



Real Property Tax Administration
Office of Tax and Revenue
941 N. Capitol Street, NE, Suite 400
Washington, DC 20002

Office of the Chief Financial Officer
Office of Tax and Revenue

Real Property Assessment Division

***2004 GENERAL
REASSESSMENT
ASSESSOR'S
REFERENCE
MATERIALS***

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May 2003

Helpful Hints:

This document represents a selected compilation of materials developed and used during the 2004 revaluation of the real property in the District of Columbia. As such, it does not purport to be an exhaustive collection of all assessment administration documents and materials. Its purpose is designed to be a quick reference guide for the real property assessor in his/her day-to-day activities.

The **Table of Contents** allows you to jump directly to any topic in the reference materials by clicking on the topic of interest.

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If you have any comments or suggestions, please feel free to call. Thank you.

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OFFICE OF TAX AND REVEUNE
REAL PROPERTY ASSESSMENT DIVISION
INTEROFFICE MEMORANDUM

TO: REAL PROPERTY ASSESSMENT DIVISION STAFF
FROM: THOMAS BRANHAM, CHIEF ASSESSOR
SUBJECT: TY 2004 REASSESSMENT EFFORT
DATE: MARCH 17, 2003

Let me start this year's review by thanking you all for the superlative effort you put forth to complete the general reassessment of all real property in the District of Columbia. After last year's general reassessment and the corresponding 100% increase in workload we thought that the worst was behind us. That is, until we had to assess tri-groups 1, 2 *and* 3 which was tantamount to another 100% increase in our workload. After the dust settled, we had assessed nearly 173,000 parcels of real property in the District of Columbia and increased our production by 300% during the past eighteen months. We not only completed the reassessment on time, but for the second year in a row, the assessment notices were mailed to all property owners by the statutorily required deadline. In addition, during the last eighteen months you have performed 125% more assessments than were completed in the previous five years all together. Your work did not end with the general reassessment either. You inspected and verified nearly 8,000 sales, inspected approximately 2,000 building permits, resolved 6,856 first level appeals, 1,427 Board of Real Property Assessments and Appeals (BRPAA) appeals and inspected 7,346 properties as part of our new annual property inspection program.

We have now completed the transition to annual reassessments of all real property in the City. I would like to thank all of you for the tremendous effort you put forth to accomplish the aforementioned tasks. All 173,000 notices were mailed February 27, 2003. Remember that two events have contributed to the large increase in assessments that property owners are experiencing this year. First, the return to an annual assessment program means that there is no longer a phase-in of the proposed assessment as was the case in the triennial assessment program. And second, we are in the midst of the most rapidly

appreciating real estate market that Washington, D.C. has experienced in more than two decades.

As the taxpayers begin to receive their notices, the telephone calls will start in earnest and the questions will be coming in. As a reminder, I am confident you will all join me in striving to provide sensitive, prompt, courteous and informative customer service. The best advice I can give in this regard is to always treat the customer the way you would hope to be treated if you were in their position. An ability to respond to inquiries in a knowledgeable and cordial manner is crucial to providing excellent customer service. These recent changes in tax policy were not at the property owners request and they may be more upset than usual. Please be patient.

Let's turn our attention to the various processes utilized this year to produce the TY 2004 assessed values. This year marked the second reassessment period that our Computer Assisted Mass Appraisal system (CAMA) was used in the valuation process. Substantially more property-specific appraisals were prepared compared to last year. Last year there were 23,000 property-specific appraisals done and this year over 150,00 parcels were valued property-specific. This improvement is a direct result of a couple of factors. First, your efforts in the sales verification process supplied valuable data to the CAMA modeling and calibration process. Second, your activity involved in the general revaluation inspection program provided accurate property characteristic data that assisted the CAMA models with accurate estimates of market values. Of course, we owe a great deal of gratitude to Robert Gloudemans, for his assistance with the model development and calibration. I believe we achieved significant results and improvement in the assessment process and final values in our first reassessment with the new Vision CAMA system. As time progresses, this process will improve and thus improve both the number and quality of property-specific appraisals we conduct.

Listed below is the breakdown of the appraisal methodology used for TY 2004 for the various types of property in the District:

Residential – market-oriented cost approach: 47,714 properties
Residential – market-trending methodology: 63,379 properties.

Condominiums – market-based MRA: 32,566 properties.
Condominiums – market-trending methodology: 1,821 properties.

Commercial – income and market approaches: 10,286 properties (332 cooperatives).
Commercial – cost approach to value: 8,858 properties.

Major properties – income approach to value 6,807.

One of the results of more property-specific valuations may be questions from property owners asking why one person's property value may be different from their neighbor's property. Or, why did my neighbor's property go up only 15% and mine went up 35%? These are legitimate questions and we need to be prepared to answer them with knowledge, understanding and accuracy. At any time a taxpayer feels concerned about his/her value, please encourage them to file an appeal. As always, the appeal-filing deadline is April 1 and applications are on the Website and at District public libraries and fire stations.

District-wide, the values of property increased, on average, 24% over their prior year's assessment. Specifically, residential property in Tri Group One increased, on average, 18%, Tri Group 2- 24% and Tri Group 3 – 45%. Recall Tri Group 3 has not been reassessed in three years. Therefore, its annualized increase is approximately 15%. Commercial property increased citywide by 22 %.

Our overall goal is to uniformly and equitably assess all properties in the District, based on market-derived valuation techniques, whether they be the market-calibrated cost approach, the income capitalization, multiple regression analysis or time trending. I would like to take a moment and discuss these various appraisal methodologies. I am sure many questions will be asked about "how" we arrived at our values. A brief description of the methods used this year to value property is shown below and a more detailed discussion follows. ***Each method was selected based on its ability to generate improved results over the previous year:***

- A. Trending – A mass appraisal technique where one adjusts (sub) neighborhood values stratified by use code for the effect of time. The prior year's values are multiplied by a trending factor to account for the appreciation (depreciation) that has occurred in the neighborhood since the last reassessment. The District is economically, socially and geographically divided into 139 sub-neighborhoods. It is further divided into numerous property types and use codes for valuation purposes. If, for example, market data indicates that sub-neighborhood 'A', Property type, single family detached has appreciated 25% in the past year, then last year's value of \$200,000 would be trended to \$250,000 ($\$200,000 \times 1.25$).
- B. Market-oriented cost approach – A mass appraisal technique where the estimated cost to construct a new improvement is determined and from that, an appropriate amount of depreciation is deducted. The resulting value is then added to the land value to arrive at the total assessed value of the property. Instead of relying on traditional cost tables, the market-oriented approach refines the process by using actual market-derived costs. Extensive analysis of market sales data and property characteristics generate the appropriate values for the components of the

improvements. For example, a traditional cost table may list a fireplace value as \$5,000, whereas the DC market may indicate a fireplace adds \$7,500 value to the improvement.

