Assessment Practices and Effective Tax Rate Variations in Bronxville*

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Executive Summary

The following study examines Bronxville's assessment practices relative to its handling of building permits and examines effective tax rate variations inherent in the current assessments. The study was based on interviews with Village officials including the former Assessor Robert Balog as well as upon the analyses of a data set provided by Mr. Balog, as supplemented with corrections and the removal of questionable data.

Using this data set, which contained information on sales and assessments in Bronxville spanning the years 1996-2004, we determined that 80% of the value of all permits sold after the permit work was completed were capitalized into the sale price of the property.

The coefficient of dispersion (COD) was estimated at 19.6% but the pattern of effective tax rates varied from 0.9% to 7.0% of capital value. We found that higher valued properties had significantly lower effective tax rates compared to lower valued properties.

While the 19.6% COD may be legally acceptable under New York State case law, our opinion is that the variations in effective tax rates inherent in the Bronxville assessment represent a significant departure from both good assessment practices and the standard in the law that requires a common assessment ratio (unified effective tax rates) for real property.

The Village should conduct further studies to examine strategies for bringing effective tax rates in line with the standard articulated in the New York State Real Property Tax Law.

BearingPoint

Hon. Mary C. Marvin
Mayor
Village of Bronxville
Village Hall
200 Pondfield Road
Bronxville, New York 10708

Dear Mayor Marvin:

I was retained by the Village Board to evaluate the equity and fairness of the latest residential assessment roll for the Village of Bronxville as a preliminary step to aid the Board in determining what action, if any, may need to be taken to improve the roll in the future. It is understood that while further evaluation may be needed to pursue one or another course of proposed action, the most appropriate approach will be to begin by diagnosing whether a problem in fact exists. If so, we need to evaluate the nature of the problem rather than starting with any preconceptions about the issues we are examining. I was also asked to provide a general review of former assessor Robert Balog's typical approach and practices in the past with regard to the tax assessment of work that followed the issuance of building permits and new construction. I have completed this assignment, the results of which are detailed below.

I based my analyses on interviews with Robert Balog, the former Bronxville assessor, Richard D. O'Donnell, the Eastchester assessor, written narratives provided by Mr. Balog and Mr. O'Donnell, a summary analysis of a sample of properties that were the subject of permit work jointly selected by attorney David Wilkes and myself, and legal counsel, where needed, from Mr. Wilkes concerning New York assessment law. My report utilized sales and assessment data provided by Mr. Balog, Mr. O'Donnell, Bronxville resident Ms. Megan McKinley, some of which was facilitated and reviewed by attorney Wilkes and his staff. I also relied upon a list of properties with work permits covering the years 1996 to 2004 that was provided by the staff of the Village of Bronxville. The standards of practice used to conduct the study were based on information found in the International Association of Assessing Officers (IAAO) textbook "Property Appraisal and Assessment Administration (PAAA)" (Eckert (1990)).

1. Assessment Equity

Based on standard methodology found in Chapter 20 of PAAA, I conducted a sales/assessment ratio study based on sales that occurred in Bronxville from 1996 to 2005. I used two databases for this study: the first was provided by Mr. Balog and contained 568 residential sales that he stated originated in the Village records. Mr. Balog indicated that all the sales were arms length transactions. My work assumed this was true

and I did not eliminate cases from the analyses that had extreme assessment to sales ratios. I also received a data set from Ms. Megan McKinley, a community resident who provided a file with 589 residential sales covering the same period. This file added additional 2004 sales and provided corrections to certain sales and data contained in the file received from Mr. Balog. I did not verify the source of the information contained in the McKinley file.

The analysis addresses assessment equity solely within the residential class of property. I requested of Mr. Balog, but did not receive, the New York State "sales ratio file", the State's "trimmed file", and the sales and assessment and property classification file that I believe the Village supplies to the State. As a result there was no way to verify or compare the study results with any analyses that the State may have undertaken regarding the assessment equity in Bronxville. Should this information become available through a future study it would provide the basis for determining if commercial properties are assessed at the same or similar level as residential properties. For purposes of my assignment, I was able to complete my analysis sufficiently without making such a comparison and I do not believe that the results of any State analysis, if such exists, would change my conclusions and recommendations herein.

