

Step by Step Guide:

How to conduct Cost of Community Services ratios for your Massachusetts town

To conduct Cost of Community Services ratios for your town you will need the following:

- Assessors data for all the parcels in town including:
 - Land use code
 - Land value
 - Yard value
 - Building value
 - Total value
- Town revenues for the most recent fiscal year broken down by source
- Town expenses for the most recent fiscal year broken down by department and expense
- Knowledge of Excel
- Knowledge of town operations

Step 1: dividing the parcels

1. Create 5 sheets within an excel workbook to organize the parcel data. Name the sheets: Exempt, Open Space, Commercial/ Industrial, Residential, and Multi-use
2. Use the Massachusetts [land use code guide](#) to divide the parcels by land use, and paste the data into the sheets you created in the previous step
 - a. “undevelopable” land in each category should be characterized as open space
3. In 3 new columns on each sheet except “exempt”, calculate the approximate tax revenue for the land, yard and building value by dividing the value by 1,000 and multiplying it by the town tax rate
 - a. Some towns have different tax rates for commercial and residential land or for different locations within town- make sure you use the correct rates
4. For open space and commercial land, total the estimated taxes column
5. For residential land below 10 acres total the estimated taxes column
6. For residential land above 10 acres, total the “yard” and “building” taxes and add them to the total above, and add the “land” taxes to open space
7. For multi-use properties that are residential and/or commercial and open space combined, add the “yard” and “building” taxes to residential or commercial and the “land” taxes to open space
8. In a new sheet, add the total estimate tax revenue for each of the 3 land uses, and divide each by the total to get a percentage for each land use (residential, commercial/industrial, and open space)
 - a. These percentages will be used throughout the analysis and are sometimes referred to as “fallback percentages”

Step 2: organizing the revenues

1. Create 3 new columns in your revenue spreadsheet titled “open space” “commercial/ industrial” and “residential”
2. Use the percentages calculated above to assign actual property tax revenues to land uses (multiply the percentage for each category by the total property tax receipts)
3. For other revenue sources, assign to land uses based on logic and the percentages.
 - a. For example, human services funding should only be assigned to residential land because the money is only coming in because of residents.
 - b. Water enterprise funding should be assigned to residential, commercial and industrial land
 - c. Revenue that can not be assigned to a given land use, such as investment income, should be split up based on the fallback percentages
4. Add up the total for each of the 3 columns
5. Check your work by making sure that the sum of the 3 columns adds up to the total town revenue

Step 3: organizing the expenses

1. Create 3 new columns in your expenses spreadsheet titled “open space” “commercial/ industrial” and “residential”
2. Assign expenses to land use based on logic and knowledge of town operations for example:
 - a. Human services such as education, parks and cemeteries, recreation, library ETC should be assigned to residential land
 - b. Agriculture expenses should be assigned to open space
 - c. Commercial services such as the health inspector should be assigned to commercial/industrial land
 - d. Water, waste and snow services should be assigned to commercial and residential
 - e. For all activities that benefit the entire town and can not be logically attributed to only one or two land uses, use the fallback percentages calculated in step one to assign expenses
3. Add up the total for each of the 3 columns
4. Check your work by making sure that the sum of the 3 columns adds up to the total town expenses

Step 4: calculating the ratios

- In a new sheet, make a table such as the one shown here
 - Divide the expenses for each land use by the revenues from each land use

	revenue	expenses	ratio
open space	\$1,591,398.54	552,120.03	0.35
commercial/industrial	\$5,028,667.29	1,879,392.33	0.37
residential	\$22,223,753.17	24,959,249.64	1.12
Total	\$28,843,819.00	27,390,762.00	0.95

References:

- American Farmland Trust. 1992. Does Farmland Protection Pay? The Cost of Community Services in Three Massachusetts Towns. Northampton, MA: American Farmland Trust.
- Kelsey, T. W. 1998. Calculating a Cost of Community Services Ratio for your Pennsylvania Community. State College, PA: The Pennsylvania State University
- Kotchen, M.J. and Schlute, S.L. 2009. A Meta-Analysis of Cost of Community Services Studies. *International Regional Science Review* 32(3):376-399