

~ Fiscal Analysis~

Town of Guilderland

"Fiscal impact analysis compares the public cost and revenues associated with residential and commercial growth, and predicts the relative impact on future property taxes between different future land use scenarios."

1. Model Description and Methodology

This fiscal analysis is designed to predict the relative impact of future land use scenarios on the taxes paid by Guilderland residents. The model's primary input is designed around 'acres of land,' and determines the future population¹ by year from the proposed levels of growth in acres, using different land use categories. The expense side of the model uses a per capita method to translate the population growth into the projected expenses to the town and the school district. The per capita cost is the average cost per person to the town, and per pupil for the school district. The average cost for each is then multiplied by the increased population caused by the proposed land use scenario. The per capita costs² are then adjusted by the municipal service area to account for fixed costs and existing excess capacity, or existing inadequate capacity. The model also incorporates large capital expenditures that are triggered by population growth like sewer, water, and school expansions.

The revenue side of the model³ is based on the increased property taxes that are generated by the proposed land use scenario. When the amount of acres for each land use type are changed each year, they either increase or decrease the assessed value from which the town generates its revenue.

¹The population comes from the quantity of new housing (Housing Units x Multiplier=People). The school age population also comes from new housing (Housing Units x Multiplier=Pupils).

²Per Capita costs are determined by dividing the existing town expenditures by the existing number of people, and dividing the existing school expenditures by the existing number of pupils.

³Increased property assessment is based on the newly added market value per year x assessment factor = new assessed value. Total new assessed value x property tax rate=property tax revenue. The school revenue operates in the same manner.

Each of the different housing types generates a different number of housing units per acre.⁴ The number of housing units for each housing type is then multiplied by an estimate of the median value for that respective type of new housing⁵ in Guilderland. The resulting sum is then equalized and added to the total assessed value.

The change in assessed value for commercial property is generated by multiplying the new acres for each of the four commercial types used by the average value for each. The model also incorporates a percentage adjustment that allows the user to increase the value of existing commercial areas without adding acreage. This adjustment was built in for two reasons. The first reason is to account for the fact that the existing industrial park is all considered industrial acreage, although it is not built out. The value adjustment allows the user to increase the value of those acres as the park is built-out, without increasing acreage. The second reason is to account for increased value of other existing property as the density of these commercial areas increase, again without adding additional acres.

In addition to the increased assessment, other local and school revenues are generated using the per capita method described above in the expense side of the model. Other revenues include local fees and charges such as interest, rents, licenses, permits and service charges, fines, and inter-governmental aid, perhaps most relevant to the school district. The costs and revenues are compared over several years. The results are then displayed in the residential tax rates when you compare the same year in the future under different land use scenarios.

There are several assumptions built into this model which may cause the results to be an inaccurate representation of the actual future tax rates.

However, as long as those assumptions remain the same for each evaluated scenario, the results of a comparison of the different scenarios will provide valuable information to the community as it decides which direction to proceed.

⁴The housing units per acre are derived from the average existing number of units per acre for that type of housing.

⁵These figures are found in the Multipliers Table.

2. Assumptions

Primary sources of data for this model are the official town and school district budgets⁶, and census data. Information from the budgets was then augmented with information collected through interviews with representatives from Guilderland's government and school district. The assumptions described below are made based on the best available information at the time.

The base year for this analysis is 2000, the latest year in which complete data sets were available at the beginning of the project. The table below shows the base year figures.

Table 1: Base Year Figures

Town of Guilderland (2000)		Guilderland Central School (2000-01)	
Current Population (WT)	32,688	Student Population	5,668
Current Population (PT)	30,951	Total Budget	\$58,933,454
Altamont Village	1,737	Operating Cost per Student	\$8,728
Housing Units	\$13,928	New Construction Cost per Student	\$8,800
Town Taxable Assessed Value (WT)	\$1,914,330,970	Share Attending Private Schools	7.70%
Town Taxable Assessed Value (PT)	\$1,845,878,789	School Tax Rate (per \$1000 assessed value)	\$19.94
Town Tax Rate (per \$1000 AV)	\$ 0.346	School Tax Levy	\$38,173,705
Town Tax Levy	\$ 662,990	State Aid Revenue	\$18,001,915
Highway, Water & Sewer Tax Property Levy	\$7,881,518	State Aid Per Student	\$2,931

The per capita method of fiscal analysis is based on the built-in assumption that for each new person introduced into the population there will be a corresponding increase in expenses. The revenue and expense work sheets shown below contain an assumption that refines the lock-step increase in revenues and expenses with increases in population. Under each category the model allows for a percentage of those revenues and expenses to be fixed. The percentage that is fixed is then removed preventing the unrealistic increase in revenues and expenses. The percentages shown below are best guess estimates based on the interviews and discussions with members of the various departments of the Town of Guilderland.