The sales assessment ratio study provides a measure of assessment equity. The basic approach is to divide the current assessments by the sales prices of properties that have sold in recent years in the Village. If the assessments were completely uniform then the computed ratio or assessment level for all sold properties would be the same. New York State law requires that all real property be assessed at the same level and properties that are not may individually challenge their assessment. In practice, and as a practical matter this ratio typically is not exactly the same for all properties in the sales population. This is particularly true when the assessment has aged, as are the current assessments performed in most communities of Westchester, including Bronxville. The purpose of the study then is to determine some valid measure of the central tendency and variation of the distribution of these ratios around that central tendency on the Bronxville assessment roll. The IAAO has developed international standards for the acceptable levels of variation around the central tendency. These standards, counsel has advised, are not binding or enforceable in New York State, but remain instructive and useful gauges of assessment equity. The fairness and equity can then be measured against these international standards by comparing the variation in Bronxville to the industry and international standards.

There are two measures of central tendency that are typically computed. They are the median and the mean ratio. The dispersion of the ratios is measured by the coefficient of dispersion (COD), the coefficient of variation (COV), and the price related differential (PRD).

The COD is computed as the average absolute deviation from the median ratio expressed as a percent of the median ratio. The COV is the standard deviation of the distribution measured as a percent of the mean. These two measures are used to understand the

magnitude of the variation in effective tax rates in the "in-place" assessment. The choice of which statistics to rely on depends upon the distribution of the sample. If the sample is normally distributed both sets of statistics can be used with confidence in evaluating the assessment equity. When the sample is not normally distributed the parametric statistics of mean and the COV will be biased by outlier ratios and will not be a good predictor of assessment equity. In this case the non-parametric statistics of median and COD are the best indicators of the assessment equity. The price related differential is measured as the mean divided by the weighted mean. The PRD is used to understand if the distribution of effective tax rates is related to value.

The IAAO sets standards for residential and commercial properties. The CODs for single-family residences should be 15% or less; for newer and fairly homogeneous areas the COD is 10% or less. The CODs for income producing properties should be 20% or less and 20% or less for vacant land. The PRD should be in the range from 0.98 to 1.03. When PRDs are above this range this is an indication that higher valued properties have lower effective tax rates than lower valued properties.

The performance statistics computed for Bronxville were based on the Balog file and the McKinley corrections to the Balog file (the "Reviewed File"). Both data sources contained sales spanning the time frame 1996 – 2004. The study was completed in two stages. The first stage stratified the sample by year of sale and computed the performance statistics for each year from 1996 to 2004 using the Reviewed File, which appeared to contain more accurate data. The second stage estimated the performance statistics for the entire sales sample using both databases. We time adjusted all sales to January 1, 2004 in order to remove any bias in the computation of the COD that could occur based on inflation alone before making any computations.

A third stage examined the single-family only population using the Reviewed File. The following table demonstrates the results of the stratified study for the median ratio, the COD, and the PDR:

A fourth stage examined the same sales population as was in the Balog and Reviewed Files but the assessment variable was the assessment of the same properties by the Town of Eastchester. This information was provided by Assessor O'Donnell. The analysis was completed in order to provide information to village officials about the relative equity of the Eastchester assessment compared to the Bronxville village assessment in order to determine whether it might make sense to adopt the Town's roll as a substitute for the Village's roll under a legal procedure available in New York. It should be noted that our analysis of the Eastchester roll is not intended as a measure of the general level of equity on a Town-wide basis, nor is it within the Town Assessor's control to ensure tax equity in selected portions of the Town (such as Bronxville-only) under the current state of New York law and absent a decision by the Town Board to embark on a Town-wide revaluation. The selection of Town assessments in Bronxville only was a unique analysis conducted solely for the purposes of our review of Bronxville's concerns.

Table 1
Results of the Stratified Study, 1996 - 2004

Year	Median Ratio	Coefficient of Dispersion (COD)	Price Related Differential (PRD)
1996	6.75	17.88	1.10
1997	7.01	16.26	1.08
1998	5.91	20.05	1.09
1999	4.92	24.21	1.16
2000	4.33	19.21	1.14
2001	3.58	19.89	1.12
2002	3.46	15.8	1.06
2003	3.12	20.83	1.11
2004	2.98	14.99	1.02

The median ratio ranged from 6.75 to 2.98 over the time period reflecting the inflation in real estate prices during this time period. The CODs mostly ranged in the mid to high teens. The PRDs were mostly above 1.3 for all years.

Table 2
Comparison of the Balog vs. Reviewed File Data (Second Stage), 2004

Data Source (Sales Data)	Median Ratio (Level)	Coefficient of Dispersion (COD)	Price Related Differential (PRD)	Mean Ratio	Coefficient of Variation (COV)
Balog	3.25	20.1	1.09	3.4	26%
Reviewed File	3.15	19.6	1.08	3.2	25%

We also analyzed the significance of any differences between the Balog file and the Reviewed File. The resulting statistics shown above differ quite modestly and we determined that the Reviewed File, while certainly helpful, would not materially alter the conclusions of this study nor was it likely that any single correction would significantly change the picture. The stage three analyses used the Reviewed File. It contained single-family residential properties, condominiums, and properties that bordered with two taxing jurisdictions. We removed condominiums from the file because they are assessed using a different standard than single-family properties under New York law. Similarly, properties in two taxing jurisdictions were removed because they typically have only partial assessments in each municipality and would likely therefore produce a ratio that is misleading. The resulting single-family only file contained 305 properties.

