized Grand List

The new development will add value to your Grand List. Estimate the new value of the development and divide this by 100 to estimate the equalized listed value. Because this parcel was already paying taxes (before it was developed) you should also subtract its undeveloped value. Add the net amount to your Equalized Grand List (Table C).

B. Estimate New School Operating Budget.

The best way to estimate the new operating budget is to calculate the cost of educating a student now and multiply this by the number of new students in the school after the development. Although the per student cost increases somewhat unevenly -- jumping when a grade needs a new teacher, for example -- the average cost is fairly uniform in the state over all sizes of schools.

For long-term planning, either the town's average cost or the state average cost would be the best numbers to use. From your school board or town annual report, look up the total budget and subtract capital expenditures. This will give you the current school operating budget. Divide this by the number of students, and you will have the current per pupil operating cost. Table C lists the estimated 1990 (FY91) operating cost per student in each town.

C. Estimate State Aid

In many towns, the state shares the cost of education with the town. In those towns, the school tax rate does not change significantly with development.

Here's why. The foundation formula was designed to ensure that each town was capable of raising enough money per child to provide an adequate education without overtaxing. The state determines the amount it costs to provide a basic education for one child. In 1990 it was \$3,575 per elementary student and \$4,469 per secondary student. The state then multiplies this by the number of school children in the town and comes up with "Foundation Need." If your town spent the average amount, the state's calculation of Foundation Need should be the same as your calculation in step B.

The state also determines an average school tax rate -- \$1.085 in 1990. It then calculates the amount the town should be able to raise for education by multiplying \$1.085 by the Equalized Grand List. This amount is called the "Foundation Levy." If that is not enough to cover the Foundation Need, the state chips in and pays the difference.

Example: A town with 100 elementary and 126 secondary students and \$50 million in taxable fair market value. (Grand List is 1 percent of this value, or \$500,000)

Foundation Need: 100 x \$3,575 = \$357,500
 126 x \$4,469 = \$563,094
 Total = \$920,594
Foundation Levy: \$500,000 x \$1.085 = \$542,500
Foundation Aid: \$920,594 - \$542,500 = \$378,094

Budget to be raised from property tax:
 \$920,594 - \$378,094 = \$542,500
School tax rate: \$468,000 / \$500,000 = \$1.085

Example: The same town with a new \$10 million commercial development which does not add school children:

Foundation Need: 100 x \$3,575 = \$357,500
 126 x \$4,469 = \$563,094
 Total = \$920,594
New Grand List: \$500,000 + \$100,000 = \$600,000
Foundation Levy: \$600,000 x \$1.085 = \$651,000
Foundation Aid: \$920,594 - \$651,000 = \$269,594 (down \$108,500)

Budget to be raised from property tax:
 \$920,594 - \$269,594 = \$651,000 (up \$108,500)
School tax rate: \$651,000 / \$600,000 = \$1.085 (no change)

The examples above were simplified and there are many factors which would make the results slightly different in each town.

THE BASIC RULE

For towns that will remain on the formula there will be little, if any, change in the operating portion of the school tax rate from development. For long range planning, we recommend assuming the effects of a development on the operating portion of the town's school tax rate will be minimal, as long as the town remains on the formula.

The state also pays a small amount of Supplemental Aid for towns which spend more per student than the state average. If your town consistently spends more than the average amount per student and you believe this will continue, you may want to calculate Supplemental Aid using Worksheet 3.

D. Estimate the Amount to be Raised from the Property Tax

Subtract the State Aid from the New Operating Budget.

WORKSHEET 1

ESTIMATING CHANGE IN SCHOOL OPERATING BUDGETS

A. Estimate New Equalized Grand List

Old Equalized Grand List (Table C)		_____	(1)
+ 1½ value of new development	+	_____	(2)
- 1½ value of the same parcel before	-	_____	(3)
= New Equalized Grand List	=	_____	(4)

B. Estimate New Budget

Per Pupil Cost (Table C)		_____	(5)
x Number of students after new development (See Table C for current # students, and Tables E.1 and E.2 for avg. pupils/home)	x	_____	(6)
= New Operating Budget	=	_____	(7)

C. Estimate New State Aid For Towns on the Formula

1. Foundation Need:

Number of students after the new development		_____	(8)
x Town's Per Pupil Weight (Table C)	x	_____	(9)
= Weighted Students		_____	(10)
x State's Foundation Cost	x	3575	(11)
= New Foundation Need		_____	(12)

2. Foundation Levy:

New Equalized Grand List (Line 4)		_____	(13)
x Town's Foundation Tax Rate (Table C)	x	_____	(14)
= New Foundation Levy		_____	(15)

3. State Aid:

New Foundation Need (Line 12)		_____	(16)
- New Foundation Levy (Line 15)	-	_____	(17)
= New Foundation Aid (or Minimum Aid)	=	_____	(18)

(If the amount calculated for Foundation Aid is less than \$150 per weighted student, the town may be eligible for Minimum Aid instead. Use Worksheet 2 to calculate this amount)

(+ Supplemental Aid for Operating Expenses optional calculation; see Worksheet 3)	(+ _____)	(19)
= Total State Aid for Operating Expenses	= _____	(20)

D. Estimate Amount to be Raised from the Property Tax

New School Operating Budget (Line 7)		_____	(21)
- State Aid for Operating Expenses (Line 20)	-	_____	(22)
= Amount to be raised from property taxes	=	_____	(23)

WORKSHEET 2

ESTIMATING MINIMUM AID

Only towns which receive less than \$150 per student in New Foundation Aid (Worksheet 1, Line 18) should fill this out.

A. Determine whether town is eligible for Minimum Aid

Foundation Need (Worksheet 1, Line 12)	_____	(1)
x 1.5	x _____	1.5 (2)
= 150% of Foundation Need	= _____	(3)
- Foundation Levy (Worksheet 1, Line 15)	- _____	(4)
= Minimum Eligibility Factor	= _____	(5)

(If the factor is negative, the town is not eligible for Minimum Aid. If the factor is greater than 0, the town is eligible for Minimum Aid; go to next section.)

B. Estimate Minimum Aid

Weighted Students (Worksheet 1, Line 10)	_____	(6)
x \$150 per Weighted Student	x _____	\$150 (7)
= Minimum Aid	= _____	(8)

(If this amount is greater than the amount calculated for Foundation Aid in Worksheet 1, write this amount on Line 18 of Worksheet 1. You will not get both Minimum Aid and Foundation Aid.)

WORKSHEET 3

ESTIMATING SUPPLEMENTAL AID FOR ABOVE AVERAGE EXPENDITURES

Some towns spend more per pupil than the state average. Supplemental Aid is available as a partial match for these above average expenses for instruction if the town is on the formula.

In general, we do not recommend calculating this aid as a part of long term planning for two reasons: the amount of aid is small, and town instructional spending tends to fluctuate in relation to the average, so that towns which receive aid one year may not the next.

However, if your town has made a conscious commitment to spend more than average and you expect this to continue, or if you would like to calculate a tax rate which compares exactly with the 1990 tax rate, you may want to fill this out.

A. Estimate Foundation Aid Ratio

Foundation Aid (Worksheet 1, Line 18)	_____	(1)
÷ Foundation Need (Worksheet 1, Line 12)	÷ _____	(2)
= Foundation Aid Ratio	= _____	(3)

B. Estimate Supplemental Spending

Number of students after the development	_____	(4)
x State's calculation of Above Average Per Pupil Spending (Table C)	x _____	(5)
= Town total Supplemental Spending	= _____	(6)

C. Estimate Supplemental State Aid

Town Supplemental Spending (Line 6)	_____	(7)
x 0.5 (50% of Supplemental Spending is eligible for aid)	x _____ 0.5	(8)
= Supplemental Spending eligible for aid	= _____	(9)
x Foundation Aid Ratio (Line 3)	x _____	(10)
= Supplemental Operating Aid	= _____	(11)

(This figure should be entered on Worksheet 1, Line 19)

2.3 Estimating School Capital Budgets

The best way to figure out whether you will need a new school or a school addition if a certain development were to come in is to talk with school officials. If the new development does not require a capital expenditure, but the town is already paying for a building or addition, its still important to complete Worksheet 4. The new development will spread the capital cost over more people; it will also change the state's reimbursement.

If the development will require a school addition, a new school, or remodeling, here is some information for making a rough estimate of the cost using average figures distributed by the Vermont Department of Education in 1989.

First, approximate the size of school facilities you will need. If your town knows exactly the size of the addition it will need, use that figure. Otherwise, use the following standards which include classroom space plus other rooms:

Elementary: 91 S.F. (square feet) per student
Middle School: 116 S.F. per student
High School: 153 S.F. per student

Estimate the construction, site work, and waste treatment costs (Tables G.1 and G.2) based on the square foot estimate, unless you have specific information. Note that smaller buildings and special education facilities cost more, and adjust accordingly.

Example: A community needs a new elementary school (K-6) that will accommodate another 210 students. They would like 50[^] square feet of the total to be for special education.

210 pupils	x 91 S.F./pupil=	19,110 S.F. total
500 S.F.	x \$72.05/S.F.	= \$ 36,025 for special education
18,610 S.F.	x \$65.50/S.F.	= \$1,218,955 for general facilities
19,110 S.F.	x \$ 7.00/S.F.	= \$ 133,770 for site work
19,110 S.F.	x \$ 2.50/S.F.	= \$ 47,775 for waste treatment
		<u>\$1,436,525</u> TOTAL COST

All towns can receive state capital construction aid equal to 30% of the total eligible construction cost. If you want detailed information about what costs and what types of facilities are eligible, refer to Capital Outlay Financing, published by the Department of Education. For rough estimates, we recommend adding 10% to the Annual Eligible Capital Payment in Worksheet 4 to cover ineligible costs and furnishings.

Towns which receive Foundation Aid (Worksheet 1, Line 18) are also eligible for state aid to reduce their annual capital debt payments. Use Worksheet 4 to estimate the state aid and the town's annual payments for school capital construction.

WORKSHEET 4

ESTIMATING SCHOOL CAPITAL BUDGETS

A. Estimate Annual Payments for New Capital Construction

New School Capital Construction Cost	_____	(1)
x 70% (state pays 30%; town pays 70%)	x _____	0.7 (2)
= Town's share of eligible capital cost	= _____	(3)
x Factor to calculate annual payment (assumes 8% interest for 20 years)	x _____	0.102 (4) 1/
= Payment/year on new eligible construction	= _____	(5)
+ Eligible Capital Payment on Existing Debt (Table C)	+ _____	(6)
= Total Annual Eligible Capital Payment	= _____	(7)

B. Estimate State Aid for Indebtedness

Foundation Aid (Worksheet 1, Line 18)	_____	(8)
÷ Foundation Need (Worksheet 1, Line 12)	÷ _____	(9)
= Foundation Aid Ratio	= _____	(10)
x Annual Eligible Capital Payment (Line 7)	x _____	(11)
= State Aid for Indebtedness	= _____	(12)

C. Estimate Amount to be Raised by the Property Tax

Annual Eligible Capital Payment (Line 7)	_____	(13)
(x 1.1 to Cover Ineligible Costs; Optional)	(x _____	1.1 (14) 2/
= Total Annual Capital Payment	= _____	(15)
- State Aid for Indebtedness (Line 12)	- _____	(16)
= Capital Budget to be Raised from Taxes	= _____	(17)

NOTE: 1/ Table D.2 displays factors for other rates and terms.

2/ We recommend adding an amount equal to 10% of the Total Annual Eligible Capital Payment to account for additional capital costs which do not meet the state's eligibility requirements. This is optional.

3.0 ESTIMATING MUNICIPAL BUDGETS

3.1 Overview

New developments often place demands on municipal services such as roads, water systems, wastewater treatment, police and fire protection, recreation, and general administration. Some of these services are paid for through the property tax; others are funded through user fees. This section of the workbook will give you a framework for estimating the additional municipal costs and help you calculate the effect of the new development on the municipal portion of the tax rate. It will not cover calculating user fees or impact fees.

Before beginning, look at your town's most recent budget and separate each department (fire, water, police, general administration, etc.) into two categories: operating costs and capital costs.

3.2 Estimating Municipal Operating Budgets

The most commonly used method of estimating a new operating budget is to look at the average per capita cost now, assume the relationship will continue, and multiply it by the anticipated population. For example, if a town presently spends \$5 per capita for recreation and a new development will bring 500 more people then the increased cost of recreation would be \$2,500 using a per capita approach.

The cost of the recreation program and general administration can be reasonably estimated on this per capita basis. Other operating budgets, such as fire protection and police protection, may depend more on the value of the property in town than on the population. We found that in Vermont, the cost of the police operating budget is more closely correlated with the equalized value of commercial property than with population. This makes sense: a town needs police and fire protection for its nonresidential development as well as for its population.

Road costs depend on the number of miles as well as the average daily traffic and the type of traffic. Heavy vehicles do substantially more damage to the roads than cars do. State aid for highways depends on the number of miles of Class I - III roads.

Water and wastewater costs are generally funded through user fees rather than the property tax. The costs are usually estimated on a gallons-per-day basis. (See Tables I.1 - I.2 to estimate water usage of developments.)

Calculating Average Unit Costs for Your Town

To calculate your town's average unit costs add up each municipal service's total annual operating costs and divide by the total units that were serviced. To estimate the increases in operating costs that would result from a proposed development multiply the average unit costs by the development's projected demands for those units. Worksheet 5 will help you organize the results.

This average costing approach assumes that present levels of government service are desirable, that present expenses reflect the long-term average costs of providing those service levels, and that the new development will not require different or proportionately greater levels of service than what is presently provided. Often these are reasonable assumptions, but not always. You may want to use other information.

For example, if a one-person-police-department town needed to double its police force to cope with a new development, the operating budget would nearly double even though the population would increase only slightly. In this case, the average costing approach would underestimate the real cost. The development which necessitated the increase in police force, however, is probably only "the straw that broke the camel's back." After the new police officer is added, the department's budget may not increase noticeably again for many years even though the town's population is increasing. Analyzing each department separately to figure out the marginal cost of an individual development may be helpful. However, for long-range planning, the average costing approach is valid and avoids the problem of attributing the total cost of a "jump" in the budget to one development.

In some cases, one year's budget will not be an adequate basis for calculating average unit costs because of some unusual expenditure or revenue. It may be appropriate to talk with department heads and to look at records from several years, adjusted to 1989 dollars (Table D.1), to smooth out the lumps and get an accurate picture.

You may also find your town has been getting by with programs which will definitely not be adequate for a larger town. For example, it may be necessary to open the library every day, run an organized recreation program, or hire staff people to take over jobs previously done by volunteers. In these situations, using the average per capita cost would underestimate the necessary expenses and you should estimate the operating budget by comparing your situation with that of other towns.

Using Average Unit Costs from Other Towns

The average unit costs of providing various municipal services in other towns are contained in Tables E and F. The information has been gathered from national, regional and state sources, and organized by size of municipality.

Most per capita costs swell as the town grows. Vermont data as well as data from the Northeast as a whole show the per capita costs of recreation, police, fire, and general government increase as population increases. This is due to many factors: the need for more sophisticated infrastructure to handle more people, greater demand for public services, higher wages, and the demand for new public services where private or volunteer services used to suffice.

Because these were produced by averaging the budgets of many widely differing municipalities, the results are unlikely to mirror your town's present situation. For the same reason, they may provide more accurate long-term average costs than a few years of local budget data. If you use these tables, pick the data that best seem to fit your town and apply them cautiously.

Sources of information and notes on how to interpret and use the data are found at the bottom of each table. More detailed and complete information can be obtained by consulting the source document or the Sources of Information (pages 20-21).