⁶For the purposes of this model only the Guilderland school district was used.

Table 2: Expense Work Sheet

FUND A WT Sewer Fund	Gen Gov	Pub Safety	Transp		Sewer			TOTAL
Expend	\$2,566,663	\$3,578,099	\$162,428		\$4,196,364			\$10,503,554
% of Total	24.44%	34.07%	1.55%		39.96%			100%
Res Per Capital Exp.	\$78.52	\$109.46	\$4.97		\$128.38			\$321.33
% of Exp. Fixed	50.00%	30.00%	30.00%		75.00%			
Non Fixed Exp. Per Cap	\$39.26	\$76.62	\$3.48		\$32.09			\$151.46
FUND B PT, Highway & Water Funds	Gen Gov	Pub Safety	Transp	Home & Com. Serv	Highway	Recreation	Water	Total
Expend	\$1,880,756	\$531,133	\$100,000	\$692,199	\$3,172,641	\$1,060,429	\$4,089,793	\$11,526,951
% of Total	16.32%	4.61%	0.87%	6.01%	27.52%	9.20%	35.48%	100%
Res. Per Capital Exp	\$60.77	\$17.16	\$3.23	\$22.36	\$102.51	\$34.26	\$125.12	\$365.40
% of Exp Fixed	30.00%	30.00%	30.00%	25.00%	60.00%	30.00%	35.00%	
Non fixed Exp. Per Cap	\$42.54	\$12.01	\$2.26	\$16.77	\$41.00	\$23.98	\$81.33	\$219.89

Table 3: Non Tax Revenue Worksheet

FUND A WT	Gen Gov - Non Tax				Total
Revenues	\$1,500,877				\$1,500,877
Per Capita Revenue	\$45.92				
% Rev. Fixed	80.00%				
Adj. Rev. Per Cap	\$9.18				\$9.18

FUND B PT	Gen Gov -Non Tax	Highway- Non Tax	Water -Non Tax	Sewer -Non Tax	Total
Revenues	\$823,400	\$505,100	\$1,467,750	\$217,881	\$3,014,131
Per Capita Revenue	\$26.60	\$16.32	\$47.42	\$7.04	
% Rev. Fixed	80.00%	80.00%	80.00%	80.00%	
Adj. Rev. Per Cap	\$5.32	\$3.26	\$9.48	\$1.41	\$19.48

There are several other critical multipliers used in addition to fixing a percentage of the revenue and expenses. These multipliers are shown in the chart below. The first multiplier deals with population assumptions - that is the number of new residents per housing unit, and the number of new school age children per housing unit. The number of residents per new housing unit is set at 2.4 - a number derived from the census. Census figures had the Town of Guilderland at 2.5 new residents per housing unit, however for this model the number was reduced to 2.4. This reduction is based on a Capital District Regional Planning Commission projection that shows the figure declining to 2.3 persons per housing unit by 2020.

The assumption for the school age children per new housing unit is 0.84 new students per housing unit. This assumption is initially based on a 1992 Guilderland School District study. The study determined that each new housing unit added 1.89 students per housing unit in a couple of new typical developments at the time. The 1.89 number was reduced and separated into seven different numbers, allowing one for each of the seven different housing types in Guilderland. The seven numbers are reduced from 1.89 based on comparisons with national and regional census data, along with a ten year history of new students entering the school district, and new housing units in Guilderland. The seven numbers are then combined using a weighted average based on the percentage for each type of housing in Guilderland (Each housing type multiplier is an individually adjustable assumption). The resulting number that the weighted average yields is 1.12. This number is then reduced to 0.84 by the school age multiplier adjustment described below.

To further increase the accuracy of the new school age children per housing unit number, and to account for background population decrease, the model has a school age children multiplier adjustment input and a school enrollment adjustment. These two inputs can be used to account for background population fade, commonly referred to as "empty nester" syndrome. Each of these adjustments can reduce or increase the population entering the Guilderland school district by any percentage deemed appropriate.