The results for this population of sales showed the median ratio at 3.2 and the COD at 19.17. The mean ratio was 3.21 and the COV was 26%. The results for this population of single-family homes sales stratified by year show the median ratio COD and PRD to be:

Table 3
Single-Family Home Sales Analysis, 1996 - 2004

Year	Median Ratio	Coefficient of Dispersion (COD)	Price Related Differential (PRD)
1996	6.63	18.90	1.11
1997	6.85	16.69	1.05
1998	6.28	21.55	1.09
1999	4.57	28.93	1.17
2000	4.13	20.78	1.15
2001	3.89	19.06	1.11
2002	3.41	17.28	1.06
2003	3.31	17.28	1.09
2004	2.96	16.89	1.03

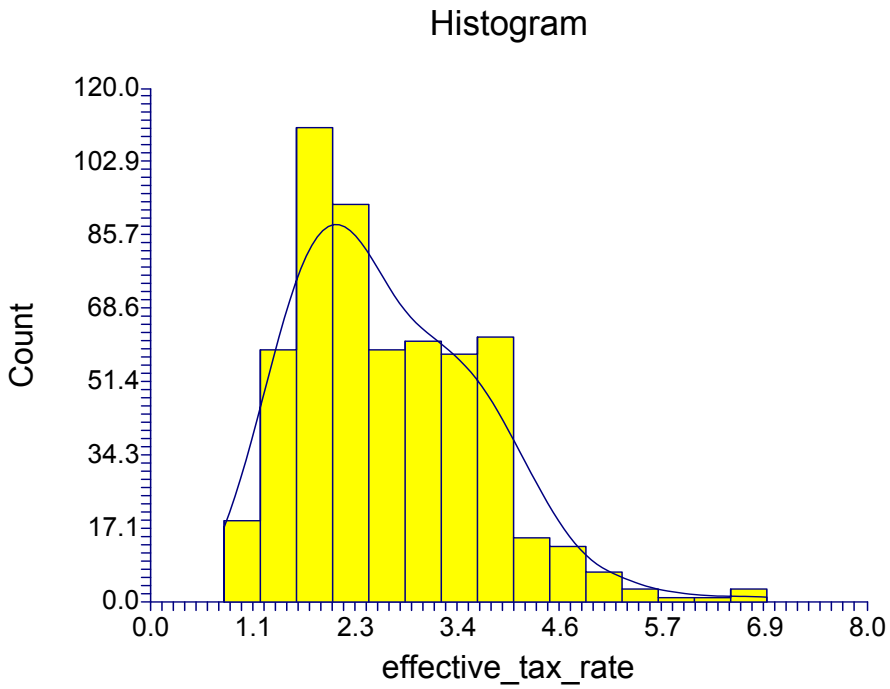
These results are essentially the same as for the entire sample of sales.

The result of stage four, which evaluated the Eastchester assessments, indicated that the COD was 43% using the time adjusted file.

How should these results be interpreted? First, normality tests showed that the sale sample was non-normal and this indicated that the median and COD should be relied upon to measure assessment equity. The CODs for the Balog, Reviewed File, and single-family sample were all above the IAAO performance standards. However while there is no COD standard mandated by the New York Property Tax Law, we are advised that New York case law has indicated that a COD of less than 20 is acceptable equity.