- C. Multiple Regression Analysis (MRA) –A mass-appraisal technique used to predict, or estimate, the market value of property. Through statistical analysis of properties that have recently sold, MRA develops the relationship between various property components and the value they contribute to the sale price. The process estimates the contributory value of such components as the size of the house, the number of bathrooms, the number of bedrooms and other components that may contribute to the sale price of the house. As an example, let us say that several sales in a neighborhood reliably indicate the contributory value of one full bath is \$15,000 and houses with two full baths is \$45,000. When estimating the value of a house containing two full baths, one-value component would be \$45,000 to account for the baths. The full market value estimation would be the total contributory value of all those value components identified in the house whose value is being predicted.

- D. Income approach – A commercial property appraisal technique, where net operating income is converted in an estimate of value using a process called capitalization. The technique is usually property-specific; however, many of the variables (market rent, expense ratios, capitalization rates) are derived from market sales analysis. RPAD's *Pertinent Data Book* summarizes the annual analysis of the DC commercial sales and economic data that becomes the basis for the income approach to value.

Preliminary results of the Assessment / Sales Ratio Study conclude that city-wide, residential properties are being assessed at 95.7% of their selling price with acceptable dispersion. The commercial properties are being assessed at 100% of their selling price, also with acceptable levels of dispersion. A more complete summary of the study is attached to this memo.

The next several sections will provide more detail regarding the actual steps taken in the reassessment. **Again, thank you for your tremendous contribution to the District's first annual reassessment in seven years.**

Valuation Review Process

As part of the CAMA valuation process, initial values for all residential properties will be estimated and preliminary reports will be generated summarizing the results of the valuation effort.

The Valuation Review Process is designed to allow for a thorough review of the new values for the upcoming tax year before notices are sent to property owners. The purpose of this review is two-fold. First, it allows us the opportunity to correct any errors that may have occurred in the valuation process before they cause administrative difficulties (i.e. public relations problems, unnecessary appeal activity, and the like). Second, the process provides feedback to the CAMA modeling and calibration process.

The process involves examining a large number of outliers in a relatively short period. As such, the assessor is primarily concerned with arriving at a reasonable final value estimate for the accounts on the outlier list, known as the *Old-to-New* report. Briefly, the process involves the assessor of record reviewing a selected group of properties in their neighborhood that, on first inspection, appear to be over or under appraised based on previously determined criteria. When this review indicates correct values, no records are changed, however, if the value is erroneous, the assessor will make changes in the CAMA record and on the Property Record Card (PRC) to correct the situation. If he/she discovers minor discrepancies in the data, it should be noted and revisited during another inspection program. The purpose of this program is not to engage in a detailed analysis of accounts, but rather to expeditiously review outlier accounts for obvious errors.

NOTE: It is advisable that the assessor has a solid knowledge of CAMA valuation before proceeding with the review process. The portion of this report entitled "VISION CAMA Valuation" serves as a tutorial for the methodology employed within CAMA for valuing residential property.

Following are some general guidelines to consider while conducting review activity.

1. The valuation review process begins with CAMA producing two reports for each (sub)neighborhood. The first report is the *Old-to-New* report that shows the old value, new value, percent and dollar change in value from the current assessment to the proposed assessment for specific properties that constitute outliers in the (sub)neighborhood. Included are the individual PRCs for each corresponding account listed in the report that increased 25 percentage points more than the median increase for the (sub)neighborhood or decreased more than 10 percent. The second report, *Percent Change Detail Analysis*, contains more specific detail about all of the accounts in the selected (sub)neighborhood.

2. The assessor will be provided these two individual reports for each of the assigned (sub)neighborhoods, along with individual PRCs from the *Old-to-New* report.
3. Before individual reviews of the *Old-to-New* report begins, the assessor will examine the *Percent Change Detail Analysis* report for signs of irregularities or general discrepancies based on their knowledge of their neighborhoods. The review entails several tasks as follows:
 - A. Review the “A/S Ratio”, when present. The ratios are calculated based on sales over a long period of time. Pay particular attention to sales that occurred during 2000 – 2002. These sales will give a better picture of the actual assessment/sales ratio. Where the assessed values are not close to the sales prices, fully examine the record, and consider making appropriate changes. The assessor will notice many of the ratios exceed 100%. This will often occur because the sale price used to calculate the ratio has not been time adjusted to the present. On average, the amount of time-adjustment will range between 1 and 1.3 percent per month. As the age of the sale increases, the likelihood of an apparently high A/S ratio also increases. This is to be expected.
 - B. Examine the “Grade” of the accounts. If there is a two or more departure of grade between the account and the typical grade in the (sub) neighborhood, the assessor may be concerned.
 - C. Look for extremes in the “Cond” and “% Good” data. Again, on average, these should be relatively consistent throughout the (sub)neighborhood.

The preferred process to follow when conducting individual reviews of accounts contained on the *Old-to-New* report is as follows:

1. The assessor will examine each record that appears on the *Old to New* report. Each record has been selected for inclusion because the value change from last year to this year has dropped or is more than 25 percent points greater than the median increase for the (sub)neighborhood. These records constitute the “outliers” of the (sub)neighborhood. The values may be correct or erroneous, and the purpose of this process is to make that determination.
2. The assessor, exercising his or her professional skill and judgement, first will conduct a “desk review” of each account appearing on the report. If the value does not seem reasonable, perform the following actions:

- A. Examine the PRC for any missing or incorrectly coded data contained in the Construction Detail section.
- B. In the Building Summary Section, check the sq. ft. sizes of the areas listed for accuracy and reasonableness.
- C. Check the Building Cost section for correct *Effective Area, Special Feature RCN and % Good*. If any are erroneous, examine their respective sections for details.
- D. Examine the Special Features/Amenities and Detached Structures sections for accuracy.
- E. On the front of the PRC, check the Land Line Valuation Section for proper size and value.

3. Three results may occur from the desk review:

- A. The desk review indicates the value is correct. In this case, note in the column adjacent to the account "OK", your initials and the date.
- B. The desk review indicates an erroneous value discovered by examining various reports and records (i.e. Percent Change, CAMA record, etc). In this case, the assessor makes the correction in the CAMA record, notes the changes made on the PRC in red, notes on the OTN report the new amount, your initials and the date.
- C. The desk review is inconclusive and a field inspection is in order.