The next set of assumptions are the high and low housing growth rates that are used in the six scenarios below. These rates are based, as noted on the chart, on the past five and ten-year trends. The five-year trend is used in the slow growth scenario and equals 140 new housing units each year. The ten-year trend is used in the high growth

scenario and equals 210 new housing units each year. The next assumption is the interest rate used for all of the debt service calculations. This percentage rate comes from the current rate used for the 2000 sewer and water debt. The new construction market values for the seven different types of housing units are based on 1998 home sales in Guilderland and are consistent with current trends. The market rates are reduced by 10% for the value of land already on the tax roles and then equalized.

Table 4: Multipliers

Population	
Population (WT)	32,688
Population (PT)	30,951
Village of Altamont	1,737
Multipliers	
Population Increase per Housing Unit	2.4
School Age Person Per Housing Unit	0.84
SAC Multiplier Adjustment	75%
Average School Age Children (SAC) New Housing Units	1.12
Residential Growth Rate (Housing Units) Ten year average housing unit growth rate	1.53%
Residential Growth Rate (Housing Units) Five year average housing unit growth rate.	1.03%
Interest Rate on Bonds	5.00%
Median Housing Unit Market Value (1998)	\$ 120,000
New Construction Market Value (Reduced for property on tax roles and equalized)	
Single Family Residential	\$182,180
Rural Residential	\$341,588
Two Family Residential	\$91,090
Three Family Residential	\$81,981
Multiple Res. Units One Lot	\$136,635
Apartments	\$81,981
Mobile Homes (in parks)	\$45,545

% Change in Sales Tax Revenue	0.00%
Per Acre Cost of Open Space Protection	\$4,000
Cost P& I over 20 years (4.5%)	\$321
Commercial Average Assessed Dollars Per Acre	
Industrial (outside park)	\$327,924
Rec. Enter	\$11,291
Comm. Retail (STD)	\$298,526
Comm. Office	\$423,152
MALL RETAIL	\$1303,632
Reduction for Existing Land	10%

The change in the town's share of sales tax revenue is set at zero percent (0%), and is explained in the note section below. The per acre cost of open space protection is set at \$4,000 and is based on the cost of purchasing development rights, not the cost of an outright purchase of land. The school capacity without construction assumption is based on an interview with the school district administrator, as is the per student cost of new construction. The assumptions for average assessed dollars per acres for each type of commercial development are based on analysis of Guilderland's assessment roles, and several discussions with the town assessor. They were adjusted further after discussions with the economic development sub-committee. Finally, the total values for new construction were reduced by 10% to account for the value of land already on the tax roles.

In addition to these structural assumptions, the following six scenarios represent the future land use options that result from the model's analysis. These six scenarios are designed to represent plausible future land use scenarios. The model allows an infinite number of test scenarios and unlimited flexibility in the level of detail into which a scenario can be defined.

3. Fiscal Model Scenario Definitions

The following six scenarios use consistent growth rates for the changing acres of land use over the next twenty years. The inputs may be customized by year, if desired. The growth rates are based on trends derived from Guilderland's historical growth rates and then adjusted for the purpose of exploring different future land use patterns.

Table 5: Scenario 1

This scenario assumes a steady state growth rate (historic trend) for both housing and industrial/commercial.

	Increase in Acres/Units Per Year	Total Increase Over 20 Years
Housing (all types)	114 acres / 140 units	2287 acres / 2800 units
Industrial	1.2	24
Retail & Rec. Retail	2.9	57
Office	1.73	34.6

Table 6: Scenario 2

This scenario assumes a steady state growth rate for both housing and commercial/industrial, with a land conservation program and spending for paths, parks and public facilities.

	Increase in Acres/Units Per Year	Total Increase Over 20 Years
Housing (all types)	114 acres / 140 units	2287 acres / 2800 units
Industrial	1.2	24
Retail & Rec. Retail	2.9	57
Office	1.73	34.6
Protected Open Space	100	2000

Spending for paths, parks, and public facilities is set at \$750,000 per year.

Table 7: Scenario 3

This scenario assumes a steady state residential growth rate, a complete build out of the Guilderland school district's portion of the industrial park, along with steady state increases in other commercial growth (retail/office/recreational). In addition, this scenario includes a land conservation program and spending for paths, parks, and public facilities.