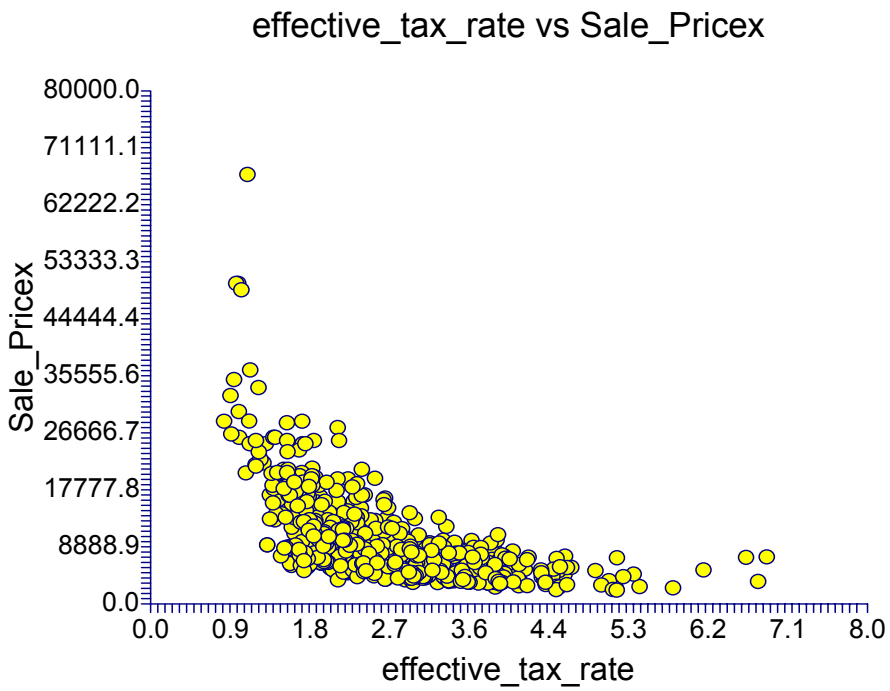
Beyond looking at standards set by a professional body and the law, another way of looking at this question is to calculate the effective tax rate for each property by computing the tax bill and dividing it by the time adjusted sales price. Graph 1 shows the histogram of effective rates the bulk of them vary from 0.9% up to the high of 6.9%. The histogram of effective tax rates mirrors the pattern of assessment to sales ratio and demonstrates the non-normal ratio pattern. In a normal distribution we would expect to observe 64% of the of the observations between one standard deviation above and below the mean effective tax rate and we expect to observe 32% of the observations between two standard deviation above and below the mean and the distribution would look symmetrical. The Bronxville distribution is not symmetrical and the distribution shows bunching of cases on the left of the mean and a long tail on the right of the mean. This pattern is common where inflation is significant but non-uniform among property types and neighborhoods. The result of this for Bronxville is that there exists, in my opinion, unacceptable variations in effective tax rates in the right hand tail of the distribution.

Graph 1
Variation in Effective Tax Rates



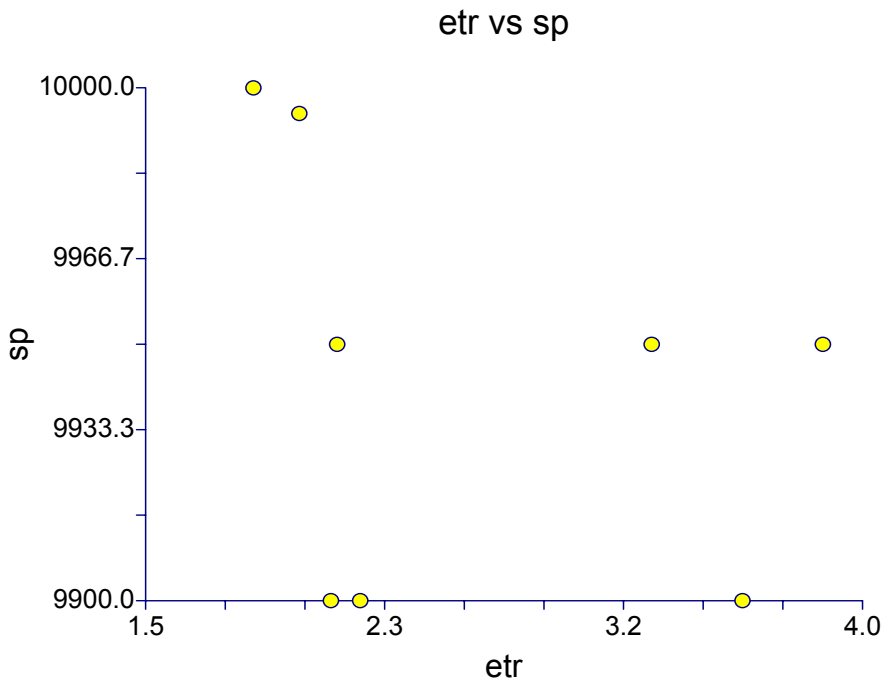
Likewise, a scatter plot (Graph 2) showing sale price on the vertical axis and the effective tax rate on the horizontal axis permits us to examine the pattern of effective tax rates by value. It can be seen that the most expensive properties are assessed at much lower effective tax rates than lower valued properties. This pattern of effective tax rate variation is called vertical inequity and would be expected given that the PRD estimates were above 1.03 for all the samples. Graph 2 also shows considerable effective tax rate variations for properties of similar value. This is called horizontal inequity. Properties selling above 2.5 million dollars have effective tax rates of about 0.9 percent while those selling below 1 million dollars have effective tax rates as high as 7.0 percent. This is a significant amount of vertical inequity. Horizontal inequity can be demonstrated looking across one-value strata.