WORKSHEET 5

ESTIMATING MUNICIPAL OPERATING BUDGETS

(Administration)

Current Total Cost _____
 ÷ Current # of Units ÷ _____
 = Average Cost/Unit = _____
 x Estimated # of Units x _____
 = Estimated Total Cost = _____
 - Non-Prop Tax Revenues - _____
 = Property Taxes Needed = _____

(Parks and Recreation)

Current Total Cost _____
 ÷ Current Population ÷ _____
 = Average Cost/Person = _____
 x Estimated # People x _____
 = Estimated Total Cost = _____
 - Non-Prop. Tax Revenues - _____
 = Property Taxes Needed = _____

(Police Protection)

Current Total Cost _____
 ÷ Current # of Units ÷ _____
 = Average Cost/Unit = _____
 x Estimated # of Units x _____
 = Estimated Total Cost = _____
 - Non-Prop Tax Revenues - _____
 = Property Taxes Needed = _____

(_____) 1/

Current Total Cost _____
 ÷ Current # of Units ÷ _____
 = Average Cost/Unit = _____
 x Estimated # of Units x _____
 = Estimated Total Cost = _____
 - Non-Prop. Tax Revenues - _____
 = Property Taxes Needed = _____

(Fire Protection)

Current Total Cost _____
 ÷ Current # of Units ÷ _____
 = Average Cost/Unit = _____
 x Estimated # of Units x _____
 = Estimated Total Cost = _____
 - Non-Prop Tax Revenues - _____
 = Property Taxes Needed = _____

(_____) 1/

Current Total Cost _____
 ÷ Current # of Units ÷ _____
 = Average Cost/Unit = _____
 x Estimated # of Units x _____
 = Estimated Total Cost = _____
 - Non-Prop. Tax Revenues - _____
 = Property Taxes Needed = _____

(Class _____ Roads) 3/

Current Total Cost _____
 ÷ Current Total Miles ÷ _____
 = Average Cost/Mile = _____
 x ADT Weight 4/ x _____
 x # of Affected Miles 5/ x _____
 = Cost of Affected Roads = (_____)

(Other Municipal Services) 2/

Property Taxes Needed _____

(All Other Roads) 6/

- Non-Prop. Tax Revenues - _____
 = Property Taxes Needed = _____

of Unaffected Miles _____
 x Average Cost/Mile x _____
 = Cost of Unaffected Rds = (_____)

TOTAL TO BE RAISED
 FROM PROPERTY TAX _____

Estimated Total Cost _____
 - Non-Prop Tax Revenues - _____
 = Property Taxes Needed = _____

- 1/ Fill out for other municipal services.
- 2/ If needed, estimate costs of other services separately and total.
- 3/ Fill this out only for the affected class of roads.
- 4/ ADT Weight = Calculate a factor of Projected ADT/Existing ADT weight; see page 40.
- 5/ Affected Miles = New Miles or Mileage with increased traffic
- 6/ Fill this out for all other road classes in town.

3.3 Estimating Municipal Capital Budgets

3.3 Estimating Municipal Capital Budgets

A town frequently discovers a development adds just enough traffic or people to require a new piece of equipment, a new facility, a new road intersection, or a new building.

Often, the new development which triggers the capital investment is only "the straw which breaks the camel's back," and the total cost of the new facility should not be attributed to that development. Until new users move into town, however, present residents must pay the annual debt service. When new users arrive they will share the annual debt service payment and will bring the unit costs down until the excess capacity is used up and another facility is required. Unless a special system of user charges, impact fees, and carefully designed long-term bonding is created, present taxpayers end up paying for benefits that will accrue to future residents.

Worksheet 6 and tables in the appendix of this workbook will help you make ballpark estimates of some common capital investments, but actual costs may vary widely from those estimates due to differences in local conditions and final design. Nevertheless, rough estimates are helpful when gauging a development's impacts, analyzing alternative growth scenarios, or doing long-range capital planning and budgeting.

A. Estimate the Need for a New Facility

Ask the local experts in charge of each facility to tell you the capacity of the facility, the present operating level, and the amount of capacity that is obligated but not yet used. Estimate the additional demand from the proposed development by talking with your local experts or by using the tables in this workbook.

B. Estimate the Cost of the New Facility

If little or no surplus capacity remains, estimate the size of the additional facility you will need to build or purchase by talking with your local experts, and referring to the general service standards (tables by topic) and to your capital plan. New public facilities are usually built with more capacity than is needed to satisfy present demand, in anticipation of future growth. Although the total capital investment is greater for larger facilities, the unit costs are often lower making the purchase of some excess capacity a smart investment.

After you have determined the size of the facility, you need to estimate the cost. Although there are tables in the appendices for coming up with a rough estimate, it would be helpful to make your own estimates by talking with people in neighboring towns or with local experts or state officials. The tables in this workbook are based on national, regional and state averages for facilities of various size and type. To estimate capital cost, the total size or capacity of the needed facility is multiplied

times the average unit costs (tables by topic). Remember to adjust historic costs to a current base year (Table D.1).

C. Calculate the Annual Payments

To calculate the annual payments, you first must subtract any non-property tax revenues which can be used to pay for the facility's construction. These may include federal, state or local capital funds.

The town will probably need to bond to pay for the remaining costs of the facility. Worksheet 6 assumes financing for 20 years at 8% interest, but you can calculate alternate arrangements using Table D.2.

Some or all of the annual payments may be covered by impact fees or user fees. Subtract the amount collected annually from these fees to determine the amount to be paid for through the property tax.

WORKSHEET 6

ESTIMATING MUNICIPAL CAPITAL BUDGETS

Department: _____ Facility: _____

A. Estimate the Need for a New Facility

Designed Operating Capacity, or Service Standard, of Existing Facility	_____	(1)
- Current Operating Level	- _____	(2)
- Obligated Capacity	- _____	(3)
= Remaining Capacity	= _____	(4)
- Proposed Demand	- _____	(5)
= Surplus or (Deficit) Capacity	= _____	(6)

B. Estimate the Cost of the New Facility

Size of Facility Needed	_____	(7)
x Unit Cost	x _____	(8)
= Total Estimated Capital Cost	= _____	(9)

C. Calculate the Annual Payments

Total Estimated Capital Cost (Line 9)	_____	(10)
- Revenues for Construction	- _____	(11)
= Total Amount to be Borrowed	= _____	(12)
Annual Payment Factor (assumes 8% interest, 20 year term)	x 0.102	(13) 1/
= Annual Payment for New Facility	= _____	(14)
- Annual User Fees, Impact Fees, and Other Charges	- _____	(15)
= Balance to be Raised from Annual Property Tax	= _____	(16)
+ Annual Debt on Old Facility	+ _____	(17)
= Total Amount to be Paid for by Property Taxes Annually	= _____	(18)

1/ Table D.2 contains factors for other interest rates and terms.

4.0 CALCULATING THE NEW TAX RATE

4.1 The Final Step

Here's the final step. The tax rate is calculated by dividing the amount to be raised from the property tax by the Grand List. Worksheet 7 will help you do this.

A. Projected School Tax Rate

Add the bottom lines from Worksheets 1 and 4. This will give you the projected total school budget which would be raised from the property tax. Divide this by the New Equalized Grand List (Worksheet 1, Line 4) to determine the projected school tax rate.

B. Projected Municipal Tax Rate

Add the bottom lines from Worksheets 5 and 6. This will give you the total municipal budget which must be raised from the property tax to pay for the proposed land use change. Divide this by the New Equalized Grand List to come up with the projected municipal tax rate.

C. Estimating the Tax Bill

Performing the following calculations will give you an idea of what the new tax rate would mean to an owner of a \$100,000 home before and after a proposed development:

Before the development, the property tax bill would be calculated by adding the estimated effective school tax rate (Table C) to the present municipal tax rate and multiplying the sum by \$1,000.

After the development, the property tax bill would equal the projected total tax rate (Worksheet 7, Line 16) times \$1,000.

5.0 APPENDICES

5.1 Sources of Information

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Groups That Can Help

Regional Planning Commissions

Addison County.....	388-3141
Bennington County.....	375-2576
Chittenden County.....	658-3004
Franklin-Grand Isle.....	524-5958
Lamoille County.....	888-4548
Northeastern Vermont.....	748-5181
Rutland.....	775-0871
Southern Windsor County.....	674-9201
Two Rivers-Ottawaquechee.....	457-3188
Upper Valley-Lake Sunapee Council.....	448-1680
Windham County.....	257-4547

State of Vermont

Agency of Transportation

 Planning Division..... 828-2676

Dept. of Economic Development..... 828-3221

Dept. of Education, School

 Administrative Services Division..... 828-3154

 Statistics and Information..... 828-3151

Dept. of Environmental Conservation

 Public Facilities Division..... 244-8744

 Solid Waste Management Division..... 244-8702

 Water Quality Division..... 244-5638

Dept. of Housing and Community Affairs..... 828-3217

Dept. of Taxes

 Property Valuation and Review..... 241-3500

Office of Policy Research and Analysis..... 828-3326

University of Vermont

 Center for Rural Studies..... 656-3021

Vermont League Cities and Towns..... 229-9111

Vermont Local Roads Program..... 655-2000

Vermont Natural Resources Council..... 223-2328

DEVELOPMENT AND THE SCHOOL TAX RATE

Explanation of Tables A, B and C

TABLE A contains calculations showing the change each town might expect in its school tax rate if each of four possible scenarios were to materialize: (A) a \$1 million commercial development which had no workers and therefore added no children to the school system; (B) a \$1 million housing development which added 10 children to the school system; (C) a mobile home park valued at \$500,000 which added 10 children to the school system; (D) the donation of land to the town so that \$1 million is removed from the tax rolls. In each scenario, the assumption is that the development does not necessitate a school addition.

You will notice that towns "on the formula" see very little difference in the tax rate after each of these very different scenarios. This is because of the compensating effect of the state aid formula. In towns "off the formula," on the other hand, the difference can be quite large. Towns which do not receive state aid will see the full effect of an increase in the Grand List or an increase in the town's costs.

TABLE B shows where each town is on the formula. Citizens often ask if their town is on the formula and, if so, how much they need to add to their Grand List before they are off the formula and able to receive the full tax benefit of development. Column A shows the fair market value the town would need to add to its total in order to get off the formula -- assuming the number of school children does not increase. Towns which are not on the formula would show a negative number (enclosed in parentheses) in Column A.

If more children enter the schools, the calculation would change. The more school children in a formula town, the more Grand List needed to pay for education, and therefore the more fair market value needed to get off the formula. For each child added to the school, the amount in Column B must be added to the amount in Column A in determining the fair market value needed to get off the formula. Use Worksheet 8, below, to calculate this.

WORKSHEET 8. Estimating When the Town Will Be Off the Formula

Number of school children in the new development	_____
x Value in Column B of Table B	x _____
= Value needed to pay for new pupils	= _____
+ Value in Column A of Table B	+ _____
- Additional value of the new development	- _____
= Value needed to get off the formula	= _____

If this number is negative, the town will be off the formula.

TABLE C includes data for you to use if you would like to calculate the effect of other developments on the school tax rate using Worksheet 1 in the Workbook.

Background on the Numbers

The numbers used in these calculations are based on the most recent information available. FY 91 figures for state aid were used. The total amount of state aid available, the foundation rate and the foundation cost will change each year. To isolate the effects of a single development on the tax rate, it is assumed the 1989 Grand List will increase due to inflation only. Other new developments are not added in. The real estate inflation rate used is 5 percent.

The calculations of cost per student assume the cost reported by the Department of Education for school year 1989 will increase by 7 percent in school year 90. This figure was recommended by the Department as an overall inflation rate for school expenditures in its report to the Legislature.

The tax rate in Table C may look different from your school tax rate for several reasons: It has been adjusted by the state to reflect 100 percent of fair market value. It has been adjusted to reflect inflation. It does not include maximum loss provisions in the state aid formula because that would not be appropriate for long-term planning. It does not include special education costs. These adjustments are made to isolate the long-term effects of a development. What is important is to look at the relative changes between different scenarios. While it is impossible to exactly calculate future tax rates, these calculations are designed to give each town a better understanding of the relative fiscal benefits and costs.

The tables indicate two towns could find extremely different school tax consequences from the same development. The municipal tax rate is likely to vary too, depending on the capacity of the existing infrastructure, the services required for the development, and the services the voters choose.

If there is a general rule, it is that common assumptions about the impact of developments on taxes may be wrong. For towns on the formula, it may indicate the tax rate should be given less weight in land use decisions, and other considerations such as economic development, the need for affordable housing, and environmental considerations should be given more weight.

Note: Tables A, B and C are not included as a standard part of this workbook because separate tables have been prepared for each county. Please request the tables for your county from VLCT or VNRC if you did not receive them with the workbook.

We suggest you insert Tables A, B, and C here.

5.3 Supporting Information (Tables D.1 - J.4)

Table D.1 Factors for Converting Dollars to a Constant Base Year

Nominal Year	Base Year							
	1982	1983	1984	1985	1986	1987	1988	1989
1977	0.673	0.640	0.607	0.581	0.565	0.541	0.516	0.499
1978	0.722	0.687	0.652	0.623	0.606	0.581	0.554	0.535
1979	0.786	0.748	0.709	0.679	0.660	0.632	0.603	0.582
1980	0.857	0.815	0.773	0.740	0.720	0.689	0.657	0.635
1981	0.940	0.894	0.848	0.812	0.789	0.756	0.721	0.695
1982	1.000	0.951	0.903	0.864	0.840	0.805	0.767	0.741
1983	1.051	1.000	0.949	0.908	0.883	0.846	0.806	0.779
1984	1.108	1.054	1.000	0.957	0.930	0.891	0.850	0.821
1985	1.158	1.102	1.045	1.000	0.972	0.932	0.888	0.855
1986	1.191	1.133	1.075	1.028	1.000	0.958	0.913	0.882
1987	1.243	1.183	1.122	1.073	1.044	1.000	0.953	0.921
1988	1.304	1.241	1.177	1.126	1.095	1.049	1.000	0.966
1989	1.350	1.284	1.218	1.166	1.134	1.086	1.035	1.000

Source: U.S. Department of Commerce, Bureau of Economic Analysis, "Survey of Current Business", Fixed-Weighted Price Indexes for Gross National Product, State and local government purchases of goods and services (1979 to 1989).

Note: Dollar values should be converted to a constant base year to account for the effects of inflation. Choose the base year which best suits your needs and divide the actual revenue or expenditure by the factor corresponding to the nominal year and base year.

For example, to convert a cost of \$1,000 incurred in 1980 (nominal year) to a comparable cost in 1989 (base year) you would divide \$1,000 by 0.635 (= \$1,574.80).

The "Fixed-Weighted Price Index" is a weighted average of the detailed prices used in the deflation of the Gross National Product (GNP) while holding the composition of the GNP constant. The Bureau of Economic Analysis calculated this index using 1972 and 1982 as base years. The factors for base years 1983 to 1989 were derived from their calculations.

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Table D.2 Calculation of Capital Debt Payments by Rate and Term

Interest Rate (%)	Annual Payment Per \$1000 Borrowed		
	10 years	20 years	30 years
2 %	\$ 111.33	\$ 61.16	\$ 44.65
3 %	117.23	67.22	51.02
4 %	123.29	73.58	57.83
5 %	129.51	80.24	65.05
6 %	135.87	87.19	72.65
7 %	142.38	94.39	80.59
8 %	149.03	101.85	88.83
9 %	155.82	109.55	97.34
10 %	162.75	117.46	106.08
11 %	169.80	125.58	115.02
12 %	176.98	133.88	124.14
13 %	184.29	142.35	133.41
14 %	191.71	150.99	142.80
15 %	199.25	159.76	152.30

Note: To calculate the annual payment of principal and interest on a \$50,000 debt that must be repaid over 20 years at 8% interest you would multiply \$101.85 times 50 (payment equals \$5,066).