	Increase in Acres/Units Per Year	Total Increase Over 20 Years
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Housing (all types)	114 acres / 140 units	2287 acres / 2800 units
Industrial	4.7	94
Retail & Rec Retail	2.9	57
Office	1.73	34.6
Protected Open Space	100	2,000

Spending for paths, parks, and public facilities is set at \$750,000 per year.

Table 8: Scenario 3a

This scenario assumes a steady state residential growth rate, and a complete build out of the Guilderland school district’s portion of the industrial park, development of additional industrial acreage outside of the park, a significant increase in office acreage, and real value increases in existing retail/office/recreational areas. This scenario also includes a water/sewer expansion beyond what is already planned, in addition to a land conservation program, and spending for paths, parks and public facilities.

	Increase in Acres/Units Per Year	Total Increase Over 20 Years
Housing (all types)	114 acres / 140 units	2287 acres / 2800 units
Industrial	11.5	230
Retail & Rec. Retail	2.9	57
Office	3.5	70
Protected Open Space	100	2000

Spending for paths, parks, and public facilities are set at \$750,000 per year. Sewer/water expansion goes in as 1.1 million a year in the fourteenth year. The real value increase is .5% per year.

Table 9: Scenario 4

This scenario assumes significant additional residential growth beyond the steady state, along with steady state growth in industrial /commercial. This scenario also includes a water/sewer expansion beyond what is already planned, in addition to a land conservation program, and spending for paths, parks and public facilities.

	Increase in Acres/Units Per Year	Total Increase Over 20 Years
Housing (all types)	152 acres / 210 units	3034 acres / 4206 units
Industrial	1.2	24
Retail & Rec. Retail	2.9	57
Office	1.73	34.6
Protected Open Space	100	2000

Spending for paths, parks and public facilities are set at \$750,000 per year. Sewer/water expansion goes in as

1.1 million a year in the fourteenth year.

Table 10: Scenario 5

This scenario assumes significant residential growth beyond the steady state, and a complete build out of the Guilderland school district’s portion of the industrial park, along with development of additional industrial acreage outside of the park, a significant increase in office acreage, and real value increases in existing retail/office/recreational areas. This scenario also includes a water/sewer expansion beyond what is already planned, in addition to a land conservation program, and spending for paths, parks and public facilities.

	Increase in Acres/Units Per Year	Total Increase Over 20 Years
Housing (all types)	152 acres / 210 units	3034 acres / 4206 units
Industrial	11.5	230
Retail & Rec. Retail	2.9	57
Office	3.5	70
Protected Open Space	100	2000

Spending for paths, parks, and public facilities are set at \$750,000 per year. Sewer/water expansion goes in at 1.6 million a year in the fourteenth year. The real value increase is .5% per year.

4. Findings

The findings of this fiscal analysis are summarized in the following tables and graph.

Table 11: FIFTH YEAR 2005

	Average Home Value	Equalized Value	Town	Highway	School	Total per Thousand	Total Taxes
Scenario 1	\$120,000	\$121,308	\$1.03	\$4.46	\$19.71	\$25.21	\$3,057.76
Scenario 2	\$120,000	\$121,308	\$1.41	\$4.46	\$19.71	\$25.59	\$3,104.44
Scenario 3	\$120,000	\$121,308	\$1.41	\$4.45	\$19.66	\$25.52	\$3,095.70
Scenario 3a	\$120,000	\$121,308	\$1.40	\$4.40	\$19.45	\$25.25	\$3,063.11