An example may help illustrate scenario "A", the first situation. Let's say the *Old-to-New* report indicates an account has jumped 400%, from \$300,000 to \$1,200,000! That amount of increase seems absolutely erroneous. To determine a possible explanation, the assessor begins the review by locating the account on the *Percent Change Detail Analysis* report. After finding the account, the assessor notices that the properties close to the account have only increased by approximately 40%, the median for the neighborhood. They are approximately similar to the account in size, grade, and condition, but their prior year's value was \$900,000, while the outlier was only \$300,000. The assessor would be safe to conclude that the account was grossly under-assessed last year. The low "old" value caused the large increase in value, not an over-assessed new value. To complete the desk review, the assessor notes on the *Old-to-New* report, "OK", his/her initials and the date.

Scenario “B”, the second situation, may find the assessor reviewing an account that also appears to be over-assessed, based on the large increase from old to new value. The assessor again locates the account on *the Percent Change Detail Analysis* report and reviews the account in context to other (sub)neighborhood properties. The assessor discovers that most of the data about the account is similar to the other properties – same use code, similar size, percent good, etc. However, where most of the properties are listed at Grade 4, the account is Grade 7. This would help explain the likelihood that the account is over-assessed. The assessor would make the change to the grade in the CAMA system, note the new value, make the change on the PRC in red, and document the change on the *Old-to-New* report by writing the new value, his/her initials and the date in the far right column of the report next to the account.

The last scenario, “C”, results when the assessor can not immediately explain the reason an account appears on the *Old-to-New* report. He/she should set aside accounts that will require field inspection and at a point, go to the field for inspection. Upon conclusion of the inspection, the assessor will document the results in a similar manner to the desk reviews. The actual schedule for field-work will vary and will be coordinated by the assessor and his/her supervisor.

Residential Neighborhoods Valuation Method

#	Neighborhood Name	Subs	Valuation Method
1	AMERICAN UNIVERSITY PARK	ALL	TREND
2	ANACOSTIA	ALL	COST
3	BARRY FARMS	ALL	COST
4	BERKELEY	ALL	COST
5	BRENTWOOD	ALL	COST
6	BRIGHTWOOD	ALL	TREND
7	BROOKLAND	ALL	TREND
8	BURLEITH	ALL	COST
9	CAPITOL HILL	ALL	COST
10	CENTRAL	ALL	COST
11	CHEVY CHASE	ALL	TREND
12	CHILLUM	ALL	TREND
13	CLEVELAND PARK	ALL	COST
14	COLONIAL VILLAGE	ALL	TREND
15	COLUMBIA HEIGHTS	ALL	TREND
16	CONGRESS HEIGHTS	ALL	COST
17	CRESTWOOD	ALL	COST
18	DEANWOOD	ALL	TREND
19	ECKINGTON	ALL	TREND
20	FOGGY BOTTOM	ALL	COST
21	FOREST HILLS	ALL	COST
22	FORT DUPONT PARK	ALL	COST
23	FOXHALL	ALL	COST
24	GARFIELD	ALL	COST
25	GEORGETOWN	ALL	COST
26	GLOVER PARK	ALL	COST
27	HAWTHORNE	ALL	TREND
28	HILLCREST	ALL	COST
29	KALORAMA	ALL	COST
30	KENT	ALL	COST

#	Neighborhood Name	Subs	Valuation Method
31	LEDROIT PARK	ALL	TREND
32	LILY PONDS	ALL	TREND
33	MARSHALL HEIGHTS	ALL	COST
34	MASS. AVE. HEIGHTS	ALL	COST
35	MICHIGAN PARK	ALL	TREND
36	MOUNT PLEASANT	ALL	COST
37	N. CLEVELAND PARK	ALL	COST
38	OBSERVATORY CIRCLE	ALL	COST
39	OLD CITY #1	A, B, C, F, G, H, L	TREND
39	OLD CITY #1	E, J, K, M	COST
40	OLD CITY #2	A, B	TREND
40	OLD CITY #2	C, D, E, F	COST
41	PALISADES	ALL	COST
42	PETWORTH	ALL	TREND
43	RANDLE HEIGHTS	A, C	COST
43	RANDLE HEIGHTS	B	TREND
44	R.L.A.(N.E.)	ALL	N/A
45	R.L.A. (N.W.)	ALL	TREND
46	R.L.A. (S.W.)	ALL	COST
47	RIGGS PARK	ALL	TREND
48	SHEPHERD PARK	ALL	COST
49	16TH STREET HEIGHTS	ALL	TREND
50	SPRING VALLEY	ALL	COST
51	TAKOMA PARK	ALL	TREND
52	TRINIDAD	ALL	COST
53	WAKEFIELD	ALL	TREND
54	WESLEY HEIGHTS	ALL	COST
55	WOODLEY	ALL	COST
56	WOODRIDGE	ALL	COST

**TABLES: Residential Trend Factors &
2004 Trend Analysis By Neighborhood**

The first table in this section presents the actual market-derived residential trend factors utilized in those (sub)neighborhoods that were trended in the 2004 revaluation. To trend a property means to estimate its present value by multiplying its previous value by a proper, market-derived trend factor. A separate factor was developed for each of the eight residential use codes in each trended neighborhood. If a neighborhood is not listed, that neighborhood was valued using the market-derived cost approach to valuation.

The second table, *2004 Trend Analysis by NBHD, Sub, Use & Sale Year*, represents the indicated trend factors by (sub)neighborhoods and use codes based on the statistical analysis of recent sales data. Where sales were present in a given year, the mean and median assessment to sales ratio was calculated for each use code within a (sub)neighborhood. The reciprocal of the assessment to sales ratio produced the indicated trend factor. The analysis of this data, along with other data became the basis for the first table, *Residential Trend Factors*. On the occasion where the actual trend factor used and its indicated trend factor differ, other information was taken into consideration. The number and quality of sales, the heterogeneity of the (sub)neighborhood, and the like contributed to the final trend factor selection.