Table E.1 . Total Population and School Age Children Per Housing Unit
by Type of Unit and Number of Bedrooms - Vermont

Type of House	Bedrooms	Total People Per House	School Age Children Per House	Sample Size	Percent Rental Units
Single Family (Detached)	1	1.648	0.080	250	37.6%
	2	2.256	0.214	1138	16.3%
	3	3.057	0.672	2554	8.3%
	4	3.589	1.045	1211	8.8%
	5	3.805	1.183	481	11.6%
	All	3.011	0.677	5634	11.6%
Townhouses	* 1	1.417	0.083	12	91.7%
	* 2	1.941	0.177	34	55.9%
	* 3	2.914	0.457	69	42.9%
	All	2.284	0.277	115	39.1%
Mobile Homes	* 1	1.790	0.194	62	29.0%
	2	2.273	0.226	385	17.7%
	3	3.489	0.983	229	12.2%
	All	2.641	0.479	676	16.9%
Duplex	1	1.530	0.044	181	83.4%
	2	2.104	0.214	377	69.5%
	3	3.218	0.778	252	44.0%
	4	3.822	1.050	101	28.7%
	All	2.486	0.428	911	60.5%
Triplex and Quadplex	1	1.406	0.022	652	95.4%
	2	2.256	0.256	519	86.7%
	3	3.312	0.831	183	62.8%
	All	2.075	0.221	1354	87.7%

Source: U.S. Department of Commerce, Bureau of the Census,
U.S. Census of Population and Housing (Public Use Sample), 1980.

Note: Data is for Vermont only and was compiled for this project by
the Center for Rural Studies at the University of Vermont. Use
caution when using multipliers that are based on small sample sizes (*).

In 1987, the statewide average number of pupils per year-round
housing unit (regardless of type and size of unit) was 0.49
according to housing and enrollment estimates by Vermont Departments
of Health and Education.

The characteristics of a proposed residential development could vary
significantly from the norms represented by these numbers. In such
cases, be sure to vary your assumptions. (high or low) accordingly.

Table E.2 Total Population and School-Age Children Per Housing Unit
by Type of Unit and Number of Bedrooms - Northeast

Type of House	Bedrooms	Total People Per House	School Age Children Per House	Percent of School Age Children in Public School
Single Family	2	2.417	0.243	93.02
	3	3.345	0.793	90.72
	4	4.141	1.470	90.88
	5	4.853	2.052	89.29
	All	3.325	0.840	90.84
Garden Apartments	1	1.295	0.007	100.00
	2	2.142	0.203	91.39
	3	3.074	0.883	86.75
	All	1.768	0.155	92.01
Townhouses	1	1.491	0.053	100.00
	2	2.096	0.147	88.88
	3	3.000	0.676	93.00
	All	2.355	0.348	91.91
Mobile Homes	1	1.560	0.000	-
	2	2.127	0.167	94.21
	3	3.444	0.917	96.03
	All	2.505	0.398	95.80
Duplex, Triplex, and Quadplex	1	1.398	0.020	100.00
	2	2.326	0.288	87.50
	3	3.430	0.824	88.24
	All	2.350	0.356	86.72
Vacation	1	3.085	N/A	N/A
	2	3.039	N/A	N/A
	3	3.198	N/A	N/A
	4	3.244	N/A	N/A

Source: U.S. Department of Commerce, Bureau of the Census,
U.S. Census of Population and Housing (Public Use Sample), 1980.

Note: Data is drawn from the Northeastern states, including Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont. Table E.1 contains Vermont data only.

Table E.3 Per Capita Local Government Expenses by Town Size - VT

Municipal Function	Population of Vermont Town		
	5,000 - 9,999	2,500 - 4,999	Less than 2,500
Libraries	\$ 7.39	\$ 3.58	\$ 1.96
Health	3.97	2.75	1.67
Roads	83.08	94.78	171.32
Police	38.73	21.10	5.11
Fire	21.29	11.84	13.72
Parks/Rec.	10.57	5.87	2.07
Sewerage	46.07	15.11	11.77
Administration General	41.38	35.22	46.66

Source: U.S. Dept. Of Commerce, "1987 Census of Governments, Finances of Municipal and Township Governments", p. 155 (Preliminary Data).

Note: All values are expressed in 1987 dollars. Refer to Table D.1 if you wish to convert dollar values to a more current base year.

Table E.4 Local Government Employees by Size of Town - Vermont

Municipal Function	Municipal Population				
	Total	25,000- 49,999	10,000- 24,999	5,000- 9,999	Less than 5,000
	Full Time Equivalents Per 1,000 Population				
Roads	1.49	0.95	1.44	1.50	1.55
Police	1.22	2.49	2.18	1.60	0.69
Officers only	0.96	1.67	1.71	1.21	0.60
Fire	0.49	2.25	0.88	0.73	0.11
Firefighters	0.48	2.20	0.87	0.73	0.10
Parks & Rec	0.14	0.48	0.44	0.13	0.02
Sewerage	0.25	0.45	0.31	0.41	0.17
Water	0.25	0.90	0.51	0.39	0.06
Administration	0.94	0.53	0.96	1.06	0.95

Source: U.S. Department of Commerce, "1982 Census of Governments, Compendium of Public Employment" pp. 368-369 (1984).

Table E.5 Per Capita Local Government Expenses by Size of County - VT

Municipal Function	Population of Vermont County					
	Total	100,000+	50,000-99,999	25,000-49,999	10,000-24,999	Less than 10,000
Education	475.38	522.56	485.75	454.87	439.9	328.02
Libraries	3.99	5.86	3.85	3.91	1.43	2.29
Welfare	0.37	-	0.44	0.63	0.25	0.09
Health	3.11	2.48	3.42	3.91	1.68	1.74
Roads	83.57	55.42	85.83	92.29	107.49	82.10
Police	25.12	37.72	24.31	21.17	17.30	6.68
Fire	19.60	25.85	21.90	14.99	15.66	10.16
Parks/Rec.	7.98	10.27	9.01	7.72	2.97	0.92
Sewerage	31.49	15.47	24.76	42.11	54.76	10.62
Administration						
General	33.58	32.22	33.32	35.59	31.73	32.95
Buildings	3.19	5.90	2.12	2.12	1.27	1.01

Source: U.S. Dept. Of Commerce, "1982 Census of Governments, Compendium of Government Finances", pp. 310 - 311 (1984).

Table E.6 Per Capita Local Government Expenses By County - Vermont

County	Direct General Expenditures 1/					
	Roads	Police	Fire	Parks & Rec	Sewage	Administration
Addison	101.10	11.39	9.22	2.86	140.38	33.16
Bennington	78.75	24.65	10.65	9.63	13.41	35.60
Caledonia	94.35	16.62	16.08	5.11	16.86	31.69
Chittenden	55.42	37.72	25.85	10.27	15.47	38.13
Essex	74.92	5.86	11.88	1.11	15.37	36.38
Franklin	62.49	13.86	12.59	5.61	11.84	31.51
Grand Isle	91.91	7.80	7.80	0.65	4.12	30.57
Lamoille	112.72	27.85	21.53	3.94	30.24	30.41
Orange	106.82	6.20	16.01	1.63	5.28	32.68
Orleans	104.39	20.52	11.13	3.58	120.31	35.16
Rutland	70.73	21.01	21.77	10.69	17.94	32.26
Washington	81.06	20.25	16.80	6.82	22.10	34.31
Windham	124.14	35.88	24.99	13.70	35.96	53.73
Windsor	107.98	32.26	27.28	7.29	35.27	43.64
VERMONT	83.57	25.12	19.60	7.98	31.49	36.76

Source: U.S. Dept. Of Commerce, "1982 Census of Governments, Compendium of Government Finances", pp. 616-617 (1984).

Notes: All values are expressed in 1982 dollars. Refer to Table D if you wish to convert dollar values to a more current base year

1/ Not all municipal services are shown and only operating expenses are included.

Table E.7 Municipal Recreation Expenditures and Employees

Municipal Population	Per Capita Expenditure 1/ (Vermont)	Employees Per 1000 People 2/ (Northeast)	Employees Per 1000 People 3/ (Vermont)
less than 1,000	\$1.21	-	-
1,000 to 2,499	\$2.36	-	-
2,500 to 4,999	\$7.14	0.15 4/	0.02 4/
5,000 to 9,999	\$11.18	0.14	0.13
10,000 to 24,999	\$12.83	0.34	0.44
25,000 to 49,999	\$28.14	0.75	0.48
All	\$10.62	-	0.14

Source: 1/ 1988 Vermont Recreation Plan, Community Recreation Task Group Report, Appendix E, p. 52 (January 1989).

2/ Burchell, "Fiscal Impact Handbook", p. 73 (1978).

3/ U.S. Department of Commerce, "1982 Census of Governments, Compendium of Public Employment", pp. 368-369 (1984).

Notes: 4/ Figures are for populations less than 5,000.

These costs include only direct operating expenses for municipal recreation programs. They do not cover any capital expenditures for recreation acquisition or development. Some recreation costs are paid from user fees rather than property taxes.

The State of Maine recommends that towns with part-time recreation programs spend a minimum of \$6.00 per capita, and towns with full time recreation departments spend at least \$12.00 per capita. (ME Resource Sheet G-10a, 12/8/88).

"Suggested minimal recreation requirements", for towns of varying sizes, are described in the 1988 Vermont Recreation Plan, "Community Recreation Task Group Report, Appendix D". For this and other information on recreation facility standards contact the Vt. Dept. of Forests, Parks and Recreation in Waterbury, VT. (828-3375).

Table E.8 Library Facility Standards

Population	Library Space (sq. ft. per capita)	Seating (seats per 1000 residents)	Books (books per capita)
less than 10,000	1.00	9.0	4.0
10,000 to 30,000	0.75	5.0	2.2

Sources: Canter, "Impact of Growth", (1986). Lushington and Mills, "Libraries Designed for Users, A Planning Handbook". Deprosio, "Performance Measures for Libraries", (1973).

Note: The information in this table was derived from several sources and presented in a simplified format. Consult the listed sources if more precise information is needed.

Lushington and Mills recommend that 0.5 library employees provide services to every 1000 residents. The U.S. Census of Governments showed that towns smaller than 10,000 had .04 to 0.9 full-time equivalent employees per 1,000 residents, and larger towns had about 0.3.

Table F.1 Police Protection Costs by Size of Municipality - VT

Population	Sample Size (# Towns)	Officers Per Capita	Median Annual Salary	Annual Cost Per Capita	Annual Cost Per \$1000 AFMV 1/
20,000+	1	0.0024	\$ 23,359	\$ 85.32	\$ 1.99
15,000 - 19,999	3	0.0017	20,714	71.21	0.84
10,000 - 14,999	4	0.0018	20,625	73.28	0.99
6,000 - 9,999	3	0.0015	20,188	67.64	1.09
4,000 - 5,999	11	0.0010	19,125	42.03	0.67
2,000 - 3,999	14	0.0014	20,078	57.73	0.50
less than 2,000 2/	4	0.0028	19,999	109.39	0.25
Average	45 (Total)	0.0016	20,536	66.95	0.37

Source: Vermont Criminal Justice Center, "A Profile of Municipal Police Departments in Vermont", (March 1989).

Note: This data is based on survey responses from 45 of 46 municipal police departments in Vermont. The results are not recommended standards.

1/ Figures show annual police protection cost per \$1,000 of a town's total AFMV (Aggregate Fair Market Value).

2/ Seventy five percent of these are towns with ski areas. Per capita costs appear high since only the year-round residents are counted. The per capita costs would be lower if the seasonal residents, commuting workers and tourists were counted.

Some recommended standards for police facilities include:

Size of police station-

250 sq. ft./officer in municipalities 10,000 to 30,000 in size.

200 to 225 sq. ft./officer in towns less than 10,000.

Number of vehicles per 1,000 dwelling units-

1.0 in towns with populations of 10,000 to 30,000.

0.7 in towns with populations of 5,000 to 10,000.

0.5 in rural towns having populations of less than 5,000.

Canter, "Impacts of Growth", pp. 17-18 (1986).

Table F.2 Per Capita Expenses for Police and Fire Protection

Function	Population Size	Per Capita Expenditure (1987 \$)			
		Total	Personnel 1/	Capital 2/ Outlay	Other 3/
Police	100,000 - 249,999	98.51	82.28	2.66	13.57
	50,000 - 99,999	98.55	83.76	2.87	11.92
	25,000 - 49,999	90.36	73.31	3.67	13.39
	10,000 - 24,999	92.01	69.83	3.76	18.42
Fire	100,000 - 249,999	70.36	62.23	1.65	6.48
	50,000 - 99,999	71.46	62.94	2.01	6.51
	25,000 - 49,999	69.27	57.84	3.74	7.69
	10,000 - 24,999	58.14	48.78	2.82	6.54

Source: Hoetmer, G., "1988 Municipal Yearbook", ICMA (1988).

Notes: 1/ Personnel includes uniformed and civilian employees. Expenditures include salaries, social security, retirement, life and health benefits.

2/ Capital outlays include purchase and replacement of equipment, purchase of land and existing structures, and construction.

3/ All other expenditures such as fuel, supplies, and utilities.

All figures are national averages.

Table G.1 Estimating School Construction Costs

Type of Construction	Unit Costs (\$/S.F.) by Grades			
	K-6	K-8	Jr. High	Sr. High
New School 1/ (>10,000 S.F.)	\$65.50	\$68.50	\$73.50	\$77.00
School Addition 1/ (>10,000 S.F.)	\$68.78	\$71.93	\$77.18	\$80.85
Remodeling 1/	\$32.75	\$34.25	\$36.75	\$38.50
Conversion 1/	\$42.58	\$44.53	\$47.78	\$50.05
Site Work 2/	\$ 7.00	\$ 7.00	\$ 8.00	\$ 8.50
Wastewater System 3/	\$ 2.50	\$ 2.50	\$ 4.00	\$ 4.00

Source: Vt. Dept. of Education, Capital Outlay Financing, (1989).

Notes: 1/ Projects smaller than 10,000 S.F. (square foot) will cost up to 15 % more than the amounts in these columns. Use the figure beneath Table G.2 to determine a multiplier for smaller projects. Assume 10,000 S.F. is the typical size project.

Assume special education facilities will cost 10 % more than the amounts shown.

2/ Site work costs are per square foot of building and do not include wastewater treatment systems.

3/ Wastewater costs assume no municipal waste treatment facility is available.

Table G.2 Typical Costs for Public Buildings (\$/Square Foot) 1/

Building Type	Typical Size	Typical Range	Median Cost Per S.F. 2/	
	(Gross S.F.)	(Gross S.F.)	(U.S.A.)	(Vermont 3/)
Community Center	9,400	5,300 - 16,700	64.55	58.10
Fire Station	5,800	4,000 - 8,700	66.30	59.67
Garage, Municipal	8,300	4,500 - 12,600	47.25	42.53
Jail	13,700	7,500 - 28,000	119.00	107.10
Library	12,000	7,000 - 31,000	72.60	65.34
Police Station	10,500	4,000 - 19,000	92.30	83.07
Swimming Pool	13,000	7,800 - 22,000	68.00	61.20
Town Hall	10,800	4,800 - 23,400	66.50	59.85
Town Office	8,600	4,700 - 19,000	55.40	49.86

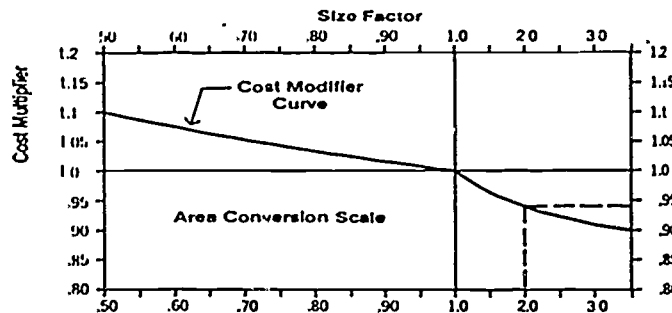
Source: R.S. Means Company, Inc., "Means Assemblies Cost Data 1988" pp. 476-495 (1988).