Graph 2
Comparing Effective Tax Rates to the Sales Prices (in $10 increments)



Graph 3 shows properties that sold for about one million dollars. The effective tax rate varies from 1.5% to 4.0%. This band of effective tax rate variations is even wider for lower value bands. These results clearly contradict the requirement of a common (uniform) level of assessment that implies that effective tax rates on all properties should be the same. However, as mentioned above, New York State law seems to indicate that this level of effective tax rate variation might be acceptable to some extent, and the remedy offered by the law is for affected homeowners to challenge their assessments on an individual basis in court. Given these competing New York State equity standards, it is up to the community to decide as a matter of local policy how much variation in effective tax rates is acceptable. It could be expected that a very strong revaluation program could cut the COD to around 5.0%. This would reduce these effective tax variations by three-fourths of the current variations but not entirely eliminate these variations. It would be, as a practical matter, impossible to completely eliminate all variations on an ongoing basis. An impact study of a simulation of a revaluation would more precisely define the improvements that could accrue from a revaluation. Finally, the option of replacing the Bronxville assessments with the Eastchester assessments in order to pick up the value of permit work not added to the Bronxville assessment would not be a good idea, given that the COD is more than 20% in Eastchester.

Graph 3
Comparing Effective Tax Rates for the Sales Price of High Value Homes
(in $100 increments)



2. Bronxville Assessment Practices

One of the purposes of this study was to inquire if the practices of the Village regarding adding permit work to the assessment roll conform to accepted standards of assessment. The Village provided me with the permit information for all permit work applied for from 1996 – 2004. This report included the permit number, the SEC block and lot numbers of the addresses, the description of the work, and the dollar amount. There were no comprehensive reports provided as to how the assessor actually addressed the appraisal for tax purposes for these construction projects. I was able to meet with former assessor Balog who described his general decision-making process. He reported that he made the following analyses when examining permit work.

First, he capitalized the current assessment on the property by dividing the assessment by the New York State "residential assessment ratio" to get an estimate of the market value of the property. Then he looked at comparable properties in the neighborhood to determine if the neighborhood price level was high enough to support the addition of the value of the permit to the assessment. If the market value estimate were less than the neighborhood price level he would then add all or some part of the cost of the improvement (deflated by the residential assessment ratio) to the current assessment. If

the market value estimate were higher than the neighborhood price level he would not add anything to the assessed value for the permit work. He considered the permit work to be an over-improvement for the neighborhood and would not be capitalized into the selling price of the property if it were sold. He also said that he did not usually consider cosmetic work or maintenance work. Mr. Balog said he had notes on all the permit work he reviewed and could support all of his decisions.

For illustrative purposes, I asked Mr. Balog to demonstrate his method on a sample of properties that were jointly chosen by attorney Wilkes and myself. I asked him to provide the information for each property that included the current assessed value, the estimated market value, the neighborhood comparables or other price level variables and a description of the proposed permit work, his evaluation of the permit work based on a site inspection and the decision he came to and its rationale. I also asked Mr. Richard O'Donnell, the Eastchester assessor, to do the same analyses for the same properties. I did this because there was the possibility that the two assessors could arrive at two different, but legitimate, answers simply because of the fact that they were capitalizing assessments that were originally determined at very different points in time. It should be noted that we did not proceed on the assumption that Mr. O'Donnell's practices and assessments were a benchmark against which Bronxville's assessment practices should be measured or that Mr. O'Donnell's practices and conclusions were necessarily "right" or "wrong", and indeed any such presumption would be unwarranted.

The results of these analyses by Mr. Balog and Mr. O'Donnell were a study in contrast. Mr. O'Donnell's report included the information I requested as well as a history of the dates when the property was visited. Mr. Balog's reports provided relatively little of the information I requested. There was no real estimate of the market value of the property in question and no real evidence of the comparable values in the neighborhood. He gave little information on the nature of the permit-related work or his evaluation of it. He made general conclusions that were not based on any real market analyses that I could see. In most cases where there appeared to me to be a significant home improvement involved, he declined to add the cost of the improvement to the assessment and presented little evidence for the decision. In most cases in the sample that we examined, his decision differed from Mr. O'Donnell's conclusions.