Residential Trend Factors

USE

NBHD	SUB	NAME	Tri	11	12	13	15	19	23	24	97
1	A	American University Park	3	1.550	1.500	1.550	1.500	N/A	1.250	1.550	N/A
	B	American University Park	3	1.312	1.631	1.380	1.400	N/A	1.300	1.310	N/A
	C	American University Park	3	1.400	1.600	1.400	1.400	1.300	N/A	1.400	N/A
6	A	Brightwood	3	1.327	1.700	1.326	1.400	N/A	1.300	1.400	1.400
	B	Brightwood	3	1.250	1.342	1.245	N/A	N/A	1.200	1.250	1.200
	C	Brightwood	3	1.350	1.550	1.353	1.300	N/A	1.300	1.350	1.300
	D	Brightwood	3	1.400	1.469	1.400	1.300	N/A	1.300	N/A	1.300
	E	Brightwood	3	1.433	1.417	1.418	1.300	N/A	1.300	1.400	1.300
7	A	Brookland	3	1.250	1.250	1.250	N/A	N/A	1.250	1.250	N/A
	B	Brookland	3	1.200	1.200	1.200	N/A	N/A	N/A	N/A	N/A
	C	Brookland	3	1.700	1.691	1.327	N/A	N/A	1.170	1.500	1.300
	D	Brookland	3	1.600	1.566	1.600	N/A	N/A	1.400	1.600	1.400
	E	Brookland	3	1.500	1.500	1.300	1.300	N/A	1.174	1.280	1.400
11	A	Chevy Chase	3	1.600	1.712	1.504	N/A	N/A	1.400	1.600	N/A
	B	Chevy Chase	3	1.415	1.448	1.500	N/A	N/A	N/A	1.400	N/A
	C	Chevy Chase	3	N/A	1.502	1.500	N/A	N/A	N/A	N/A	N/A
	D	Chevy Chase	3	1.518	1.494	1.500	N/A	N/A	N/A	N/A	N/A
	E	Chevy Chase	3	N/A	1.423	N/A	N/A	N/A	N/A	N/A	N/A
12	0	Chillum	3	1.450	1.438	1.450	1.400	N/A	1.300	1.350	1.300
14	0	Colonial Village	3	N/A	1.378	N/A	1.443	N/A	N/A	N/A	N/A
15	A	Columbia Heights	1	1.381	1.400	1.380	1.400	N/A	1.400	1.449	1.200
	B	Columbia Heights	1	1.260	1.200	1.200	1.200	N/A	1.150	1.150	1.200
	C	Columbia Heights	1	1.150	1.100	1.150	1.300	N/A	1.200	1.300	1.200
	D	Columbia Heights	1	1.147	1.200	1.150	1.200	N/A	1.300	1.300	1.200
	E	Columbia Heights	1	1.300	1.300	1.300	1.300	N/A	1.300	1.300	1.200
18	A	Deanwood	3	1.100	1.051	1.100	1.100	N/A	1.200	1.200	1.200
	B	Deanwood	3	1.000	1.100	1.244	1.200	N/A	1.700	1.100	1.200
	C	Deanwood	3	0.950	0.998	1.197	1.045	N/A	1.045	1.045	1.045
	D	Deanwood	3	1.200	1.173	1.200	N/A	N/A	1.200	N/A	1.200
	E	Deanwood	3	1.100	1.000	1.200	N/A	N/A	1.000	1.100	1.200
19	A	Eckington	1	1.200	N/A	1.200	N/A	N/A	1.200	1.081	1.200
	B	Eckington	1	1.148	1.150	1.140	1.150	N/A	1.000	1.200	1.200
27	0	Hawthorne	3	N/A	1.558	N/A	N/A	N/A	N/A	N/A	N/A
31	A	LeDroit Park	1	1.490	1.100	1.100	1.100	N/A	1.200	1.800	1.100
	B	LeDroit Park	1	1.267	1.200	1.202	1.200	N/A	1.126	1.400	1.200
32	A	Lily Ponds	3	N/A	1.200	1.200	N/A	N/A	1.200	1.200	N/A
	B	Lily Ponds	3	1.264	1.100	1.100	N/A	N/A	N/A	N/A	1.100
35	0	Michigan Park	3	1.400	1.399	1.400	1.400	N/A	N/A	1.400	N/A

Residential Trend Factors

USE

NBHD	SUB	NAME	Tri	11	12	13	15	19	23	24	97
39	A	Old City #1	2	1.195	1.200	1.150	N/A	N/A	1.305	1.200	1.200
	B	Old City #1	2	1.184	1.200	1.200	N/A	N/A	1.000	1.300	1.200
	C	Old City #1	2	1.521	1.500	1.500	N/A	N/A	1.150	1.500	1.500
	F	Old City #1	2	1.250	1.300	1.115	1.300	N/A	1.500	1.150	1.300
	G	Old City #1	2	1.198	1.200	1.193	1.200	N/A	1.000	1.260	1.200
	H	Old City #1	2	1.103	N/A	1.100	N/A	N/A	1.000	1.100	1.100
	L	Old City #1	2	1.400	1.500	1.250	N/A	N/A	1.052	1.650	1.500
40	A	Old City #2	2	1.600	1.700	1.300	1.300	N/A	1.700	1.894	1.300
	B	Old City #2	2	1.857	1.900	1.850	1.800	N/A	1.980	2.100	1.800
42	A	Petworth	3	1.465	1.500	1.550	N/A	N/A	1.500	1.500	1.500
	B	Petworth	3	1.525	1.583	1.581	N/A	N/A	1.100	1.400	1.500
	C	Petworth	3	1.330	1.400	1.330	1.400	N/A	1.150	1.400	1.150
43	B	Randle Heights	1	1.000	1.000	1.000	N/A	N/A	1.000	N/A	1.000
45	0	R. L. A. (NW)	2	1.400	N/A	1.400	N/A	N/A	N/A	1.400	1.400
47	0	Riggs Park	3	1.100	1.250	1.172	N/A	N/A	1.150	1.150	1.100
49	A	16th Street Heights	3	1.500	1.874	1.500	1.500	N/A	1.700	1.800	1.500
	B	16th Street Heights	3	1.640	2.035	1.650	N/A	N/A	1.870	1.760	1.760
	C	16th Street Heights	3	1.790	1.810	1.400	1.400	N/A	2.000	1.750	1.400
51	0	Takoma Park	3	1.250	1.591	1.339	1.400	N/A	1.300	N/A	1.300
53	0	Wakefield	3	1.500	1.511	1.500	N/A	N/A	N/A	N/A	N/A