1/ Median square foot costs can be useful for making preliminary estimates when doing conceptual planning and budgeting. Costs include the contractor's overhead and profit, but do not include architectural fees, land costs or site work. Costs have been adjusted to 1988 dollars.

2/ These square foot costs are based on thousands of projects across the U.S.. Median costs indicate the point where 50% of the projects cost more, and 50% cost less.

3/ Vermont costs were derived by multiplying the U.S. costs by the Means City Cost Index (0.895) for Rutland, VT. Burlington's factor is 0.912. In order to make accurate estimates, the Vermont costs must be further adjusted by a project size modifier (below) since they represent the cost of a "typical size" building. In general, for two buildings built to the same specifications in the same locality, the larger building will have lower S.F. costs.

.....
Project Size Modifier



First, calculate the Size Factor for your project by dividing its area by the area of the "Typical Size" project. Then match your Size Factor with the appropriate Cost Multiplier by using the Cost Modifier Curve.

EXAMPLE: The S.F. cost of an 8,000 S.F. library could be estimated by dividing proposed size (8,000 S.F.) by typical size (12,000 S.F.) to get a Size Factor of 0.67. The corresponding Cost Multiplier is 1.06, so the adjusted S.F. cost would be 1.06 X \$65.34 = \$69.26.

Table H.1 Average Road Construction Costs (1988 \$)

Type of Construction	Construction Costs 1/
4 lane highway, new location	\$4,750,000/mile
2 lane highway, new location	\$1,750,000/mile
2 lane highway, minor relocation	\$2,000,000/mile
2 lane highway, existing location	\$1,250,000/mile
Resurface Town Road, gravel to paved	\$550,000/mile
Resurface Town Road, dirt to gravel 2/	\$350,000/mile
Bridges: 3/	
Without Approaches	\$150/sq. ft.
With Approaches	\$232/sq. ft.
Timber Bridges: 4/	
20 Foot Span	\$32/sq. ft.
60 Foot Span	\$50/sq. ft.
Urban Street:	
30 ft. curb to curb	\$1,500,000/mile
60 ft. curb to curb	\$4,000,000/mile

Source: Vermont Agency of Transportation and University of New Hampshire, Department of Civil Engineering.

Notes:

1/ Costs include drainage and mobilization, but not preliminary engineering, construction engineering or right-of-way acquisition.

2/ Typically this involves upgrading a Class IV road to Class III standards.

3/ Concrete slabs over steel support beams.

4/ These are costs for "modern" timber bridges made with laminated beams, and pressure treated wood. These costs reflect designs capable of supporting 55 ton loads.

Table H.2 Cost of Resurfacing and Reconstructing Local Roads

Action	\$/S.F.	Cost (1988 \$)		
		\$/Mile		
		16' wide	20' wide	24' wide
RESURFACE:				
1" gravel 1/	\$3.00 to \$6.00/cu.yd.	\$ 782 to \$ 1,564	\$ 978 to \$ 1,956	\$ 1,173 to \$ 2,346
< 1" asphalt	\$0.20 to \$0.40	\$16,896 to \$33,792	\$21,120 to \$42,240	\$25,344 to \$50,688
1"-2" asphalt	\$0.40 to \$0.60	\$33,792 to \$50,688	\$42,240 to \$63,360	\$50,688 to \$76,032
RECONSTRUCT:				
Repair Base/ Replace Surface	\$2.00 to \$3.00	\$168,960 to \$253,440	\$211,200 to \$316,800	\$253,440 to \$380,160
Replace Base/ Replace Surface	\$3.00 to \$4.00	\$253,440 to \$337,600	\$316,800 to \$422,400	\$380,160 to \$506,880

Source: University of New Hampshire, "Road Surface Management System (RSMS)", Appendix C, (1989).

Notes:

1/ Costs are for purchase of processed gravel which has been crushed and graded. The costs of labor and equipment needed to apply the gravel are not included.

No comparable cost data is available for Vermont's paved local roads, but several Vermont experts believe these costs are valid.

Cost for a "chip coat and seal" (used for preventive maintenance, and sealing cracks on low volume roads) is \$0.04 to \$0.08/S.F.. On a 20' wide road this translates to \$4,225 to \$8,450 per mile.

Developments which increase the amount of heavy-vehicle traffic are likely to increase road damage and accelerate the need for resurfacing. If resurfacing must be done more frequently the total public costs over time will increase even though the resurfacing costs per square foot remain unchanged.

Table H.3 Vehicle Trip Generation Rates for Selected Land Uses 1/

Land Use Category	Unit of Measure	Average Weekday Trip Ends Per Unit 2/
Residential Housing:		
Single Family Detached	Household	10.0
Apartment	Household	6.1
Condominium	Household	5.2
Mobile Home	Household	4.6
Planned Unit Development	Household	7.8
Retirement Community	Household	3.3
Commercial:		
Hotels	Room	10.5
Motels	Room	10.2
Office Buildings	Employee 1,000 S.F.	3.6 12.3
Shopping Centers:		
0- 49,999 S.F.	1,000 S.F.	117.9
50,000-100,000 S.F.	"	82.0
100,000-200,000 S.F.	"	66.7
200,000-300,000 S.F.	"	50.6
Super Markets	1,000 S.F.	125.5
Convenience Markets		
Open 12-16 hours	1,000 S.F.	322.6
Open 24 Hours	1,000 S.F.	625.2
Discount Stores	1,000 S.F.	70.1
Hardware/Paint	1,000 S.F.	51.3
Restaurants:		
Quality	1,000 S.F.	74.9
High Turnover, Sit-Down	1,000 S.F.	164.4
Drive-In	1,000 S.F.	553.0
Wholesale	1,000 S.F.	6.7
Auto Service Station	Pump	133.0
Industrial:		
General Light Industrial	Employee 1,000 S.F.	3.2 5.5
Manufacturing	Employee 1,000 S.F.	2.0 3.9
Warehousing	Employee 1,000 S.F.	3.9 4.9
Institutional:		
Elementary School	Student	1.0
High School	Student	1.4
Library	1,000 S.F.	41.8
Hospital	Bed	11.4
Medical Clinic	1,000 S.F.	23.8

Source: Institute of Transportation Engineers, "Trip Generation Manual". Third Edition (1983).

Notes: 1/ Trip generation rates for more specific land use classifications and other units of measure are available.

2/ Average 24-hour total of all vehicle trips to and from the sites from Monday through Friday. The "peak-hour" traffic would be much higher than these averages, and should also be considered.

Some Notes on the Effects of Traffic on Road Costs:

The increased traffic from a new development may trigger the need for road improvements. These could include widening, changing alignment, paving or repaving, improving the base, replacing narrow bridges, and adding lights or signals at intersections. The costs of these and other improvements can be high and will vary widely depending on the specific circumstances (Table H.1).

Even if no improvements are needed, traffic from a new development may shorten the time before resurfacing roads with gravel or asphalt is needed. Periodic resurfacing is costly (Table H.2) and constitutes the greatest portion of the annual road budget.

Gravel Roads

According to researchers at the University of New Hampshire, gravel roads lose approximately 1" of gravel per year if the average daily traffic is 100 vehicles. If the road is 20' wide this amounts to about 326 cubic yards of gravel lost per mile.

Paved Roads

In Vermont, pavement on a new, well constructed road should last 15 years before resurfacing is needed. The actual time before a road needs repaving will depend on the adequacy of the road's base and drainage, as well as the volume and weight of traffic. According to Vermont Transportation Agency officials, resurfacing should be done every 8 to 10 years on most Vermont roads.

Municipalities should insist developers build new roads to adequate standards before accepting the financial liability of maintaining them.

Development May Increase Road Damage

For all practical purposes, structural damage to roads is caused by heavy trucks and buses, not by light passenger vehicles. Road damage rises steeply as the size and number of heavy vehicles using the road increases.

The load per axle, not the total vehicle weight, determines the damage done to roads. As axle load increases the damage caused increases as the fourth power of the load. For example if the axle load doubled, the damage would increase sixteen fold.

Because of this relationship considerable road damage can be caused during the construction of a new development if trucks carrying heavy equipment, gravel and building materials will be used. If the new development will be serviced by heavy vehicles then the damage will continue even after initial construction. The financial costs of such damage should be considered when assessing the merits of a proposed development.

Table I.1 Typical Wastewater Flow Quantities

ESTABLISHMENT	GALLONS/PERSON/DAY (unless otherwise noted)
Assembly Areas, Conference Room	5
Airports (per passenger)	5
Bathhouses and Swimming Pools	5
Bowling Alley (no food service) per lane	75
Camps:	
Campground with central comfort stations (4 people/site)	140/site
With flush toilets, no showers (4 people/site)	100/site
Construction camps (semi-permanent)	50
Day camps (no meals served)	15
Resort Camps (night & day) with limited plumbing	50
Cafeterias	50/seat
Churches:	
Sanctuary seating x 25%	5
Church suppers	8
Cottages	50
Country Clubs (per resident member)	100
Country Clubs (per non-resident member present)	25
Dentists:	
Staff Member	35
Per Chair	200/chair
Doctor's Office:	
Staff Member	35
Patient	10
*Dwellings:	
Apartments (minimum 2 people/bedroom)	75
Boarding Houses	50
Addition for non-resident boarders	10
Multiple Dwellings (condominiums, townhouses, clustered housing) (minimum 2 people/bedroom)	75
Rooming Houses (per occupant bed space)	40
Single Family Dwellings (per bedroom)	150
Factories (gallons per person, per shift, exclusive of industrial waste)	15
Gyms:	
Participant	10
Spectator	3
Hairdressors:	
Operator	10
Per Chair	150/chair
**Hotels with Private Baths (per person sleeping space)	50
Institutions other than hospitals (per b:d)	125
Laundries, self-service (gallons per machine)	500
Mobile Home Parks (per space)	450
**Hotels with bath, toilet (per person sleeping space)	50
Picnic Parks (toilet wastes only/picnicker)	5
Restaurants (toilet and kitchen wastes/seat, including restaurant and bar seats)	30
Additional per seat for restaurant serving 3 meals per day	15
Restaurants (fast food - see cafeterias)	
Schools:	
Boarding	100
Day, without gyms, cafeterias, or showers	15
Day, with gyms, cafeterias, and showers	25
Day, with cafeteria, but without gyms or showers	20
Service Stations (first set of gas pumps)	500
(each set thereafter)	300
Sewer Line Infiltration (where applicable) 300 gal/in pipe dia/mile/day	
**Shopping Centers/Stores:	
Large Dry Goods	5 GPD/100 ft ²
Large Supermarkets with meat department without garbage grinder	7.5 GPD/100 ft ²
Large Supermarkets with meat department with garbage grinder	11 GPD/100 ft ²
Small Dry Goods Stores (in shopping centers)	100 GPD/store
Subdivision per lot (or 150 per bedroom, whichever is greater)	450
Theaters:	
Movie (per auditorium seat)	5
Drive-in (per car space)	5
Travel Trailer Parks without individual water & sewer hookups (per trailer space)	50
Travel Trailer Parks with individual water & sewer hookups (per car space)	100
Veterinary Clinic (3 or less doctors):	
without animal boarding	750/clinic
with animal boarding	1,500/clinic
Workers:	
Construction (at semi-permanent camps)	50
Day at schools and offices (per shift)	15

Source: Vermont Department of Environmental Conservation,
"Environmental Protection Rules and Related Statutes",
Appendix 7-A, pp. 74-75 (1982).

- * Elderly housing may be calculated at 1.5 people per bedroom.
- ** Does not include laundry or restaurant waste.

Table I.2 Commercial Water Use Estimates

Commercial Category	Unit of Measure	Mean Annual Usage (gal/day/unit of measure)
Apartments	Occupied units	217.000
Barber shops	Barber chairs	54.600
Beauty shops	Stations	269.000
Bowling Alleys	Alleys	133.000
Bus-Rail Depots	Square feet	3.330
Car washes	Inside Sq. Ft.	4.780
Churches	Members	0.138
College residences	Students	106.000
Golf-Swim Clubs	Members	22.200
Hospitals	Beds	346.000
Hotels	Square feet	0.256
Laundromats	Square feet	2.170
Laundries	Square feet	0.253
Medical offices	Square feet	0.618
Motels	Square feet	0.224
Night clubs	Persons served	1.330
Nursing homes	Beds	133.000
Office buildings, new	Square feet	0.093
Office buildings, old	Square feet	0.142
Restaurants, regular	Seats	24.200
Restaurants, fast food	Establishments	1790.000
Retail stores	Sales floor sq. ft	0.106
Schools, elementary	Students	3.830
Schools, high	Students	8.020
Service stations	Inside sq. ft.	0.251
Theaters	Seats.	3.330

Source: U.S. Army Corps of Engineers. "Forecasting Municipal and Industrial Water Use: A Handbook of Methods", (1983).

Table I.3 Drinking Water Treatment Costs (1989 dollars) 1/

Population	System Capacity (1000 gal. per day)	Capital Investment (\$1000)	Operating Expense (\$1000/yr)	Annualized Cost (\$/1000 gal)	

Filtration 2/					
500	100	443	89	3.54	581.45
1500	300	811	133	1.78	293.15
2500	500	1165	162	1.37	225.31
5000	1000	1770	236	0.90	147.78
10000	2000	2950	354	1.22	201.08
15000	3000	4278	457	1.05	172.01
25000	5000	5900	649	0.89	145.36
50000	10000	9293	1106	0.72	118.71

Chlorination 3/					
500	100	10	7	0.27	43.61
1500	300	16	10	0.16	26.65
2500	500	22	12	0.13	20.59
5000	1000	34	16	0.08	13.32
10000	2000	44	22	0.07	10.90
15000	3000	56	27	0.05	8.48
25000	5000	77	37	0.03	5.09
50000	10000	148	52	0.03	4.85

Source: United States Environmental Protection Agency, "The Cost Digest: Cost Summaries of Selected Environmental Control Technologies", EPA-600/8-84-010, October 1984.

1/ Costs are derived from graphs published in the above report adjusted to 1989 dollars using ENR Construction Cost factor of 1.475 (4646/3150). These costs are averages that could vary widely depending on the actual design of a system.

2/ Costs are based on a "conventional" filtration system including raw water pumping, chemical addition, rapid mix/flocculation, sedimentation, filtration, chlorination, finished water storage and pumping, and sludge removal. Water softening and distribution systems are not included.