It should be noted, parenthetically, that Mr. Balog's apparent approach of generally not increasing assessments based on permit work for properties with an already low assessment ratio may be viewed by some in the assessment community as an appropriate strategy for mitigating the dispersion of assessments where a revaluation is not proposed and assessments may not legally be raised based solely on market value, as is the case in New York State. Indeed, while this is not considered sound assessment practice, it may be among the only means of maintaining some degree of fairness and equity in the assessment roll as a whole in some non-revaluation communities. To the extent that the assessments of many homes that have experienced minimal permit work over the years may be low and incapable of legal increase, adding assessment to those properties that *do* experience improvements can create greater variation in the roll. To combat this effect,

some assessors may add only a token amount of assessment to account for permit work or in fact voluntarily lower some assessments so as to create greater uniformity, even if that results in a lower overall level of assessment. Because the tax levy remains unchanged, this may effectively create a more even allocation of the tax burden among similarly situated homes. Again, this is not to suggest that such a practice is approved or acceptable assessment practice, or that this was necessarily the assessment strategy followed by Mr. Balog, but simply that such a practice may, counter-intuitively, be motivated by a goal of achieving better tax equity in the community where a revaluation has not been pursued.

The general methodology for evaluating permit work as outlined by Mr. Balog and Mr. O'Donnell works well when assessments are uniform. However when they are not uniform, capitalization of the assessment by the median ratio may over-estimate the value of the property. Therefore, when comparing this value to the neighborhood level, this methodology leaves less room for adding permit work to the current assessment. In fact, when CODs are at the Bronxville level an upper and lower bound of the median ratio at the 95% confidence must be computed in order to properly estimate value for this purpose. It is within this range of ratios that one can say that the true median value of the sample lies. In Bronxville I computed this range for sales adjusted to January 1, 2004 to be 3.07% to 3.24%. With this knowledge the prudent assessor would use the upper bound of the range to capitalize the assessment to get an estimate of fair market value. Another consideration that must be looked at by the assessor must be the relationship of the proposed improvement to the neighborhood norm for the improvement. Regardless of possible overall price level constraints, some improvement might be fully capitalized while others might have capitalization ratios of more or less than 1.0.

Fortunately, advances in mass appraisal methods that use multivariate statistical modeling can solve the problems of how to evaluate permit work. First, very accurate market models can be built based on sales and property characteristics using multiple regression analyses that can be used to predict value for properties with permits (see PAAA chapters 14 and 15). These models can be used on an as needed basis and they completely bypass the problem of capitalizing a less than uniform assessment to get initial estimates of value to compare to neighborhood price levels as the first point of analysis when evaluating permit work. These models can also be used to mass appraise the entire inventory on a regular basis once the inventory for the Village has been completely measured and lists all of the real estate. These same methods can be used to evaluate the capitalization rates for different types of improvements. With the proper data this analysis can estimate these rates by neighborhood, property type and price range. This type of applied economic analysis takes much of the subjectivity out of evaluating the impact of permit work on property value.

We were able to use these multivariate methods to evaluate the market conditions in Bronxville and do some initial investigation of the capitalization rates for different improvements. We were able to construct a model and estimate the model weights using the non-linear regression engine in the Number Cruncher Statistical System (NCSS). The

dependant variable in the model was the sale price and the independent variables were the month of sale, the current assessment, the permit cost, and a variable that allowed us to distinguish if the sale occurred after the permit work was finished. In this model the assessment stood as an instrumental variable for the location and for physical characteristics that were not measured. The assessment variable had a 0.73 correlation to sale price that was sufficient to allow it to be used to control for the basic features of the real estate in the regression. At a later stage in Bronxville's evaluation this model could be refined by actually collecting the information on the land and physical characteristics of each sale. In later versions of the model we were able to introduce an additional variable that allowed us to measure the individual capitalization rates for different permit types. We were also able to use cluster analyses (Table 6) to breakdown permit cost/assessments into homogeneous groups that allowed us to develop a variable that severed as a proxy for cost/location compilations within the Village. This variable allowed us to study capitalization effects by location within the village.

The result of this study was that 82% of the cost of the permit work was capitalized into the sales price for properties that sold after the permit work was completed (see Regression 1).

Regression 1

589	Parameter	Asymptotic	T-Value	Prob	Std. Deviation	0.309604
M3	0.4200154	2.17E-02	19.373	0	Coef. of Variation	0.273336
F1	0.9626492	0.0234553	41.0418	0	Ave |Dev. from Median|	0.236762
AV	26.44659	0.4317518	61.2541	0	Coef. of Dispersion	21.19249
Lastcost	0.8203157	0.288231	2.846	0.004582	Weighted Mean	1.031629
					Price Related Differential	109.7962

Equation of Regression 1

R-Squared **0.746569**

M3^(0.4200154) *(0.9626492)^F1*(((26.44659) *AV)+((0.8203157) *Lastcost))

We were able to break down the overall effect by class of improvement and found that kitchen renovations were capitalized at 68 percent, bathrooms at 140 percent, second floor renovations at 63 percent, closets at 10 percent, additions 400 percent, first floor renovations at 141 percent, and basement renovations at 20 percent (see Regression 2 and Table 4).