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NBHD	SUB	USECODE	Sale Year		Current Value	Sale Price	Current A/S Ratio	Indicated Trend Factor	
1	A	11	2001	# Sales	1	1	1	1	
				Mean	\$410,724	\$625,000	0.657	1.522	
				Median	\$410,724	\$625,000	0.657	1.522	
		12	2001	# Sales	12	12	12	12	12
				Mean	\$309,028	\$465,208	0.671	1.512	
				Median	\$299,401	\$475,000	0.653	1.532	
			2002	# Sales	11	11	11	11	11
				Mean	\$328,976	\$553,573	0.599	1.690	
				Median	\$314,435	\$510,000	0.621	1.609	
	13	2001	# Sales	1	1	1	1		
			Mean	\$261,850	\$379,000	0.691	1.447		
			Median	\$261,850	\$379,000	0.691	1.447		
		2002	# Sales	6	6	6	6		
			Mean	\$245,868	\$422,104	0.583	1.718		
			Median	\$239,275	\$403,500	0.591	1.693		
	23	2001	# Sales	1	1	1	1		
			Mean	\$300,900	\$340,000	0.885	1.130		
			Median	\$300,900	\$340,000	0.885	1.130		
	B	11	2001	# Sales	3	3	3	3	
				Mean	\$333,723	\$499,667	0.668	1.499	
				Median	\$333,228	\$499,000	0.660	1.515	
2002			# Sales	1	1	1	1		
			Mean	\$359,415	\$496,350	0.724	1.381		
			Median	\$359,415	\$496,350	0.724	1.381		
12			2001	# Sales	31	31	31	31	
				Mean	\$328,870	\$476,355	0.695	1.469	
				Median	\$317,338	\$460,000	0.696	1.437	
		2002	# Sales	37	37	37	37		
			Mean	\$345,367	\$595,576	0.595	1.731		
			Median	\$351,303	\$595,000	0.582	1.717		
13		2001	# Sales	8	8	8	8		
			Mean	\$276,370	\$378,938	0.730	1.383		
			Median	\$246,044	\$366,250	0.750	1.333		
	2002	# Sales	4	4	4	4			
		Mean	\$241,765	\$432,250	0.566	1.798			
		Median	\$240,287	\$452,625	0.555	1.802			
23	2002	# Sales	1	1	1	1			
		Mean	\$158,507	\$499,000	0.318	3.148			
		Median	\$158,507	\$499,000	0.318	3.148			
24	2001	# Sales	1	1	1	1			
		Mean	\$352,873	\$480,000	0.735	1.360			
		Median	\$352,873	\$480,000	0.735	1.360			
C	11	2001	# Sales	1	1	1	1		
			Mean	\$291,196	\$410,000	0.710	1.408		
			Median	\$291,196	\$410,000	0.710	1.408		
	12	2001	# Sales	36	36	36	36		
			Mean	\$376,253	\$540,596	0.714	1.427		
			Median	\$355,188	\$485,000	0.716	1.396		
		2002	# Sales	46	46	46	46		
			Mean	\$358,524	\$610,327	0.590	1.725		
			Median	\$350,886	\$594,500	0.587	1.703		
6	A	11	2001	# Sales	4	4	4	4	

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NBHD	SUB	USECODE	Sale Year		Current Value	Sale Price	Current A/S Ratio	Indicated Trend Factor
				Mean	\$148,716	\$208,325	0.716	1.402
				Median	\$148,585	\$215,000	0.729	1.372
			2002	# Sales	8	8	8	8
				Mean	\$132,926	\$169,650	0.896	1.283
				Median	\$134,277	\$182,500	0.716	1.397
	12		2001	# Sales	12	12	12	12
				Mean	\$215,209	\$289,167	0.787	1.366
				Median	\$174,638	\$250,250	0.756	1.323
			2002	# Sales	17	17	17	17
				Mean	\$197,857	\$368,229	0.583	1.863
				Median	\$181,297	\$350,000	0.518	1.931
	13		2001	# Sales	6	6	6	6
				Mean	\$156,056	\$216,835	1.069	1.488
				Median	\$167,002	\$195,500	0.650	1.573
			2002	# Sales	6	6	6	6
				Mean	\$146,678	\$214,692	0.692	1.481
				Median	\$149,072	\$216,000	0.719	1.396
	23		2001	# Sales	2	2	2	2
				Mean	\$140,500	\$121,000	1.183	0.865
				Median	\$140,500	\$121,000	1.183	0.865
	24		2002	# Sales	1	1	1	1
				Mean	\$191,073	\$391,500	0.488	2.049
				Median	\$191,073	\$391,500	0.488	2.049
B	12		2001	# Sales	14	14	14	14
				Mean	\$167,673	\$268,064	0.643	1.645
				Median	\$157,972	\$269,450	0.608	1.646
			2002	# Sales	8	8	8	8
				Mean	\$167,633	\$221,563	0.866	1.418
				Median	\$170,794	\$227,000	0.732	1.413
	13		2001	# Sales	2	2	2	2
				Mean	\$137,152	\$152,000	0.901	1.120
				Median	\$137,152	\$152,000	0.901	1.120
			2002	# Sales	10	10	10	10
				Mean	\$124,281	\$166,990	0.773	1.346
				Median	\$121,710	\$157,000	0.763	1.311
C	12		2001	# Sales	1	1	1	1
				Mean	\$112,205	\$178,481	0.629	1.591
				Median	\$112,205	\$178,481	0.629	1.591
			2002	# Sales	2	2	2	2
				Mean	\$139,804	\$254,000	0.543	1.880
				Median	\$139,804	\$254,000	0.543	1.880
	13		2001	# Sales	13	13	13	13
				Mean	\$117,736	\$158,042	0.747	1.350
				Median	\$119,256	\$157,150	0.752	1.329
			2002	# Sales	25	25	25	25
				Mean	\$119,850	\$168,100	0.734	1.403
				Median	\$118,685	\$174,900	0.702	1.424
	23		2002	# Sales	1	1	1	1
				Mean	\$175,700	\$268,000	0.656	1.525
				Median	\$175,700	\$268,000	0.656	1.525
D	12		2001	# Sales	8	8	8	8
				Mean	\$162,116	\$243,125	0.671	1.524

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NBHD	SUB	USECODE	Sale Year		Current Value	Sale Price	Current A/S Ratio	Indicated Trend Factor
				Median	\$150,376	\$233,000	0.650	1.550
			2002	# Sales	23	23	23	23
				Mean	\$167,062	\$258,073	0.675	1.548
				Median	\$159,143	\$250,000	0.647	1.546
		13	2001	# Sales	6	6	6	6
				Mean	\$117,264	\$143,758	0.832	1.234
				Median	\$118,896	\$150,250	0.792	1.263
			2002	# Sales	4	4	4	4
				Mean	\$119,209	\$189,250	0.633	1.593
				Median	\$121,235	\$185,000	0.621	1.614
E		11	2002	# Sales	6	6	6	6
				Mean	\$123,814	\$159,800	1.163	1.345
				Median	\$117,739	\$186,950	0.665	1.508
		12	2001	# Sales	1	1	1	1
				Mean	\$150,810	\$261,250	0.577	1.732
				Median	\$150,810	\$261,250	0.577	1.732
			2002	# Sales	5	5	5	5
				Mean	\$158,633	\$239,560	0.678	1.498
				Median	\$160,144	\$239,000	0.670	1.492
		13	2001	# Sales	7	7	7	7
				Mean	\$135,949	\$178,643	0.764	1.320
				Median	\$137,913	\$184,500	0.751	1.331
			2002	# Sales	18	18	18	18
				Mean	\$133,022	\$204,528	0.691	1.536
				Median	\$130,906	\$200,000	0.670	1.493
7	A	11	2001	# Sales	6	6	6	6
				Mean	\$104,511	\$134,317	0.785	1.284
				Median	\$104,668	\$135,000	0.782	1.279
			2002	# Sales	3	3	3	3
				Mean	\$105,770	\$137,000	0.777	1.301
				Median	\$108,953	\$141,000	0.773	1.294
		13	2001	# Sales	12	12	12	12
				Mean	\$102,676	\$116,992	0.885	1.171
				Median	\$93,550	\$116,500	0.831	1.204
			2002	# Sales	13	13	13	13
				Mean	\$94,306	\$125,944	0.789	1.338
				Median	\$90,620	\$130,000	0.737	1.358
		23	2001	# Sales	6	6	6	6
				Mean	\$103,530	\$133,000	0.805	1.281
				Median	\$105,009	\$124,000	0.842	1.191
			2002	# Sales	5	5	5	5
				Mean	\$98,344	\$131,117	0.764	1.334
				Median	\$98,993	\$130,000	0.734	1.363
	B	11	2001	# Sales	2	2	2	2
				Mean	\$133,667	\$149,375	0.903	1.118
				Median	\$133,667	\$149,375	0.903	1.118
			2002	# Sales	2	2	2	2
				Mean	\$134,277	\$173,000	0.797	1.294
				Median	\$134,277	\$173,000	0.797	1.294
		12	2002	# Sales	1	1	1	1
				Mean	\$138,557	\$260,000	0.533	1.876
				Median	\$138,557	\$260,000	0.533	1.876