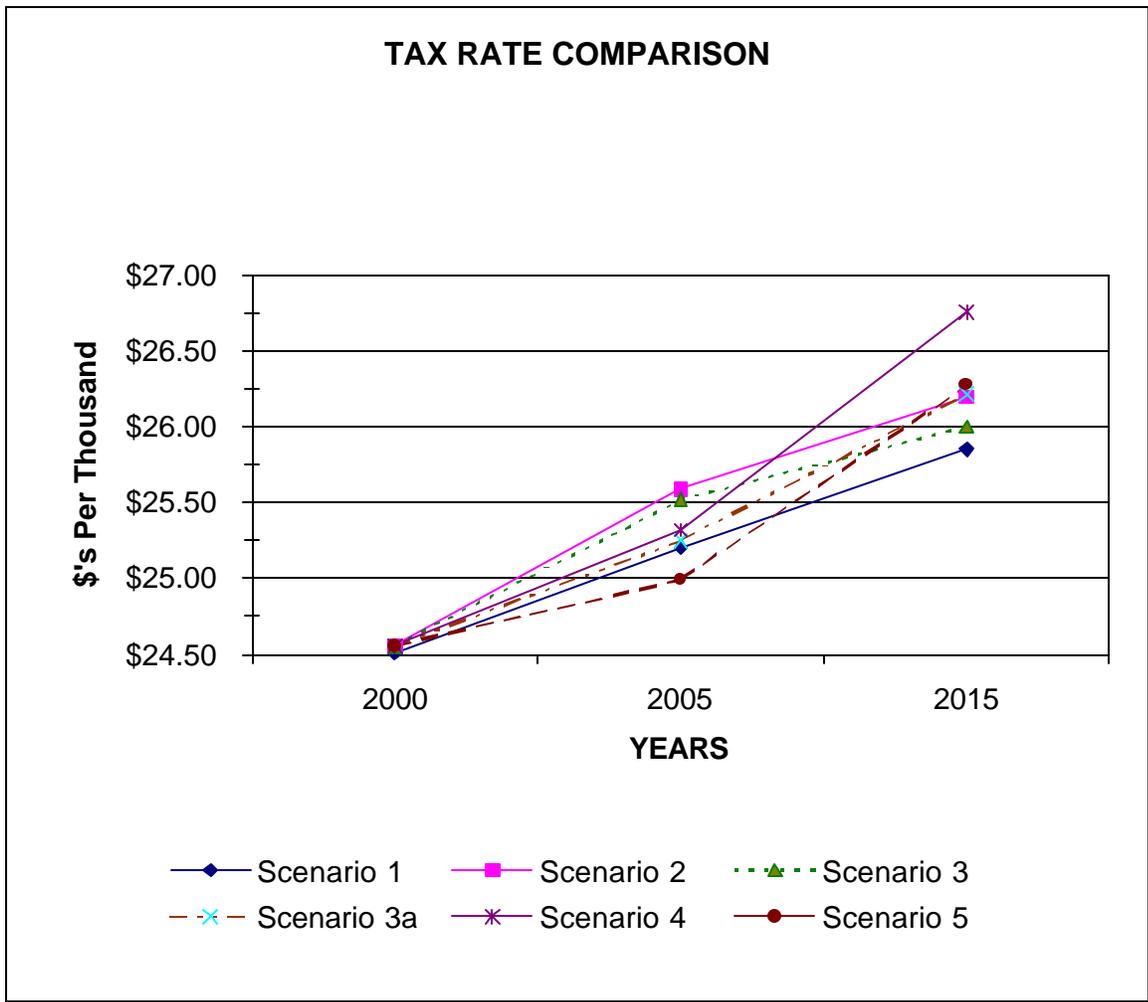
Scenario 4	\$120,000	\$121,308	\$1.51	\$4.41	\$19.40	\$25.32	\$3,071.21
Scenario 5	\$120,000	\$121,308	\$1.49	\$4.35	\$19.15	\$24.99	\$3,031.56

Table 12: FIFTEENTH YEAR 2015

	Average Home Value	Equalized Value	Town	Highway	School	Total per Thousand	Total Taxes
Scenario 1	\$120,000	\$121,308	\$1.66	\$4.53	\$19.66	\$25.85	\$3,136.21
Scenario 2	\$120,000	\$121,308	\$2.01	\$4.53	\$19.66	\$26.20	\$3,178.02
Scenario 3	\$120,000	\$121,308	\$1.99	\$4.50	\$19.51	\$26.00	\$3,154.09
Scenario 3a	\$120,000	\$121,308	\$2.41	\$4.84	\$18.96	\$26.22	\$3,180.19
Scenario 4	\$120,000	\$121,308	\$2.65	\$4.83	\$19.27	\$26.76	\$3,246.07
Scenario 5	\$120,000	\$121,308	\$2.76	\$4.87	\$18.64	\$26.28	\$3,187.60

Table 13: PERCENT CHANGE FROM BASE YEAR (2000)

	2005	2015
Scenario 1	3%	5%
Scenario 2	4%	7%
Scenario 3	4%	6%
Scenario 3a	3%	7%
Scenario 4	3%	9%
Scenario 5	2%	7%



The town, highway/water, and school figures showing dollars of assessed value per thousand in the preceding chart are generated by the model. On a separate spreadsheet (not shown here), the model determines these figures for each of the twenty years of the model run. The figures depicted are calculated by dividing the total tax levy for each category for the year shown by the town assessed value for that year.