3/ Chlorination and other methods are used to disinfect water. The costs are included as part of the conventional filtration system (Note 2) and listed separately here. The system's costs assume a medium chlorine dosage rate (3 mg./l), a duplicate stand-by chlorinator, injector pumps, chlorinator building and a 30-day chlorine storage capacity

Table I.4 Wastewater Treatment Costs (1989 dollars) 1/

Population	System Capacity (1000 gal pgr day)	Treatment Level			
		CST 2/ 210	AWT 3/ 210	CST 4/ 1000	AWT 5/ 1000
Total Capital Investment (\$1,000):					
700	100	\$4,425	\$4,868	\$5,163	\$6,048
1,400	200	4,868	5,600	6,195	7,375
2,800	400	6,195	6,490	8,555	10,325
4,900	700	7,228	8,555	10,473	12,538
7,000	1,000	8,703	10,030	13,275	15,045
14,000	2,000	11,800	13,275	20,650	22,125
28,000	4,000	17,700	20,650	29,500	35,400
35,000	5,000	22,125	25,075	36,875	44,250
Net Annual Operating Costs (\$1,000):					
700	100	\$369	\$443	\$605	\$694
1,400	200	398	516	738	811
2,800	400	457	590	959	1,033
4,900	700	561	708	1,180	1,328
7,000	1,000	620	885	1,401	1,770
14,000	2,000	885	1,328	2,065	2,360
28,000	4,000	1,401	1,918	3,098	4,130
35,000	5,000	1,623	2,360	3,688	5,015
Unit Annualized Cost (\$/1000 gal/yr):					
700	100	\$17.70	\$26.55	\$22.13	\$32.45
1,400	200	11.65	14.75	14.75	16.23
2,800	400	7.23	8.85	10.33	13.28
4,900	700	5.02	6.64	7.38	10.33
7,000	1,000	4.28	5.61	6.05	8.41
14,000	2,000	2.95	4.43	5.02	6.20
28,000	4,000	2.07	3.39	3.98	5.16
35,000	5,000	1.77	3.10	3.69	4.72

Source: United States Environmental Protection Agency, "The Cost Digest: Cost Summaries of Selected Environmental Control Technologies", EPA-600/8-84-010 (October 1984).

1/ Costs are derived from graphs published in the above report and adjusted to 1989 dollars using ENR Construction Cost factor of 1.475 (4645/3150). These costs are averages that could vary widely depending on the actual design of a system.

2/ CST 210 = Conventional Secondary Treatment of wastewater having an initial BOD (Biochemical Oxygen Demand) of 210 mg/l. This is typical of municipal or medium strength industrial wastewater. Treatment will achieve 30 mg/l or less of BOD and 30 mg/l or less of suspended solids.

3/ AWT 210 = Advanced Wastewater Treatment; influent wastewater BOD 210. Treatment will achieve 10 mg/l or less of BOD and 10 mg/l or less of suspended solids.

4/ CST 1000 = Conventional Secondary Treatment; influent wastewater of BOD 1000. This is typical of high strength industrial wastewater. Treatment should achieve same levels as CST 210.

5/ AWT 1000 = Advanced Wastewater Treatment; influent wastewater of BOD 1000. Treatment should achieve same levels as AWT 210.

Table J.1 Various Per Capita Solid Waste Generation Rates

Generator	Rate 1/ (lbs/day)	Percent (%)
Year-Round Residents 2/		
Rural Resident		
Paper	1.04	40 %
Food and Yard	0.57	22
Glass	0.7	15
Ferrous Metals	0.13	5
Plastic	0	4
Non-ferrous Metals (Aluminum)	0.03	1
All Other	0.34	13
Total.....	2.60	100 %
Urban Resident		
Paper	2.03	48 %
Food and Yard	0.84	20
Glass	0.56	13
Ferrous Metals	0.28	7
Plastic	0.17	4
Non-ferrous Metals (Aluminum)	0.04	1
All Other	0.28	7
Total.	4.20	100 %
Seasonal Residents 3/		
Seasonal Homeowner	2.00	100 %
Seasonal Camper	1.80	100 %

Source: State of Vermont, "Vermont Solid Waste Management Program - State Plan", (1989). Donovan Associates, "Northwest Vermont Solid Waste Generation and Recycling Analysis", prepared for Northwest Vermont Solid Waste Management District, (1989).

Notes: 1/ Amounts are for net generation (ie. gross generation minus amount disposed on-site or recycled) and exclude special wastes, such as those listed in Table J.2.

2/ Amounts include wastes generated by households, businesses, schools, offices and industries.

3/ Amounts include only household wastes.

Table J.2 Per Capita Generation Rates for Special Wastes

Special Waste	Unit	Average	Per Capita Rate	
		Unit Weight (lb.)	(units/ year)	(lb./ year)
Dry Cell Battery	Battery	0.13	8.0	1.03
Wet Cell Battery	Battery	30.0	0.056	1.68
Household Hazardous Wastes	Pound	2.9	2.9	2.90
Appliances	Appliance	250.0	0.1	25.00
Used Crankcase Oil	Gallon	8.0	0.1	0.80
Construction Debris				
Rural	Ton	2,000.0	0.01	20.00
Urban	Ton	2,000.0	0.03	60.00
Used Tires	Tire	30.0	0.37	11.10

Source: State of Vermont, "Vermont Solid Waste Management Program - State Plan", (1989).

Table J.3 Waste Generation of Selected Commercial and Industrial Facilities

Facility	Amount of Waste Generated (pounds/employee/year)
Retail:	
Building Supplies/Hardware	4,160
Department and Variety Stores	7,900
Grocery Store, Large	13,600
Grocery Store, Small (Mom and Pop)	11,500
Restaurant	2,000
Fast Food	8,500
Auto Service Station	3,120
Service:	
Hotels, Motels, Inns	7,243
Campgrounds/ RV Parks	2,580
Elementary and Secondary Schools	2,716
Manufacturing	
Textile Mill	3,490
Lumber and Wood Products	3,263
Household Furniture	11,960
Paper and Allied Products	5,760
Electronic/Electric Equip	7,280

Source: DSM Environmental Services, Inc., "Analysis of Solid Waste Generation in the Addison Waste Management District", October 1989.

Note: This is a brief, summary listing for typical facilities. More detailed and complete listings of commercial and industrial waste generation coefficients are available. Contact your regional solid waste district office for more information.

Table J.4 Costs of Typical Solid Waste Facilities (1987 \$)

Facility	Capital Cost	Annual 1/ Debt Service	Initial Operating Costs 2/
Mini-Transfer Station (4,000 tons/yr)	\$ 55,500	\$ 7,500	\$ 29,000
Large Transfer Station (50,000 tons/yr)	\$1,253,000	\$186,000	\$249,000
Small Recycling Center (collection only)	\$ 9,000	N/A	N/A 3/
Large Recycling Center 4/ (collection/processing)	\$ 130,000	\$ 19,400	\$ 82,000
Conventional Landfill:			
150 tons/day	\$3,678,000	\$388,000 5/	\$492,000
475 tons/day	\$7,883,000	\$833,000 5/	\$812,000

Source: Wehran Engineering, "Current Solid Waste Management Practices and Recommendations for a Long-Term Approach to Solid Waste Management", prepared for Central VT Solid Waste District (1987).

Notes:

- 1/ Annual debt service is based on 10 year financing at 8.5% interest, except where noted.
- 2/ Operating costs are based on first years of operation. They do not include equipment replacement or landfill closure costs.
- 3/ Assumes recycling center is located at a transfer station so costs are included in the transfer station operating costs.
- 4/ Capable of processing 15 tons per year of recyclable goods.
- 5/ Financed 20 years at 8.5%

ADDISON COUNTY

Table A. Calculation of School Tax Rate Under Four Scenarios

Town	Scenario			
	A	B	C	D
Addison	-0.01	0.00	0.00	0.00
Bridport	0.00	0.00	0.00	0.00
Bristol	0.00	0.00	0.00	0.00
Cornwall	0.00	0.00	0.00	0.00
Ferrisburg	0.00	0.00	0.00	0.00
Goshen	0.02	-0.03	-0.04	-0.02
Granville	0.01	-0.02	-0.02	-0.01
Hancock	0.00	0.00	0.00	0.00
Leicester	0.00	-0.01	-0.01	0.00
Lincoln	0.00	-0.01	-0.01	0.00
Middlebury	0.00	0.00	0.00	0.00
Monkton	0.00	-0.01	-0.01	0.00
New Haven	0.00	0.00	-0.01	0.00
Orwell	0.00	-0.01	-0.01	0.00
Panton	0.00	0.00	0.00	0.00
Ripton	0.00	-0.04	-0.04	0.00
Salisbury	0.00	0.00	0.00	0.00
Shoreham	0.00	0.00	0.00	0.00
Starksboro	0.00	-0.01	-0.01	0.00
Vergennes ID	0.00	-0.01	-0.01	0.00
Waltham	0.00	-0.01	0.00	0.00
Weybridge	-0.02	0.01	0.01	0.01
Whiting	0.02	-0.03	-0.04	-0.02

Note: A positive number means the tax rate goes up.
 A negative number means the tax rate goes down.

Scenario:

- A. A \$1 million commercial development; no change in school enrollment
- B. A \$1 million housing development; ten new students
- C. A \$500,000 mobile home park; ten new students
- D. A \$1 million parcel donated to the town; \$1 million off the tax rolls

Table C. Data To Be Used in Estimating Changes in the School Tax Rate.

ADDISON COUNTY

Town	Equalized	Estimated	Estimated FY 91		Per	Foundation	Approved	Above	Long-term
	Grand	Operating	Effective	School	Pupil	Tax Rate	Capital	Per Pupil	Average
	List	Cost	Tax Rate		Weight		Debt	Spending	Number of
	FY 1990	Per Pupil	Total	Operating	FY 1991	FY 1991	FY 1991	FY 1990	Students
		FY 1991							FY 1991
Addison	705,856	4,569	1.10	1.09	1.17	1.045	4,700	310	184.58
Bridport	727,058	4,073	0.99	0.94	1.18	1.035	44,091	(153)	222.83
Bristol	949,388	3,919	0.89	0.80	1.17	1.045	303,477	(297)	768.40
Cornwall	579,459	4,295	1.11	1.09	1.16	1.085	20,566	54	216.23
Ferrisburg	1,394,718	4,017	0.99	0.95	1.18	1.065	75,970	(206)	423.00
Goshen	114,144	3,675	0.81	0.80	1.18	1.045	1,746	(525)	41.75
Granville	171,844	3,747	0.84	0.83	1.18	1.025	906	(458)	52.67
Hancock	171,785	4,287	0.96	0.95	1.20	1.005	1,248	47	63.82
Leicester	579,731	3,292	0.72	0.71	1.17	1.015	8,104	(883)	174.01
Lincoln	474,590	3,702	0.83	0.79	1.18	1.035	29,125	(500)	186.60
Middlebury ID	3,035,347	4,573	1.26	1.19	1.16	1.115	284,549	314	1054.28
Monkton	561,969	3,613	0.85	0.77	1.16	1.075	82,742	(583)	281.63
New Haven	782,787	3,781	0.92	0.88	1.18	1.075	37,253	(426)	255.63
Orwell	493,047	3,802	0.89	0.80	1.18	1.025	82,430	(407)	221.42
Panton	268,660	4,694	1.22	1.16	1.18	1.055	28,321	427	112.69
Ripton	211,143	4,702	1.58	1.20	1.18	1.115	107,658	434	71.57
Salisbury	642,123	4,466	1.08	1.06	1.19	1.055	19,482	214	208.16
Shoreham	528,623	4,610	1.16	1.14	1.17	1.045	17,668	348	230.10
Starksboro	553,496	3,642	0.85	0.75	1.17	1.045	118,600	(556)	280.75
Vergennes ID	1,113,257	3,479	0.82	0.72	1.16	1.055	174,466	(709)	434.74
Waltham	187,305	4,224	1.10	1.04	1.15	1.055	18,548	(12)	69.70
Weybridge	499,775	4,944	1.25	1.22	1.18	1.095	15,270	661	134.83
Whiting	190,145	3,286	0.64	0.63	1.17	1.065	3,366	(889)	81.96

Note: Changes in the Grand List and changes in the school population due to a development will not affect state aid until at least one year later. To isolate the effect of the development being studied from other changes, we have used FY 91 data from the Dept. of Education and estimated changes in the Grand List and budget due only to the development being studied and inflation (7% for school costs, 5% for fmV).

BENNINGTON COUNTY

Table A. Calculation of School Tax Rate Under Four Scenarios

Town	Scenario			
	A	B	C	D
Arlington	0.00	0.00	0.00	0.00
Bennington ID	0.00	0.00	0.00	0.00
Dorset	0.00	0.00	0.00	0.00
Landgrove	-0.01	0.10	0.10	0.01
Manchester	0.00	0.01	0.01	0.00
North Bennington	0.00	0.00	0.00	0.00
Peru	0.00	0.03	0.04	0.00
Pownal	0.00	0.00	0.00	0.00
Readsboro	0.01	-0.01	-0.02	-0.01
Rupert	-0.01	0.04	0.02	0.01
Sandgate	-0.01	0.08	0.09	0.02
Searsburg	-0.01	0.19	0.21	0.02
Shaftsbury	0.00	0.00	0.00	0.00
Stamford	-0.01	0.05	0.06	0.02
Sunderland	0.00	0.00	0.00	0.00
Winhall	0.00	0.02	0.02	0.00
Woodford	0.01	-0.02	-0.03	-0.01

Note: A positive number means the tax rate goes up.
A negative number means the tax rate goes down.

Scenario:

- A. A \$1 million commercial development; no change in school enrollment
- B. A \$1 million housing development; ten new students
- C. A \$500,000 mobile home park; ten new students
- D. A \$1 million parcel donated to the town; \$1 million off the tax rolls

Table C. Data To Be Used in Estimating Changes in the School Tax Rate.

BENNINGTON COUNTY

Town	Equalized	Estimated	Estimated FY 91	Per	Foundation	Approved	Above Avg.	Long-term	
	Grand List FY 1990	Operating Cost Per Pupil FY 1991	Effective School Tax Rate Total Operating	Pupil Weight FY 1991	Tax Rate FY 1991	Capital Debt FY 1991	Per Pupil Spending FY 1990	Average Number of Students FY 1991	
Arlington	1,223,447	3,760	0.90	0.86	1.19	1.065	72,927	(446)	414.26
Bennington ID	5,286,503	4,118	1.03	0.97	1.18	1.065	646,623	(111)	2541.01
Dorset	2,540,863	0	0.00	0.00	1.18	1.205	0	(3,960)	291.99
Landgrove	371,490	4,224	0.24	0.24	1.18	1.375	0	(12)	22.00
Manchester	4,576,656	5,563	0.68	0.67	1.15	1.155	35,190	1,239	577.24
North Bennington	644,290	3,834	0.87	0.87	1.18	1.085	0	(377)	288.27
Peru	1,278,608	4,943	0.20	0.20	1.18	1.195	0	660	53.86
Pownal	1,127,833	3,683	0.72	0.70	1.18	1.045	78,340	(518)	666.20
Readsboro	350,737	3,400	0.73	0.73	1.16	1.055	0	(782)	136.07
Rupert	617,057	3,371	0.50	0.50	1.17	1.065	0	(810)	95.84
Sandgate	341,597	3,604	0.52	0.50	1.16	1.085	4,400	(592)	50.11
Searsburg	150,628	3,481	0.24	0.24	1.27	1.005	0	(707)	10.90
Shaftsbury	1,358,587	3,350	0.78	0.76	1.14	1.075	54,854	(829)	537.95
Stamford	532,403	3,872	0.79	0.78	1.17	1.105	5,525	(341)	118.31
Sunderland	536,744	4,679	1.20	1.16	1.15	1.065	21,275	413	157.81
Winhall	211,143	5,473	0.14	0.13	1.19	1.175	36,100	1,155	80.12
Woodford	642,123	3,854	0.86	0.83	1.22	1.015	4,847	(358)	48.75

Note: Changes in the Grand List and changes in the school population due to a development will not affect state aid until at least one year later. To isolate the effect of the development being studied from other changes, we have used FY 91 data from the Dept. of Education and estimated changes in the Grand List and budget due only to the development being studied and inflation (7% for school costs, 5% for fmv).