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NBHD	SUB	USECODE	Sale Year		Current Value	Sale Price	Current A/S Ratio	Indicated Trend Factor
		13	2001	# Sales	4	4	4	4
				Mean	\$123,316	\$152,386	0.866	1.280
				Median	\$130,182	\$148,600	0.919	1.116
			2002	# Sales	13	13	13	13
				Mean	\$134,957	\$154,334	0.911	1.160
				Median	\$135,736	\$162,000	0.838	1.193
C		11	2001	# Sales	1	1	1	1
				Mean	\$93,768	\$168,500	0.556	1.797
				Median	\$93,768	\$168,500	0.556	1.797
			2002	# Sales	2	2	2	2
				Mean	\$122,576	\$242,500	0.503	2.048
				Median	\$122,576	\$242,500	0.503	2.048
		12	2001	# Sales	9	9	9	9
				Mean	\$138,629	\$209,222	0.672	1.561
				Median	\$147,946	\$204,000	0.727	1.375
			2002	# Sales	17	17	17	17
				Mean	\$146,718	\$243,781	0.608	1.762
				Median	\$147,271	\$250,000	0.562	1.780
		13	2001	# Sales	10	10	10	10
				Mean	\$126,012	\$155,470	0.821	1.235
				Median	\$121,257	\$147,500	0.830	1.205
			2002	# Sales	14	14	14	14
				Mean	\$134,523	\$196,021	0.706	1.454
				Median	\$140,188	\$193,950	0.716	1.397
		23	2001	# Sales	2	2	2	2
				Mean	\$97,990	\$120,000	0.803	1.250
				Median	\$97,990	\$120,000	0.803	1.250
			2002	# Sales	2	2	2	2
				Mean	\$137,642	\$163,500	0.858	1.203
				Median	\$137,642	\$163,500	0.858	1.203
		24	2002	# Sales	1	1	1	1
				Mean	\$227,093	\$232,000	0.979	1.022
				Median	\$227,093	\$232,000	0.979	1.022
D		11	2001	# Sales	1	1	1	1
				Mean	\$107,260	\$119,000	0.901	1.109
				Median	\$107,260	\$119,000	0.901	1.109
		12	2001	# Sales	28	28	28	28
				Mean	\$130,061	\$213,996	0.639	1.675
				Median	\$125,313	\$207,500	0.615	1.627
			2002	# Sales	39	39	39	39
				Mean	\$134,136	\$215,862	0.652	1.654
				Median	\$130,883	\$214,500	0.607	1.648
		13	2001	# Sales	4	4	4	4
				Mean	\$114,155	\$171,750	0.705	1.555
				Median	\$116,687	\$180,000	0.709	1.437
			2002	# Sales	4	4	4	4
				Mean	\$105,975	\$191,976	0.591	1.811
				Median	\$107,534	\$192,500	0.598	1.740
		23	2001	# Sales	1	1	1	1
				Mean	\$137,900	\$210,000	0.657	1.523
				Median	\$137,900	\$210,000	0.657	1.523
E		11	2001	# Sales	33	33	33	33

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NBHD	SUB	USECODE	Sale Year		Current Value	Sale Price	Current A/S Ratio	Indicated Trend Factor
				Mean	\$100,174	\$129,115	0.805	1.298
				Median	\$99,280	\$128,600	0.761	1.314
			2002	# Sales	26	26	26	26
				Mean	\$104,897	\$163,608	0.701	1.583
				Median	\$103,180	\$167,500	0.608	1.646
	12		2001	# Sales	5	5	5	5
				Mean	\$113,098	\$167,700	0.699	1.485
				Median	\$121,169	\$167,000	0.722	1.385
			2002	# Sales	14	14	14	14
				Mean	\$96,316	\$187,250	0.553	2.038
				Median	\$102,084	\$175,000	0.496	2.034
	13		2001	# Sales	11	11	11	11
				Mean	\$105,356	\$119,774	0.911	1.148
				Median	\$103,630	\$121,500	0.864	1.157
			2002	# Sales	11	11	11	11
				Mean	\$106,216	\$139,820	0.881	1.300
				Median	\$108,549	\$120,422	0.897	1.114
	23		2001	# Sales	2	2	2	2
				Mean	\$113,645	\$133,000	0.847	1.183
				Median	\$113,645	\$133,000	0.847	1.183
			2002	# Sales	1	1	1	1
				Mean	\$143,578	\$177,500	0.809	1.236
				Median	\$143,578	\$177,500	0.809	1.236
	24		2001	# Sales	2	2	2	2
				Mean	\$151,394	\$175,000	0.857	1.197
				Median	\$151,394	\$175,000	0.857	1.197
			2002	# Sales	2	2	2	2
				Mean	\$127,038	\$170,000	0.749	1.347
				Median	\$127,038	\$170,000	0.749	1.347
11	A	11	2001	# Sales	5	5	5	5
				Mean	\$278,596	\$418,900	0.667	1.513
				Median	\$284,200	\$410,000	0.693	1.443
			2002	# Sales	8	8	8	8
				Mean	\$269,633	\$463,881	0.573	1.773
				Median	\$236,534	\$445,000	0.566	1.768
	12		2001	# Sales	28	28	28	28
				Mean	\$467,239	\$629,811	0.728	1.413
				Median	\$390,170	\$549,500	0.732	1.367
			2002	# Sales	27	27	27	27
				Mean	\$344,189	\$601,852	0.570	1.804
				Median	\$305,990	\$589,000	0.555	1.802
	13		2001	# Sales	12	12	12	12
				Mean	\$277,159	\$417,575	0.683	1.506
				Median	\$275,353	\$417,500	0.635	1.576
			2002	# Sales	8	8	8	8
				Mean	\$309,601	\$518,683	0.624	1.676
				Median	\$313,454	\$549,000	0.632	1.583
	24		2001	# Sales	1	1	1	1
				Mean	\$226,000	\$401,000	0.564	1.774
				Median	\$226,000	\$401,000	0.564	1.774
	B	11	2001	# Sales	1	1	1	1
				Mean	\$287,711	\$355,000	0.810	1.234