Regression 2

78	Parameter	Asymptotic	T-Value	Prob	Std. Deviation	0.288263
M3	0.4295538	7.03E-02	6.1072	0	Coef. of Variation	0.277743
AV	24.40095	0.998369	24.4408	0	Ave |Dev. from Median|	0.193808
da1	14.04789	5.305961	2.6476	0.009902	Coef. of Dispersion	19.26823
Lastcost	0.6836703	0.4534172	1.5078	0.135859	Weighted Mean	0.98997
					Price Related Differential	104.8391

Equation of Regression 2

R-Squared **0.709066**

M3^(0.4295538)*(((24.40095) *AV)+(da1^(14.04789) *((0.6836703) *Lastcost)))

Table 4
Capitalization Rates by Permit Types

Permit Type	Capitalization Rate
Kitchen	0.683670300
Bathroom	1.412037254
Second floor	0.631478627
Closet	0.104520036
Room	4.356976737
1 Floor	1.412037254
Other	4.605237400
Basement	0.204583896
Replacement	6.74325E-05

The results from the location adjusted model capitalization rates ranges from 80 percent in high assessments high permits cost areas to 50 percent in areas with low assessment and high cost and 45 percent in high assessment low permit cost areas.

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Regression 3

78	Parameter	Asymptotic	T-Value	Prob	Std. Deviation	0.282702
Group1	0.287003	1.38E-01	2.0846	0.0406	Coef. of Variation	0.281133
M3	0.43771	0.0690972	6.3347	0	Ave |Dev. from Median|	0.187242
AV	24.72791	0.983305	25.1478	0	Coef. of Dispersion	19.27212
da1	18.85533	10.08453	1.8697	0.065532	Weighted Mean	0.975869
Lastcost	0.2468263	0.3518345	0.7015	0.485196	Price Related Differential	103.0444

Equation of Regression 3

R-Squared **0.725134**

Group1^(0.287003) *M3^(0.43771)*(((24.72791) *AV)+(da1^(18.85533) *((0.2468263) *Lastcost)))

Table 5
Capitalization by Location and Permit Amount

Location	Capitalization Rate
Area #1	0.80315621
Area #2	0.50710600
Area #3	0.69294535
Area #4	0.78548601
Area #5	0.55489029
Area #6	0.66993831
Area #7	0.67436112
Area #8	0.72525590
Area #9	0.63664477
Area #10	0.56424659
Area #11	0.75797463
Area #12	0.73452837
Area #13	0.45137909
Area #14	0.60764325
Area #15	0.69690012

These results make perfect sense from an appraisal point of view. First, the finding indicates that over 80 percent of all permit work was capitalized into the selling price of the house on average. Furthermore there were some improvements that added little to market value (e.g., basement work) while other types of work were capitalized at more that 100 percent. In the case of additions, substantially more value was added to the assessment (400 percent).

Location also played a part. In areas of low assessment but high permit costs the improvements were over improvement for the area and the capitalization rate was around 50 percent while cosmetic work in high value area was also not fully capitalized. These results do not support the judgment of former assessor Balog made that in most cases the improvement described for the permit work were over-improvements for the neighborhood and should not be added to the assessment.

There are a number of recommendations that should be considered by the village that would improve the administration of the process of evaluating permit work

1. Develop mass appraisal models using Computer Assisted Mass Appraisal methods (CAMA) that could by used on a as needed basis to estimate the market value of properties with permit work. This value then could be compared with neighborhood property value levels to initially determine if the neighborhood level could support the permit work being added to the assessed value. This tool would eliminate the need to use a transformation of the flawed current assessment to estimate the market value of the property.

2. Develop a village wide Geographic Information System (GIS) that would display comparative real estate information on electronic maps. This capacity, in concert with the CAMA capacity described in 1 above, would be used to estimate the market value of the permit property and would allow the assessor to more rationally decide if the permit work could be added to the assessment. Table 7, included below, is an example thematic GIS map showing price per square meter in a neighborhood of Port of Spain, Trinidad.

3. Develop a regression-based capitalization study as was prototyped in this study that would guide the assessor on what capitalization rate to use for different types of permit work,for different types of properties in different locations.

There is a further set of recommendations that deal with the larger issue of administering a fair assessment given that the COD exceeds IAAO standards and the variation of effective tax rates on similar properties is wide. These include the following:

1. Commission an impact study that would examine in more detail the patterns of effective tax rate variations by property type and location, and examine in detail the shifts in tax burden that would result if the village decided to conduct a revaluation.