CALEDONIA COUNTY

Table A. Calculation of School Tax Rate Under Four Scenarios

Town	Scenario			
	A	B	C	D
Barnet	0.00	-0.01	-0.01	0.00
Burke	0.00	0.00	-0.01	0.00
Danville	0.00	-0.01	-0.01	0.00
Groton	0.01	-0.02	-0.02	-0.01
Hardwick	0.00	0.00	0.00	0.00
Kirby	0.01	-0.01	-0.02	-0.01
Lyndon	0.00	0.00	0.00	0.00
Newark	0.01	-0.02	-0.03	-0.01
Peacham	-0.02	0.02	0.02	0.02
Ryegate	0.01	-0.01	-0.01	-0.01
St. Johnsbury	0.00	0.00	0.00	0.00
Sheffield	0.02	-0.02	-0.03	-0.03
Stannard	0.03	-0.01	-0.03	-0.05
Sutton	0.02	-0.01	-0.02	-0.02
Walden	0.01	-0.01	-0.02	-0.01
Waterford	0.00	-0.01	-0.01	0.00
Wheelock	0.01	-0.02	-0.02	-0.02

Scenario:

- A. A \$1 million commercial development; no change in school enrollment
- B. A \$1 million housing development; ten new students
- C. A \$500,000 mobile home park; ten new students
- D. A \$1 million parcel donated to the town; \$1 million off the tax rolls

Table C. Data To Be Used in Estimating Changes in the School Tax Rate.

CALEDONIA COUNTY

Town	Equalized	Estimated	Estimated FY 91		Per Pupil Weight	Foundation Tax Rate	Approved Capital Debt Payment	Above Avg. Per Pupil Spending	Long-term Average Number of Students
	Grand List	Operating Cost	Effective School Tax Rate	Operating					
	FY 1990	FY 1991	Total	FY 1991	FY 1991	FY 1991	FY 1991	FY 1990	FY 1991
Barnet	891,508	3,430	0.79	0.75	1.15	1.025	54,000	(754)	312.54
Burke	733,576	3,721	0.81	0.79	1.18	1.035	29,089	(482)	305.93
Danville	893,913	3,307	0.96	0.70	1.16	1.055	378,700	(869)	342.51
Groton	400,455	3,122	0.50	0.48	1.18	1.005	18,026	(1,042)	182.55
Hardwick	657,438	3,838	0.69	0.65	1.17	1.005	119,792	(373)	594.20
Kirby	174,487	3,717	0.81	0.81	1.16	1.035	0	(486)	72.55
Lyndon	1,181,252	3,633	0.60	0.58	1.17	1.045	81,000	(565)	959.26
Newark	234,540	3,336	0.75	0.74	1.16	1.025	4,766	(842)	71.50
Peacham	440,100	3,641	0.87	0.87	1.15	1.075	0	(557)	116.15
Ryegate	504,955	3,516	0.64	0.61	1.20	1.025	27,040	(674)	251.88
St. Johnsbury	2,394,874	3,426	0.53	0.53	1.18	1.045	11,500	(758)	1464.01
Sheffield	161,322	3,626	0.53	0.51	1.22	0.975	7,380	(571)	97.72
Stannard	45,493	3,919	0.81	0.76	1.14	0.965	11,385	(297)	45.11
Sutton	306,947	3,036	0.27	0.25	1.16	1.005	16,000	(1,123)	203.65
Walden	326,332	3,501	0.68	0.68	1.17	0.995	0	(688)	139.27
Waterford	545,878	3,958	1.04	0.96	1.16	1.075	64,125	(261)	195.75
Wheelock	204,927	3,621	0.68	0.66	1.20	1.015	7,620	(576)	99.70

Note: Changes in the Grand List and changes in the school population due to a development will not affect state aid until at least one year later. To isolate the effect of the development being studied from other changes, we have used FY 91 data from the Dept. of Education and estimated changes in the Grand List and budget due only to the development being studied and inflation (7% for school costs, 5% for fmv).

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CHITTENDEN COUNTY

Table A. Calculation of School Tax Rate Under Four Scenarios

Town	Scenario			
	A	B	C	D
Bolton	-0.01	0.03	0.04	0.01
Burlington	0.00	0.00	0.00	0.00
Charlotte	0.00	0.01	0.01	0.00
Colchester	0.00	0.00	0.00	0.00
Essex Junction I	0.00	0.00	0.01	0.00
Essex Town	0.00	0.00	0.00	0.00
Hinesburg	0.00	0.00	0.00	0.00
Huntington	0.01	-0.01	-0.01	-0.01
Jericho	0.00	0.00	0.00	0.00
Milton ID	0.00	0.00	0.00	0.00
Richmond	0.00	0.00	0.00	0.00
St. George	-0.01	0.01	0.02	0.01
Sheburne	0.00	0.01	0.01	0.00
South Burlington	0.00	0.00	0.01	0.00
Underhill ID	0.00	0.00	0.00	0.00
Underhill Town	0.00	0.00	0.00	0.00
Westford	0.00	0.00	0.00	0.00
Williston	0.00	0.01	0.01	0.00
Winooski ID	0.00	0.00	0.00	0.00

Note: A positive number means the tax rate goes up.
A negative number means the tax rate goes down.

Scenario:

- A. A \$1 million commercial development; no change in school enrollment
- B. A \$1 million housing development; ten new students
- C. A \$500,000 mobile home park; ten new students
- D. A \$1 million parcel donated to the town; \$1 million off the tax rolls

Table C. Data To Be Used in Estimating Changes in the School Tax Rate.

CHITTENDEN COUNTY

Town	Equalized Grand List FY 1990	Estimated Operating Cost Per Pupil FY 1991	Estimated FY 91 Effective School Tax Rate		Per Pupil Weight FY 1991	Foundation Tax Rate FY 1991	Approved Capital Debt Payment FY 1991	Above Avg. Per Pupil Spending FY 1990	Long-term Average Number of Students FY 1991
			Total	Operating					
Bolton	610,489	3,072	0.67	0.63	1.14	1.105	28,786	(1,089)	139.16
Burlington	16,681,776	4,656	0.94	0.91	1.16	1.135	546,614	391	3565.85
Charlotte	2,767,110	4,916	1.00	0.93	1.14	1.215	206,930	634	566.75
Colchester	6,577,151	3,852	1.04	0.98	1.16	1.135	564,587	(360)	2332.34
Essex Junction	110,737,747	6,442	0.83	0.82	1.14	1.155	130,030	2,061	1434.53
Essex Town	5,780,669	5,386	1.47	1.44	1.16	1.145	211,528	1,074	1760.24
Hinesburg	1,651,285	4,520	1.30	1.23	1.14	1.125	190,385	264	678.40
Huntington	548,349	3,503	0.77	0.71	1.16	1.075	68,944	(666)	278.94
Jericho	1,363,545	3,872	1.05	0.99	1.15	1.155	160,696	(341)	671.99
Milton ID	2,838,686	3,517	0.69	0.63	1.16	1.075	417,932	(671)	1819.68
Richmond	1,278,729	3,761	0.98	0.89	1.16	1.125	233,441	(445)	643.83
St. George	225,420	5,023	1.47	1.47	1.13	1.115	0	734	116.42
Shelburne	4,279,881	5,280	1.18	1.17	1.14	1.235	68,335	975	1027.95
South Burlington	9,173,181	5,664	1.17	1.15	1.16	1.195	204,585	1,333	2009.25
Underhill ID	686,477	3,879	1.04	0.99	1.15	1.145	56,341	(335)	300.68
Underhill Town	997,046	3,606	0.91	0.85	1.15	1.135	108,749	(590)	480.36
Westford	687,017	3,925	0.97	0.95	1.16	1.105	24,110	(292)	319.45
Williston	5,023,427	4,837	0.73	0.71	1.14	1.165	97,916	561	770.60
Winooski ID	1,996,438	4,327	1.09	1.08	1.17	1.085	20,528	84	755.51

Note: Changes in the Grand List and changes in the school population due to a development will not affect state aid until at least one year later. To isolate the effect of the development being studied from other changes, we have used FY 91 data from the Dept. of Education and estimated changes in the Grand List and budget due only to the development being studied and inflation (7% for school costs, 5% for fmv).

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ESSEX COUNTY

Table A. Calculation of School Tax Rate Under Four Scenarios

Town	Scenario			
	A	B	C	D
Bloomfield	0.01	-0.03	-0.03	-0.01
Brighton	0.03	-0.01	-0.02	-0.02
Brunswick	-0.06	0.15	0.14	0.07
Canaan	0.00	-0.01	-0.01	0.00
Concord	0.01	-0.01	-0.02	-0.01
East Haven	0.01	-0.01	-0.01	-0.01
Granby	-0.03	0.21	0.20	0.03
Guildhall	0.02	-0.04	-0.05	-0.02
Lemington	-0.04	0.23	0.26	0.05
Lunenburg	0.00	-0.01	-0.01	0.00
Maidstone	-0.01	0.12	0.13	0.01
Norton	0.02	-0.06	-0.07	-0.03
Victory	-0.01	0.14	0.16	0.01

Note: A positive number means the tax rate goes up.
A negative number means the tax rate goes down.

Scenario:

- A. A \$1 million commercial development; no change in school enrollment
- B. A \$1 million housing development; ten new students
- C. A \$500,000 mobile home park; ten new students
- D. A \$1 million parcel donated to the town; \$1 million off the tax rolls

Table C. Data To Be Used in Estimating Changes in the School Tax Rate.

ESSEX COUNTY

Town	Equalized	Estimated	Estimated FY 91		Per Pupil Weight	Foundation Tax Rate	Approved Capital Debt Payment	Above Avg. Per Pupil Spending	Long-term Average Number of Students
	Grand List	Operating Cost Per Pupil	Effective School Tax Rate	Operating					
	FY 1990	FY 1991	Total	Operating	FY 1991	FY 1991	FY 1991	FY 1990	FY 1991
Bloomfield	120,856	3,723	0.80	0.80	1.19	1.015	0	(481)	38.46
Brighton	474,549	2,369			1.24	0.985	39,250	(1,559)	284.09
Brunswick	95,574	3,338	0.58	0.58	1.15	0.975	0	(840)	18.50
Canaan	419,254	4,128	1.07	0.95	1.17	1.025	112,602	(102)	222.64
Concord	446,776	3,338	0.56	0.56	1.20	1.015	0	(840)	197.29
East Haven	103,263	4,040	0.88	0.85	1.17	0.995	7,290	(184)	69.82
Granby	154,181	4,063	0.41	0.41	1.15	1.005	0	(163)	16.50
Guildhall	153,556	3,197	0.71	0.71	1.17	1.015	0	(972)	42.50
Lemington	97,950	3,419	0.40	0.40	1.15	1.015	0	(765)	12.00
Lunenburg	555,468	3,766	0.78	0.78	1.20	1.005	0	(440)	203.91
Maidstone	251,843	3,602	0.31	0.31	1.23	1.045	0	(594)	22.50
Norton	115,539	3,214	0.68	0.68	1.20	1.025	0	(956)	33.08
Victory	127,654	2,253	0.16	0.16	1.25	1.005	0	(1,854)	9.58

Note: Changes in the Grand List and changes in the school population due to a development will not affect state aid until at least one year later. To isolate the effect of the development being studied from other changes, we have used FY 91 data from the Dept. of Education and estimated changes in the Grand List and budget due only to the development being studied and inflation (7% for school costs, 5% for fmV).

FRANKLIN AND GRAND ISLE COUNTIES

Table A. Calculation of School Tax Rate Under Four Scenarios

Town	Scenario			
	A	B	C	D
FRANKLIN COUNTY				
Bakersfield	0.01	-0.01	-0.01	-0.01
Berkshire	0.03	0.00	-0.01	-0.03
Enosburg Falls I	0.00	0.00	0.00	0.00
Fairfax	0.00	0.00	-0.01	0.00
Fairfield	0.00	0.00	0.00	0.00
Fletcher	0.01	-0.01	-0.02	-0.01
Franklin	0.02	-0.01	-0.02	-0.02
Georgia	0.00	0.00	0.00	0.00
Highgate	0.01	0.00	-0.01	-0.01
Montgomery	0.00	-0.01	-0.01	-0.01
Richford	0.01	0.00	-0.01	-0.01
St. Albans City	0.00	0.00	0.00	0.00
St. Albans Town	0.00	0.00	0.00	0.00
Sheldon	0.00	0.00	-0.01	0.00
Swanton	0.00	0.00	0.00	0.00
GRAND ISLE COUNTY				
Alburg	0.00	0.00	0.00	0.00
Grand Isle	-0.01	0.03	0.03	0.01
Isle La Motte	-0.01	0.06	0.07	0.01
North Hero	0.00	0.03	0.03	0.00
South Hero	0.00	0.02	0.02	0.00

Note: A positive number means the tax rate goes up.
 A negative number means the tax rate goes down.

Scenario:

- A. A \$1 million commercial development; no change in school enrollment
- B. A \$1 million housing development; ten new students
- C. A \$500,000 mobile home park; ten new students
- D. A \$1 million parcel donated to the town; \$1 million off the tax rolls

Table C. Data To Be Used in Estimating Changes in the School Tax Rate. FRANKLIN & GRAND ISLE COUNTIES

Town	Equalized	Estimated	Estimated FY 91		Per Pupil Weight	Foundation Tax Rate	Approved Capital Debt Payment	Above Avg. Per Pupil Spending	Long-term Average Number of Students
	Grand List	Operating Cost Per Pupil	Effective School Tax Rate	Operating					
	FY 1990	FY 1991	Total	Operating	FY 1991	FY 1991	FY 1991	FY 1990	FY 1991
FRANKLIN COUNTY									
Bakersfield	329,505	2,927	0.89	0.79	1.18	1.025	87,757	(290)	221.17
Berkshire	258,331	3,561	0.13	0.13	1.19	0.975	0	(632)	305.32
Enosburg Falls I	586,692	4,189	1.07	0.94	1.19	1.025	286,525	(45)	505.72
Fairfax	1,028,813	3,328	0.68	0.62	1.16	1.075	141,981	(850)	539.85
Fairfield	479,095	4,189	1.09	0.99	1.16	1.005	162,630	(45)	371.03
Fletcher	330,488	3,762	0.98	0.81	1.13	1.055	119,425	(444)	178.65
Franklin	220,525	3,421	0.43	0.43	1.18	1.025	0	(763)	227.85
Georgia	1,639,571	3,474	0.77	0.71	1.15	1.075	220,180	(713)	881.63
Highgate	1,092,902	3,107	0.29	0.26	1.18	1.005	109,574	(1,056)	732.94
Montgomery	390,769	3,789	0.78	0.78	1.20	1.025	0	(419)	152.97
Richford	501,438	3,816	0.49	0.47	1.22	0.985	52,021	(394)	465.38
St. Albans City	1,999,205	3,837	0.81	0.77	1.17	1.065	211,875	(374)	1305.35
St. Albans Town	2,000,214	4,102	1.08	1.01	1.15	1.065	240,577	(126)	816.27
Sheldon	734,164	3,682	0.70	0.65	1.17	1.005	97,130	(519)	407.39
Swanton	2,167,685	3,242	0.50	0.48	1.13	1.055	90,161	(930)	1241.77
GRAND ISLE COUNTY									
Alburg	842,115	3,914	0.86	0.83	1.20	1.015	48,000	(302)	333.10
Grand Isle	1,137,119	4,713	0.94	0.93	1.14	1.125	5,550	445	244.79
Isle La Motte	386,705	3,175	0.54	0.54	1.18	1.025	200	(993)	72.78
North Hero	1,185,471	4,261	0.49	0.41	1.16	1.085	93,550	22	120.84
South Hero	1,508,505	4,134	0.69	0.68	1.13	1.115	25,500	(96)	258.79

Note: Changes in the Grand List and changes in the school population due to a development will not affect state aid until at least one year later. To isolate the effect of the development being studied from other changes, we have used FY 91 data from the Dept. of Education and estimated changes in the Grand List and budget due only to the development being studied and inflation (7% for school costs, 5% for fmv).