Guilderland is fortunate in that it has the opportunity to plan the future use of the land within its boundaries before future growth and development closes off its choices. This fiscal analysis is one tool that helps shape the recommendations contained in the Comprehensive Plan and will be a useful tool in the implementing those

recommendations.

The six scenarios tested above demonstrate several lessons, as well as making it obvious that Guilderland can still exercise a great deal of control over its future growth. The model supports, in what has become common knowledge in recent years, that residential growth (with school age children) due to the disproportionate impact of the school budget typically does not completely pay for itself. In addition to the school cost impacts, Guilderland faces significant sewer and water capital expenses. The model also shows that a resource protection program (through compensation for conservation easements from willing sellers) and investment in public amenities does not dramatically increase the tax burden as many believe. In fact, it is likely that a tax increase would occur even without the benefits of open space protection. If balanced properly, Guilderland can grow in all areas while protecting valuable natural and recreational resources.

The tax rate summary chart and tax comparison graph demonstrates the disproportionate impact of residential growth on Guilderland taxes. The analysis predicts that scenario 4, with the higher residential growth rate, has a 2%-6% increase in taxes by the fifteenth year, over scenarios 1, 2, 3, and 3a, all with the lower residential growth rate. These increases occur despite significant growth in the amount of industrial and commercial development. Guilderland has developed as a bedroom community with comparatively small amounts of industrial development. Even when the percentage of industrial development is raised to nearly unrealistic levels, it is unable to fully counteract the tax burden shared by the community for the school system. In order to have high residential growth and to keep the impact on future taxes the same, the town will need to raise the assessed value of the existing commercial uses by half a percent each year, which is highly unlikely, and do a complete build out of the industrial park. In other words, to bring scenario 5 in line with scenario 4, it will be necessary to increase commercial assessments by 5 ½ million dollars more than in scenario 4 each year, and to develop 18 acres of commercial/industrial land per year.

Of these initial six scenarios, scenario 3 seems to have the most desirable outcome. With steady state growth rates in all areas (lower housing growth rate), and the complete build out of Guilderland's portion of the industrial park, scenario 3 allows for spending on resource protection and amenities with the smallest tax impact of the various scenarios observed.

Resource protection and amenities spending has a relatively minor impact on Guilderland's budget. Comparing scenarios 1 and 2, both with steady state growth rates for the major land use categories, scenario 2 adds spending of \$750,000 a year for public amenities, and the cost of protecting 100 acres a year of open space. This translate into a tax increase of only .35 cents per thousand of assessed value over fifteen years, or a two percent difference (For the median home valued at \$120,000, this translates into about \$4.00 per month). In addition to the relatively minor increase in costs, the numbers do not speak to the positive values generated in a town that provides open

spaces and pathway systems for its residents.

Nonetheless, a reasonable amount of well-planned commercial and industrial development that would occur without adding to existing water, sewer, and transportation systems costs should be a financial benefit to the community.

With this model in hand, the town can change and test the various scenarios used in the model, and arrive at the desired future direction the town decides to pursue.

5. Additional Notes

Property taxes shown on the summary sheet are not predictions of actual tax rates in the future. They are intended for comparison purposes only. There is no inflation in this model, therefore all numbers over time are comparable as if they were discounted. The actual numbers would be significantly higher due to inflation.

Sales tax revenue is included in the model. The model assumes the town's share of the county-collected tax remains the same, because there is no way to predict future sales tax revenue. Albany County distributes sales taxes on a per capita basis. However, even if Guilderland's population goes up, the Town could easily see a drop in its sales taxes revenue because the per capita distribution is relative to the population changes in every other municipality in the county. Increased retail sales within Guilderland's borders has the same impact on sales tax as equivalent growth in any other municipality in Albany County. Therefore, comparisons based on different land use scenarios will not be impacted by sales tax in a manner that can be reasonably predicted. The Crossgates assessment is not contemplated in this model.