2. Develop a computerized Property Tax Information Management System (PTIMS) that would contain all related real estate data identified by a geo coded property record number. This system would contain title information, sales information on sold properties, property characteristics for all real properties, and billing and collection information in a single integrated database.

3. Begin a data collection program that would inspect and collect the features of all real property in the Village and enter the data in the PTIMS. This step, in concert with developing CAMA models as outlined above, would initially support the permit system and could also be the basis of conducting a in-house reappraisal of real property if the Village decides that this is a course of action it wishes to pursue.

Sincerely,

Joseph K. Eckert, Ph.D.
Director, Property Tax Practice
BearingPoint, Inc.

September 8, 2005

Table 6
Cluster Analysis of Home Value by Permit Amount and Location Map

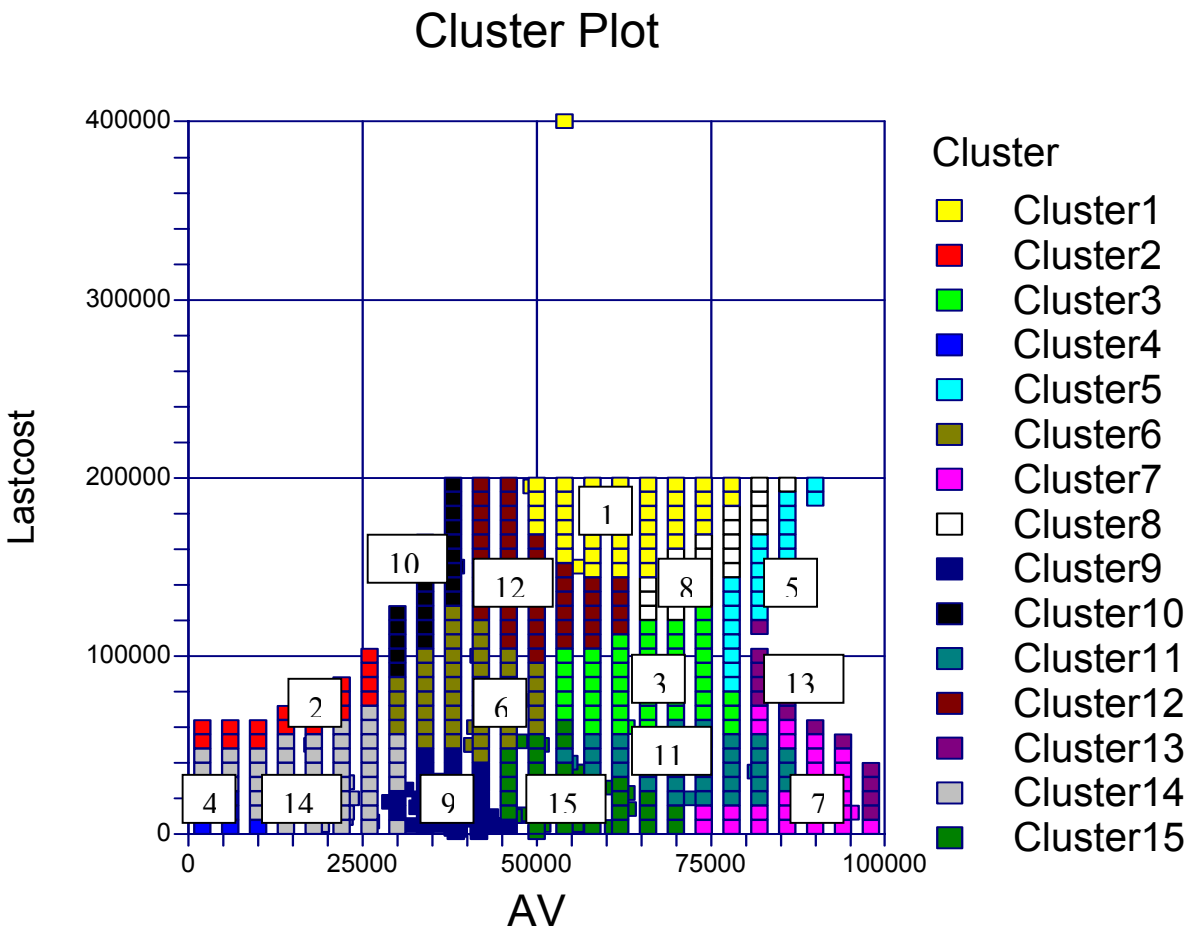

Table 7
Thematic Graphical Information Systems (GIS) Map
of Land Value for Port of Spain, Trinidad