LAMOILLE COUNTY

Table A. Calculation of School Tax Rate Under Four Scenarios

Town	Scenario			
	A	B	C	D
Belvidere	0.03	-0.04	-0.06	-0.04
Cambridge	0.00	0.00	-0.01	0.00
Eden	0.02	-0.02	-0.03	-0.02
Elmore	0.00	-0.01	-0.01	0.00
Hyde Park	0.00	0.00	-0.01	0.00
Johnson	0.01	0.00	-0.01	-0.01
Morristown	0.00	0.00	0.00	0.00
Stowe	0.00	0.01	0.01	0.00
Waterville	0.04	-0.02	-0.04	-0.04
Wolcott	0.01	-0.01	-0.02	-0.01

Note: A positive number means the tax rate goes up.
 A negative number means the tax rate goes down.

Scenario:

- A. A \$1 million commercial development; no change in school enrollment
- B. A \$1 million housing development; ten new students
- C. A \$500,000 mobile home park; ten new students
- D. A \$1 million parcel donated to the town; \$1 million off the tax rolls

Table C. Data To Be Used in Estimating Changes in the School Tax Rates.

LAMOILLE COUNTY

Town	Equalized	Estimated	Estimated FY 91		Per Pupil Weight	Foundation Tax Rate	Approved Capital Debt Payment	Above Avg. Per Pupil Spending	Long-term Average Number of Students
	Grand List	Operating Cost Per Pupil	Effective School Tax Rate	Operating					
Belvidere	111,167	3,424	0.57	0.57	1.21	0.995	1,827	(760)	50.19
Cambridge	1,467,249	3,404	0.86	0.79	1.17	1.085	140,735	(779)	481.67
Eden	317,777	3,089	0.33	0.25	1.21	0.995	67,198	(1,073)	188.95
Elmore	367,760	4,133	1.03	0.97	1.19	1.055	22,810	(97)	103.99
Hyde Park	753,987	3,721	0.70	0.66	1.19	1.035	83,120	(482)	497.68
Johnson	726,977	3,403	0.54	0.50	1.17	1.035	68,338	(780)	467.46
Morristown	1,841,718	3,372	0.75	0.66	1.17	1.045	305,648	(809)	798.95
Stowe	5,960,500	5,777	0.52	0.49	1.16	1.165	185,050	1,439	529.57
Waterville	158,797	3,165	0.39	0.38	1.17	1.025	4,357	(1,002)	98.97
Wolcott	1,092,902	3,525	0.64	0.48	1.19	0.995	182,493	(666)	249.87

Note: Changes in the Grand List and changes in the school population due to a development will not affect state aid until at least one year later. To isolate the effect of the development being studied from other changes, we have used FY 91 data from the Dept. of Education and estimated changes in the Grand List and budget due only to the development being studied and inflation (7% for school costs, 5% for fmv).

ORANGE COUNTY

Table B. Where Towns Are on the State Aid Formula -- 1990

Town	Fair Market Value (\$)	
	A Amount Needed To Get Off Formula	B Add to Column A For Each New Student
Bradford ID	91,730,691	398,528
Braintree	38,092,738	404,945
Brookfield	46,295,365	401,844
Chelsea	47,574,884	413,550
Corinth	52,474,683	411,453
Fairlee	(10,641,848)	383,997
Newbury	26,892,685	395,757
Orange	42,877,845	412,062
Randolph	170,783,456	393,765
Strafford	8,549,002	369,093
Thetford	30,088,358	368,830
Topsham	40,172,633	414,110
Tunbridge	40,103,996	402,886
Vershire	10,206,071	407,478
Washington	46,890,270	410,951
Wells River	22,998,962	439,302
West Fairlee	21,979,173	401,226
Williamstown	141,842,219	399,948

Until the town gains the amount of fair market value (FMV) in Column A, increases in Grand List will reduce State Aid. After the town has gained the amount of FMV in Column A it will be "off the formula" and it will begin to gain full school tax benefits from any additions to the Grand List.

If a new development adds to school enrollments, the town will need to gain even more Grand List to get off the formula. Use Worksheet 8 to calculate if the town will be on the formula after a development which adds students.

() denote towns off the formula now. This amount must be "lost" for towns to receive formula aid. For these towns, Column B is the amount of FMV needed to pay for one pupil.

Table C. Data To Be Used in Estimating Changes in the School Tax Rate.

ORANGE COUNTY

Town	Equalized Grand List FY 1990	Estimated Operating Cost Per Pupil FY 1991	Estimated FY 91		Per Pupil Weight FY 1991	Foundation Tax Rate FY 1991	Approved Capital Debt Payment FY 1991	Above Avg. Per Pupil Spending FY 1990	Long-term Average Number of Students FY 1991
			Effective School Tax Rate	Total Operating					
Bradford ID	1,043,928	3,796	0.90	0.82	1.18	1.055	164,297	(412)	492.12
Braintree	425,399	3,887	0.86	0.85	1.17	1.035	9,761	(327)	199.12
Brookfield	521,363	4,296	1.06	1.04	1.16	1.035	23,678	55	244.95
Chelsea	533,727	3,094	0.51	0.48	1.19	1.025	38,378	(1,066)	244.10
Corinth	593,541	4,367	1.14	1.04	1.17	1.015	121,723	121	271.79
Fairlee	744,238	4,218	0.91	0.86	1.18	1.095	41,107	(18)	166.10
Newbury	816,436	3,694	0.91	0.85	1.16	1.045	67,922	(508)	274.25
Orange	280,174	3,675	0.71	0.68	1.16	1.005	16,714	(525)	172.05
Randolph	1,623,930	4,438	1.14	1.12	1.16	1.055	61,443	188	846.13
Strafford	636,272	3,463	0.98	0.87	1.14	1.105	83,055	(724)	195.55
Thetford	1,504,115	4,387	1.15	1.14	1.15	1.115	25,387	140	435.16
Topsham	337,584	4,353	1.13	1.02	1.19	1.025	85,113	108	178.53
Tunbridge	539,377	2,913	0.47	0.47	1.16	1.025	0	(1,238)	233.42
Vershire	303,013	2,108	0.36	0.33	1.17	1.025	11,513	(1,990)	99.41
Washington	344,781	3,948	0.82	0.82	1.19	1.035	2,944	(270)	193.00
Wells River	137,355	4,408	0.91	0.88	1.27	1.035	11,268	160	83.62
West Fairlee	256,624	4,198	1.06	1.00	1.17	1.045	31,175	(37)	118.74
Williamstown	819,010	3,572	0.66	0.62	1.16	1.035	105,523	(622)	559.43

Note: Changes in the Grand List and changes in the school population due to a development will not affect state aid until at least one year later. To isolate the effect of the development being studied from other changes, we have used FY 91 data from the Dept. of Education and estimated changes in the Grand List and budget due only to the development being studied and inflation (7% for school costs, 5% for fmv).

ORLEANS COUNTY

Table B. Where Towns Are on the State Aid Formula -- 1990

Town	Fair Market Value (\$)	
	A Amount Needed To Get Off Formula	B Add to Column A For Each New Student
Albany	45,549,101	430,581
Barton ID	109,146,822	423,662
Brownington	40,371,881	434,967
Charleston	51,951,502	440,564
Coventry	57,197,316	434,873
Craftsbury	32,812,497	420,633
Derby	219,672,791	411,376
Glover	35,101,520	435,960
Greensboro	(10,001,187)	424,222
Holland	19,791,388	444,134
Irasburg	50,686,584	434,770
Jay	(1,643,408)	449,772
Lowell	26,013,449	453,144
Morgan	(6,877,371)	414,150
Newport City	174,931,519	414,961
Newport Town	68,502,265	416,751
Orleans ID	58,007,988	437,060
Troy	102,696,382	434,771
Westfield	4,339,071	415,107
Westmore	(18,157,776)	451,947

Until the town gains the amount of fair market value (FMV) in Column A, increases in Grand List will reduce State Aid. After the town has gained the amount of FMV in Column A it will be "off the formula" and it will begin to gain full school tax benefits from any additions to the Grand List.

If a new development adds to school enrollments, the town will need to gain even more Grand List to get off the formula. Use Worksheet 8 to calculate if the town will be on the formula after a development which adds students.

() denote towns off the formula now. This amount must be "lost" for towns to receive formula aid. For these towns, Column B is the amount of FMV needed to pay for one pupil.

Table C. Data To Be Used in Estimating Changes in the School Tax Rate.

ORLEANS COUNTY

Town	Equalized	Estimated	Estimated FY 91		Per Pupil Weight	Foundation Tax Rate	Approved Capital Debt Payment	Above Avg. Per Pupil Spending	Long-term Average Number of Students
	Grand List	Operating Cost	Effective Tax Rate	School Tax Rate					
	FY 1990	FY 1991	Total	Operating	FY 1991	FY 1991	FY 1991	FY 1990	FY 1991
Albany	244,850	3,595	0.51	0.51	1.20	0.995	0	(600)	162.65
Barton ID	574,838	3,250	0.30	0.30	1.19	1.005	7,078	(923)	393.31
Brownington	173,048	3,572	0.44	0.44	1.19	0.975	2,664	(622)	132.60
Charleston	311,917	3,338	0.39	0.36	1.21	0.985	25,700	(840)	188.72
Coventry	226,540	3,373	0.23	0.23	1.20	0.985	0	(808)	183.62
Craftsbury	430,656	5,051	1.33	1.21	1.19	1.015	90,000	761	180.39
Derby	1,592,493	2,792	0.21	0.19	1.18	1.025	83,385	(1,351)	921.11
Glover	405,376	3,659	0.68	0.57	1.21	0.995	3,529	(540)	173.50
Greensboro	670,803	4,337	0.85	0.79	1.23	1.035	39,810	93	134.55
Holland	243,333	2,965	0.45	0.40	1.21	0.975	23,688	(1,189)	99.35
Irasburg	328,632	2,677	0.07	0.04	1.20	0.985	20,200	(1,458)	192.17
Jay	374,453	3,504	0.67	0.67	1.21	0.965	0	(685)	79.60
Lowell	273,806	2,822	0.33	0.27	1.24	0.975	29,071	(1,323)	117.83
Morgan	475,801	2,767	0.63	0.51	1.19	1.025	58,974	(1,374)	98.28
Newport City	1,577,376	2,922	0.30	0.27	1.20	1.035	81,773	(1,229)	753.49
Newport Town	506,301	2,965	0.29	0.29	1.18	1.015	0	(1,189)	286.10
Orleans ID	252,738	3,578	0.33	0.33	1.25	1.025	3,244	(616)	190.55
Troy	460,781	2,783			1.20	0.985	40,312	(1,359)	342.19
Westfield	245,856	3,177	0.68	0.63	1.20	1.035	0	(991)	61.68
Westmore	522,738	3,271	0.45	0.45	1.23	0.975	1,814	(903)	75.50

Note: Changes in the Grand List and changes in the school population due to a development will not affect state aid until at least one year later. To isolate the effect of the development being studied from other changes, we have used FY 91 data from the Dept. of Education and estimated changes in the Grand List and budget due only to the development being studied and inflation (7% for school costs, 5% for fmv).

RUTLAND COUNTY

Table B. Where Towns Are on the State Aid Formula -- 1990

Town	Fair Market Value (\$)	
	A Amount Needed To Get Off Formula	B Add to Column A For Each New Student
Benson	39,217,766	424,288
Brandon	195,849,662	403,617
Castleton	68,771,620	393,102
Chittenden	7,845,440	376,705
Clarendon	129,163,957	395,911
Danby	9,233,462	411,612
Fair Haven	179,400,958	409,822
Hubbardton	(15,939,886)	409,931
Ira	12,231,388	399,987
Mendon	(45,511,456)	337,789
Middletown Springs	7,245,107	393,677
Mt. Holly	(21,900,263)	368,685
Mt. Tabor	864,684	413,026
Pawlet	14,861,734	400,785
Pittsfield	(46,858,024)	396,688
Pittsford	39,712,626	379,536
Poultney	55,967,154	395,071
Proctor	56,708,375	378,275
Rutland City	185,181,122	379,539
Rutland Town	(173,792,936)	362,689
Sherburne	(460,458,707)	359,787
Shrewsbury	7,101,756	380,277
Sudbury	3,188,672	404,334
Tinmouth	10,642,239	408,545
Wallingford	69,386,442	385,043
Wells	(10,303,472)	400,694
West Haven	9,375,940	412,123
West Rutland	66,876,938	392,602

Until the town gains the amount of fair market value (FMV) in Column A, increases in Grand List will reduce State Aid. After the town has gained the amount of FMV in Column A it will be "off the formula" and it will begin to gain full school tax benefits from any additions to the Grand List.

If a new development adds to school enrollments, the town will need to gain even more Grand List to get off the formula. Use Worksheet 8 to calculate if the town will be on the formula after a development which adds students.

() denote towns off the formula now. This amount must be "lost" for towns to receive formula aid. For these towns, Column B is the amount of FMV needed to pay for one pupil.

Table C. Data To Be Used in Estimating Changes in the School Tax Rate.

RUTLAND COUNTY

Town	Equalized Grand List FY 1990	Estimated Operating Cost Per Pupil FY 1991	Estimated FY 91 Effective School Tax Rate		Per Pupil Weight FY 1991	Foundation Tax Rate FY 1991	Approved Capital Debt Payment FY 1991	Above Avg. Per Pupil Spending FY 1990	Long-term Average Number of Students FY 1991
			Total	Operating					
Benson	379,177	3,628	0.68	0.66	1.20	1.015	21,780	(569)	181.80
Brandon	1,320,445	3,400	0.56	0.52	1.18	1.045	162,316	(782)	812.39
Castleton	1,843,350	3,223	0.80	0.69	1.17	1.065	279,112	(948)	643.87
Chittenden	725,774	3,893	0.98	0.98	1.15	1.095	111	(322)	213.49
Clarendon	980,536	3,038	0.44	0.37	1.17	1.055	178,211	(1,121)	573.91
Danby	780,489	4,192	1.00	0.97	1.18	1.025	27,500	(42)	212.05
Fair Haven	724,186	3,409	0.40	0.34	1.18	1.025	160,027	(774)	614.46
Hubbardton	477,792	3,179	0.53	0.49	1.22	1.065	20,800	(989)	77.67
Ira	167,997	4,973	1.26	1.26	1.17	1.045	0	688	72.58
Mendon	1,014,357	4,130	0.64	0.64	1.14	1.205	0	(100)	165.56
Middletown Sprin	387,599	3,668	0.86	0.86	1.17	1.065	0	(532)	116.86
Mt. Holly	1,013,593	3,613	0.74	0.70	1.10	1.065	39,779	(583)	215.52
Mt. Tabor	105,090	3,657	0.86	0.83	1.21	1.045	3,700	(542)	26.00
Pawlet	721,446	3,772	0.87	0.87	1.18	1.055	0	(435)	217.09
Pittsfield	682,792	3,429	0.26	0.26	1.24	1.115	1,384	(755)	54.00
Pittsford	1,613,276	3,713	0.96	0.91	1.15	1.085	108,265	(490)	529.70
Poultney	1,361,442	4,300	1.05	1.05	1.17	1.055	0	59	486.27
Proctor	681,639	5,130	1.47	1.43	1.14	1.075	53,975	834	330.11
Rutland City	6,672,076	3,895	0.98	0.96	1.15	1.085	189,110	(320)	2245.85
Rutland Town	3,933,106	4,373	0.66	0.64	1.14	1.125	62,172	127	605.25
Sherburne	5,023,307	5,926	0.14	0.13	1.17	1.165	27,779	1,578	116.38
Shrewsbury	682,159	3,161	0.88	0.76	1.18	1.105	87,470	(1,006)	198.06
Sudbury	356,314	3,516	0.88	0.81	1.19	1.055	26,829	(674)	96.01
Tinmouth	324,894	3,429	0.76	0.74	1.16	1.015	6,630	(755)	105.80
Wallingford	1,000,554	3,657	0.86	0.82	1.17	1.085	77,290	(542)	440.06
Wells	728,437	3,148	0.68	0.61	1.17	1.045	56,562	(1,018)	156.08
West Haven	136,906	4,372	1.05	1.02	1.19	1.035	7,012	126	55.97
West Rutland	786,139	4,412	1.15	1.11	1.16	1.055	63,713	.63	372.10

Note: Changes in the Grand List and changes in the school population due to a development will not affect state aid until at least one year later. To isolate the effect of the development being studied from other changes, we have used FY 91 data from the Dept. of Education and estimated changes in the Grand List and budget due only to the development being studied and inflation (7% for school costs, 5% for fmv).