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NBHD	SUB	USECODE	Sale Year		Current Value	Sale Price	Current A/S Ratio	Indicated Trend Factor
				Median	\$287,711	\$355,000	0.810	1.234
			2002	# Sales	5	5	5	5
				Mean	\$320,157	\$476,000	0.680	1.481
				Median	\$294,782	\$445,000	0.672	1.489
	12		2001	# Sales	9	9	9	9
				Mean	\$346,211	\$530,667	0.660	1.526
				Median	\$324,680	\$485,000	0.634	1.578
			2002	# Sales	18	18	18	18
				Mean	\$326,205	\$452,089	0.970	1.394
				Median	\$317,606	\$487,500	0.657	1.524
	13		2001	# Sales	3	3	3	3
				Mean	\$256,196	\$380,667	0.682	1.477
				Median	\$262,856	\$360,000	0.716	1.396
			2002	# Sales	9	9	9	9
				Mean	\$285,416	\$440,960	0.765	1.537
				Median	\$286,814	\$475,000	0.592	1.691
C	12		2001	# Sales	27	27	27	27
				Mean	\$416,935	\$538,683	0.772	1.326
				Median	\$372,763	\$511,200	0.768	1.302
			2002	# Sales	29	29	29	29
				Mean	\$398,551	\$631,603	0.639	1.589
				Median	\$378,056	\$613,000	0.632	1.581
D	11		2001	# Sales	2	2	2	2
				Mean	\$416,699	\$649,500	0.638	1.580
				Median	\$416,699	\$649,500	0.638	1.580
			2002	# Sales	2	2	2	2
				Mean	\$451,285	\$722,500	0.629	1.598
				Median	\$451,285	\$722,500	0.629	1.598
	12		2001	# Sales	30	30	30	30
				Mean	\$402,417	\$522,116	0.777	1.315
				Median	\$382,422	\$482,500	0.747	1.339
			2002	# Sales	37	37	37	37
				Mean	\$373,049	\$582,241	0.655	1.561
				Median	\$362,064	\$579,000	0.636	1.573
E	12		2001	# Sales	24	24	24	24
				Mean	\$337,893	\$456,583	0.747	1.366
				Median	\$324,897	\$455,700	0.717	1.394
			2002	# Sales	37	37	37	37
				Mean	\$344,560	\$525,663	0.678	1.533
				Median	\$332,565	\$503,000	0.668	1.498
12	0	11	2002	# Sales	5	5	5	5
				Mean	\$127,847	\$193,400	0.686	1.507
				Median	\$129,003	\$200,500	0.636	1.571
	12		2001	# Sales	20	20	20	20
				Mean	\$169,867	\$206,096	0.860	1.235
				Median	\$173,242	\$215,038	0.808	1.238
			2002	# Sales	20	20	20	20
				Mean	\$154,338	\$226,471	0.721	1.510
				Median	\$153,419	\$233,250	0.660	1.514
	13		2001	# Sales	2	2	2	2
				Mean	\$146,077	\$196,000	0.763	1.361
				Median	\$146,077	\$196,000	0.763	1.361

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NBHD	SUB	USECODE	Sale Year		Current Value	Sale Price	Current A/S Ratio	Indicated Trend Factor
			2002	# Sales	2	2	2	2
				Mean	\$110,179	\$189,500	0.581	1.733
				Median	\$110,179	\$189,500	0.581	1.733
		23	2001	# Sales	1	1	1	1
				Mean	\$113,521	\$135,000	0.841	1.189
				Median	\$113,521	\$135,000	0.841	1.189
			2002	# Sales	2	2	2	2
				Mean	\$108,281	\$202,000	0.536	1.868
				Median	\$108,281	\$202,000	0.536	1.868
		24	2001	# Sales	1	1	1	1
				Mean	\$183,700	\$255,000	0.720	1.388
				Median	\$183,700	\$255,000	0.720	1.388
14	0	12	2001	# Sales	16	16	16	16
				Mean	\$352,195	\$527,128	0.682	1.504
				Median	\$336,191	\$497,000	0.692	1.446
			2002	# Sales	18	18	18	18
				Mean	\$387,460	\$569,590	0.950	1.491
				Median	\$349,009	\$495,000	0.690	1.450
		15	2002	# Sales	1	1	1	1
				Mean	\$362,144	\$550,000	0.658	1.519
				Median	\$362,144	\$550,000	0.658	1.519
15	A	11	2001	# Sales	15	15	15	15
				Mean	\$190,033	\$197,339	1.047	1.066
				Median	\$191,360	\$219,900	1.000	1.000
			2002	# Sales	19	19	19	19
				Mean	\$205,724	\$267,446	0.909	1.342
				Median	\$201,890	\$250,000	0.688	1.454
		13	2001	# Sales	6	6	6	6
				Mean	\$184,582	\$207,667	0.900	1.186
				Median	\$184,355	\$193,500	0.930	1.087
			2002	# Sales	6	6	6	6
				Mean	\$192,763	\$262,333	0.788	1.394
				Median	\$192,210	\$267,500	0.767	1.345
		23	2001	# Sales	4	4	4	4
				Mean	\$182,770	\$288,100	0.640	1.604
				Median	\$180,865	\$288,700	0.686	1.458
		24	2001	# Sales	11	11	11	11
				Mean	\$233,382	\$297,318	0.818	1.303
				Median	\$230,940	\$275,000	0.743	1.347
			2002	# Sales	10	10	10	10
				Mean	\$243,858	\$362,740	0.694	1.534
				Median	\$251,330	\$330,500	0.659	1.525
	B	11	2001	# Sales	40	40	40	40
				Mean	\$162,324	\$171,667	1.029	1.078
				Median	\$154,215	\$169,750	0.914	1.094
			2002	# Sales	28	28	28	28
				Mean	\$156,358	\$214,736	0.863	1.369
				Median	\$147,445	\$215,000	0.754	1.326
		12	2001	# Sales	1	1	1	1
				Mean	\$95,200	\$85,000	1.120	0.893
				Median	\$95,200	\$85,000	1.120	0.893
		13	2001	# Sales	1	1	1	1