WASHINGTON COUNTY

Table B. Where Towns Are on the State Aid Formula -- 1990

Town	Fair Market Value (\$)	
	A Amount Needed To Get Off Formula	B Add to Column A For Each New Student
Barre City	281,556,119	397,802
Barre Town	280,727,891	377,424
Berlin	4,538,615	384,642
Cabot	38,859,898	401,527
Calais	57,494,323	392,022
Duxbury	21,710,706	387,892
East Montpelier	83,621,711	379,796
Fayston	(49,309,821)	374,845
Marshfield	44,536,422	406,240
Middlesex	66,380,528	386,227
Montpelier	85,168,494	369,085
Moretown	34,682,359	382,769
Northfield	220,550,019	389,846
Plainfield	52,924,786	400,417
Roxbury	34,089,592	419,590
Waitsfield	(30,728,065)	374,538
Warren	(187,798,810)	363,069
Waterbury	93,510,542	381,104
Woodbury	21,684,866	403,577
Worcester	50,985,226	404,505

Until the town gains the amount of fair market value (FMV) in Column A, increases in Grand List will reduce State Aid. After the town has gained the amount of FMV in Column A it will be "off the formula" and it will begin to gain full school tax benefits from any additions to the Grand List.

If a new development adds to school enrollments, the town will need to gain even more Grand List to get off the formula. Use Worksheet 8 to calculate if the town will be on the formula after a development which adds students.

() denote towns off the formula now. This amount must be "lost" for towns to receive formula aid. For these towns, Column B is the amount of FMV needed to pay for one pupil.

Table C. Data To Be Used in Estimating Changes in the School Tax Rate.

WASHINGTON COUNTY

Town	Equalized Grand List FY 1990	Estimated Operating Cost Per Pupil FY 1991	Estimated FY 91		Per Pupil Weight FY 1991	Foundation Tax Rate FY 1991	Approved Capital Debt Payment FY 1991	Above Avg. Per Pupil Spending FY 1990	Long-term Average Number of Students FY 1991
			Total	Operating					
Barre City	2,793,089	4,376	1.08	1.08	1.17	1.055	0	130	1409.91
Barre Town	2,622,239	3,739	0.86	0.84	1.16	1.095	131,271	(466)	1449.43
Berlin	1,726,351	4,183	1.07	1.02	1.16	1.075	99,955	(51)	460.62
Cabot	552,700	4,129	1.01	0.99	1.14	1.015	21,550	(101)	234.43
Calais	638,129	3,529	0.76	0.71	1.16	1.075	68,105	(662)	309.44
Duxbury	537,033	3,865	0.93	0.92	1.16	1.065	7,800	(348)	194.42
East Montpelier	919,124	4,266	1.17	1.09	1.16	1.095	148,605	27	462.18
Fayston	981,671	4,607	0.62	0.58	1.14	1.085	39,398	346	130.34
Marshfield	438,899	4,070	1.03	0.93	1.16	1.025	88,894	(156)	217.67
Middlesex	539,320	3,594	0.75	0.71	1.16	1.075	42,952	(601)	308.83
Montpelier	3,725,745	4,536	1.24	1.18	1.16	1.125	260,050	279	1240.21
Moretown	613,888	4,054	1.01	0.99	1.17	1.095	22,000	(171)	250.99
Northfield	1,200,585	3,637	0.68	0.66	1.16	1.065	90,000	(561)	873.70
Plainfield	383,703	3,944	0.92	0.83	1.19	1.065	86,958	(274)	228.00
Roxbury	226,515	3,158	0.43	0.35	1.18	1.005	47,165	(1,009)	135.23
Waitsfield	1,154,637	4,311	0.79	0.77	1.16	1.105	26,815	69	226.24
Warren	2,552,027	7,446	0.53	0.52	1.14	1.125	41,320	2,099	185.65
Waterbury	1,953,969	4,223	1.08	1.06	1.17	1.095	41,241	(13)	771.20
Woodbury	245,856	4,270	1.07	1.02	1.16	1.025	26,816	31	148.56
Worcester	522,798	4,280	1.05	1.02	1.18	1.045	19,631	40	190.79

Note: Changes in the Grand List and changes in the school population due to a development will not affect state aid until at least one year later. To isolate the effect of the development being studied from other changes, we have used FY 91 data from the Dept. of Education and estimated changes in the Grand List and budget due only to the development being studied and inflation (7% for school costs, 5% for fmv).

WINDHAM COUNTY

Table B. Where Towns Are on the State Aid Formula -- 1990

Town	Fair Market Value (\$)	
	A Amount Needed To Get Off Formula	B Add to Column A For Each New Student
Athens	14,861,157	422,369
Brattleboro	(3,013,572)	385,159
Brookline	3,166,714	392,869
Dover	(350,200,966)	576,735
Dummerston	877,553	378,523
Grafton	(31,625,348)	390,574
Guilford	18,283,999	378,788
Halifax	(24,073,145)	391,691
Jamaica	(39,200,937)	417,836
Londonderry	(88,667,677)	373,165
Marlboro	(8,968,006)	380,176
Newfane	(10,045,508)	374,611
Putney	18,161,912	377,362
Rockingham	240,103,789	401,332
Stratton	(228,599,584)	351,755
Townshend	(10,620,282)	390,466
Vernon	(484,761,985)	380,491
Wardsboro	(20,254,182)	394,791
Westminster	119,727,899	393,081
Whitingham	(100,864,340)	398,366
Wilmington	(150,812,733)	378,887
Windham	(21,113,863)	405,137

Until the town gains the amount of fair market value (FMV) in Column A, increases in Grand List will reduce State Aid. After the town has gained the amount of FMV in Column A it will be "off the formula" and it will begin to gain full school tax benefits from any additions to the Grand List.

If a new development adds to school enrollments, the town will need to gain even more Grand List to get off the formula. Use Worksheet 2 to calculate if the town will be on the formula after a development which adds students.

(-) denote towns off the formula now. This amount must be "lost" for towns to receive formula aid. For these towns, Column B is the amount of FMV needed to pay for one pupil.

Table C. Data To Be Used in Estimating Changes in the School Tax Rate.

WINDHAM COUNTY

Town	Equalized	Estimated	Estimated FY 91		Per Pupil Weight	Foundation Tax Rate	Approved Capital Debt Payment	Above Avg. Per Pupil Spending	Long-term Average Number of Students
	Grand List	Operating Cost	Effective School Tax Rate	Operating					
	FY 1990	FY 1991	Total	Operating	FY 1991	FY 1991	FY 1991	FY 1990	FY 1991
Athens	133,404	3,349	0.61	0.53	1.19	1.005	24,476	(830)	66.77
Brattleboro	6,995,280	4,633	1.12	1.10	1.12	1.095	134,447	370	1808.38
Brookline	239,294	4,712	1.25	1.15	1.17	1.065	28,981	444	68.97
Dover	4,216,977	2,869	0.13	0.12	1.14	1.085	50,830	(1,279)	189.78
Dummerston	1,056,805	4,469	1.10	1.09	1.15	1.085	12,644	217	281.51
Grafton	745,455	4,127	0.71	0.58	1.16	1.065	105,557	(103)	109.89
Guilford	1,050,693	3,718	1.03	0.92	1.15	1.085	143,471	(485)	325.65
Halifax	583,462	3,429	0.49	0.49	1.17	1.065	0	(755)	87.50
Jamaica	907,870	5,285	0.75	0.68	1.22	1.045	59,405	979	123.46
Londonderry	1,924,300	5,033	0.69	0.69	1.15	1.105	0	744	278.06
Marlboro	658,385	3,548	0.78	0.73	1.15	1.085	35,593	(644)	149.59
Newfane	1,076,055	3,910	0.91	0.86	1.15	1.095	55,872	(306)	260.43
Putney	990,654	4,046	1.03	1.02	1.16	1.095	16,922	(179)	310.65
Rockingham	1,928,140	4,044	0.95	0.91	1.17	1.045	177,679	(181)	1070.80
Stratton	2,349,558	4,555	0.07	0.03	1.21	1.225	81,000	297	18.07
Townshend	734,228	4,421	1.01	0.89	1.16	1.065	94,848	172	160.84
Vernon	6,240,939	5,513	0.31	0.31	1.14	1.075	23,528	1,192	366.19
Wardsboro	661,250	4,068	0.65	0.65	1.18	1.065	0	(158)	116.19
Westminster	1,189,432	3,847	0.92	0.86	1.16	1.055	162,594	(365)	607.18
Whitingham	1,859,155	6,488	0.73	0.71	1.18	1.055	33,283	2,104	213.50
Wilmington	2,790,053	4,882	0.61	0.56	1.15	1.085	148,760	603	338.34
Windham	411,236	4,187	0.48	0.48	1.18	1.045	0	(47)	49.39

Note: Changes in the Grand List and changes in the school population due to a development will not affect state aid until at least one year later. To isolate the effect of the development being studied from other changes, we have used FY 91 data from the Dept. of Education and estimated changes in the Grand List and budget due only to the development being studied and inflation (7% for school costs, 5% for fmv).

WINDSOR COUNTY

Table B. Where Towns Are on the State Aid Formula -- 1990

Town	Fair Market Value (\$)	
	A Amount Needed To Get Off Formula	B Add to Column A For Each New Student
Andover	(22,006,581)	379,325
Baltimore	11,775,029	421,849
Barnard	(15,906,388)	380,408
Bethel	63,737,268	408,373
Bridgewater	(15,467,274)	406,437
Cavendish	7,993,802	410,167
Chester	76,819,836	388,156
Hartford	65,679,773	373,254
Hartland	38,933,093	375,261
Ludlow	(243,126,336)	372,157
Norwich	(68,104,250)	319,750
Plymouth	(105,964,287)	349,637
Pomfret	(27,916,932)	362,086
Reading	(16,774,551)	384,514
Rochester	2,052,235	403,234
Royalton	96,254,637	399,130
Sharon	26,771,889	379,510
Springfield	347,521,466	392,917
Stockbridge	(18,474,713)	404,722
Weathersfield	58,094,151	385,699
Weston	(64,292,984)	363,731
West Windsor	(139,217,256)	353,970
Windsor	106,392,874	385,638
Woodstock	(177,435,219)	355,119

Until the town gains the amount of fair market value (FMV) in Column A, increases in Grand List will reduce State Aid. After the town has gained the amount of FMV in Column A it will be "off the formula" and it will begin to gain full school tax benefits from any additions to the Grand List.

If a new development adds to school enrollments, the town will need to gain even more Grand List to get off the formula. Use Worksheet 8 to calculate if the town will be on the formula after a development which adds students.

() denote towns off the formula now. This amount must be "lost" for towns to receive formula aid. For these towns, Column B is the amount of FMV needed to pay for one pupil.

Table C. Data To Be Used in Estimating Changes in the School Tax Rate.

WINDSOR COUNTY

Town	Equalized	Estimated	Estimated FY 91		Per	Foundation	Approved	Above Avg.	Long-term
	Grand	Operating	Effective School	Tax Rate	Pupil	Tax Rate	Capital	Per Pupil	Average
	List	Cost	Tax Rate		Weight		Debt	Spending	Number of
	FY 1990	FY 1991	Total	Operating	FY 1991	FY 1991	FY 1991	FY 1990	Students
							Payment		FY 1991
Andover	426,987	3,919	0.50	0.48	1.15	1.085	9,501	(297)	54.55
Baltimore	51,538	4,389	1.03	1.03	1.19	1.005	0	142	40.13
Barnard	824,256	4,184	0.83	0.81	1.15	1.085	15,328	(50)	173.24
Bethel	850,819	3,948	0.92	0.87	1.19	1.045	78,196	(27C)	364.42
Bridgewater	781,602	4,406	0.81	0.79	1.20	1.055	10,543	158	154.25
Cavendish	824,727	4,194	1.03	0.97	1.19	1.035	55,626	(40)	220.56
Chester	1,518,157	3,980	1.01	0.96	1.16	1.065	136,359	(240)	589.03
Hartford	5,280,064	3,697	0.97	0.93	1.15	1.105	246,770	(505)	1590.57
Hartland	1,506,022	3,808	0.98	0.95	1.15	1.095	72,000	(401)	503.68
Ludlow	3,845,052	4,688	0.44	0.44	1.13	1.085	0	421	379.89
Norwich	2,567,409	2,378	0.54	0.48	1.14	1.275	163,100	(1,738)	589.95
Plymouth	1,195,652	4,927	0.15	0.15	1.10	1.125	0	645	38.90
Pomfret	835,152	4,408	0.79	0.77	1.16	1.145	12,834	160	153.55
Reading	536,763	4,585	0.76	0.75	1.19	1.105	7,227	325	95.97
Rochester	758,526	4,933	1.21	1.15	1.20	1.065	48,082	650	193.20
Royalton	839,048	3,266	0.59	0.53	1.17	1.045	102,361	(908)	451.38
Sharon	578,854	3,369	0.91	0.75	1.16	1.095	141,424	(811)	223.07
Springfield	3,614,195	3,816	0.87	0.84	1.17	1.065	197,414	(394)	1804.30
Stockbridge	528,396	4,205	0.69	0.64	1.17	1.035	25,936	(30)	84.91
Weathersfield	1,165,155	4,255	1.06	1.06	1.16	1.075	0	17	452.71
Weston	905,289	4,825	0.37	0.37	1.20	1.175	0	549	72.13
West Windsor	1,980,471	4,025	0.33	0.32	1.13	1.145	11,400	(198)	166.20
Windsor	2,395,000	4,949	1.33	1.33	1.16	1.075	0	665	577.72
Woodstock	3,688,726	4,429	0.65	0.62	1.15	1.155	113,770	179	539.08

Note: Changes in the Grand List and changes in the school population due to a development will not affect state aid until at least one year later. To isolate the effect of the development being studied from other changes, we have used FY 91 data from the Dept. of Education and estimated changes in the Grand List and budget due only to the development being studied and inflation (7% for school costs, 5% for fmv).

END

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