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NBHD	SUB	USECODE	Sale Year		Current Value	Sale Price	Current A/S Ratio	Indicated Trend Factor
				Mean	\$134,960	\$115,000	1.174	0.852
				Median	\$134,960	\$115,000	1.174	0.852
			2002	# Sales	3	3	3	3
				Mean	\$194,813	\$211,800	0.983	1.093
				Median	\$199,170	\$241,000	0.812	1.232
	23		2001	# Sales	2	2	2	2
				Mean	\$204,470	\$270,000	0.757	1.320
				Median	\$204,470	\$270,000	0.757	1.320
			2002	# Sales	3	3	3	3
				Mean	\$191,520	\$237,500	0.815	1.274
				Median	\$204,470	\$250,000	0.858	1.165
	24		2001	# Sales	1	1	1	1
				Mean	\$135,000	\$135,000	1.000	1.000
				Median	\$135,000	\$135,000	1.000	1.000
			2002	# Sales	1	1	1	1
				Mean	\$125,640	\$149,950	0.838	1.193
				Median	\$125,640	\$149,950	0.838	1.193
C	11		2001	# Sales	62	62	62	62
				Mean	\$129,254	\$141,532	0.965	1.108
				Median	\$128,195	\$140,000	0.902	1.109
			2002	# Sales	52	52	52	52
				Mean	\$122,986	\$172,746	0.791	1.425
				Median	\$122,605	\$180,000	0.706	1.416
	12		2001	# Sales	3	3	3	3
				Mean	\$133,060	\$161,667	0.848	1.306
				Median	\$145,320	\$165,000	0.881	1.135
			2002	# Sales	2	2	2	2
				Mean	\$211,870	\$175,000	1.265	0.870
				Median	\$211,870	\$175,000	1.265	0.870
	13		2001	# Sales	9	9	9	9
				Mean	\$128,281	\$136,558	1.107	1.126
				Median	\$122,820	\$155,000	0.908	1.102
			2002	# Sales	25	25	25	25
				Mean	\$147,621	\$199,744	0.817	1.375
				Median	\$142,710	\$175,000	0.830	1.205
	23		2001	# Sales	4	4	4	4
				Mean	\$197,228	\$166,628	1.322	0.807
				Median	\$209,775	\$176,015	1.205	0.833
			2002	# Sales	1	1	1	1
				Mean	\$213,280	\$270,000	0.790	1.266
				Median	\$213,280	\$270,000	0.790	1.266
	24		2001	# Sales	4	4	4	4
				Mean	\$150,420	\$130,750	1.511	0.797
				Median	\$120,850	\$122,500	1.611	0.678
			2002	# Sales	1	1	1	1
				Mean	\$122,420	\$175,000	0.700	1.430
				Median	\$122,420	\$175,000	0.700	1.430
D	11		2001	# Sales	48	48	48	48
				Mean	\$157,230	\$168,254	1.039	1.062
				Median	\$155,160	\$158,000	0.946	1.058
			2002	# Sales	40	40	40	40
				Mean	\$158,063	\$202,527	0.934	1.244

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NBHD	SUB	USECODE	Sale Year		Current Value	Sale Price	Current A/S Ratio	Indicated Trend Factor
				Median	\$150,730	\$175,000	0.829	1.207
		12	2001	# Sales	1	1	1	1
				Mean	\$189,700	\$221,000	0.858	1.165
				Median	\$189,700	\$221,000	0.858	1.165
		13	2001	# Sales	9	9	9	9
				Mean	\$172,482	\$206,489	0.885	1.184
				Median	\$179,880	\$212,000	0.918	1.089
			2002	# Sales	7	7	7	7
				Mean	\$193,839	\$281,914	0.719	1.431
				Median	\$183,240	\$300,000	0.672	1.488
		23	2001	# Sales	1	1	1	1
				Mean	\$258,840	\$264,000	0.980	1.020
				Median	\$258,840	\$264,000	0.980	1.020
			2002	# Sales	3	3	3	3
				Mean	\$161,243	\$259,000	0.739	1.710
				Median	\$137,440	\$217,000	0.586	1.707
		24	2001	# Sales	4	4	4	4
				Mean	\$233,900	\$254,213	0.991	1.065
				Median	\$239,070	\$210,500	1.064	0.941
			2002	# Sales	6	6	6	6
				Mean	\$235,738	\$311,067	0.890	1.360
				Median	\$231,795	\$267,250	0.696	1.438
E		11	2001	# Sales	44	44	44	44
				Mean	\$160,696	\$214,886	0.884	1.408
				Median	\$151,750	\$192,500	0.762	1.313
			2002	# Sales	38	38	38	38
				Mean	\$155,955	\$220,273	0.786	1.401
				Median	\$154,480	\$191,000	0.711	1.407
		13	2001	# Sales	10	10	10	10
				Mean	\$154,483	\$154,395	1.070	1.018
				Median	\$153,915	\$138,500	0.954	1.048
			2002	# Sales	12	12	12	12
				Mean	\$188,548	\$299,992	0.824	1.539
				Median	\$186,265	\$242,450	0.766	1.339
		23	2001	# Sales	7	7	7	7
				Mean	\$171,676	\$207,704	0.968	1.237
				Median	\$181,220	\$195,000	1.083	0.924
			2002	# Sales	3	3	3	3
				Mean	\$160,583	\$226,455	0.908	1.286
				Median	\$181,710	\$303,000	0.696	1.436
		24	2001	# Sales	13	13	13	13
				Mean	\$201,695	\$263,408	0.838	1.442
				Median	\$201,120	\$257,500	0.834	1.198
			2002	# Sales	9	9	9	9
				Mean	\$222,893	\$359,322	0.658	1.606
				Median	\$261,160	\$370,000	0.696	1.436
		97	2001	# Sales	1	1	1	1
				Mean	\$157,320	\$41,000	3.837	0.261
				Median	\$157,320	\$41,000	3.837	0.261
18	A	11	2001	# Sales	4	4	4	4
				Mean	\$93,492	\$101,000	1.221	1.074
				Median	\$93,037	\$122,000	0.792	1.262

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NBHD	SUB	USECODE	Sale Year		Current Value	Sale Price	Current A/S Ratio	Indicated Trend Factor
			2002	# Sales	5	5	5	5
				Mean	\$96,646	\$108,961	0.926	1.122
				Median	\$99,143	\$92,905	1.000	1.000
	12		2001	# Sales	9	9	9	9
				Mean	\$102,177	\$127,381	0.819	1.337
				Median	\$109,175	\$130,000	0.840	1.191
			2002	# Sales	15	15	15	15
				Mean	\$92,172	\$102,173	1.018	1.092
				Median	\$92,018	\$110,000	0.904	1.106
	13		2001	# Sales	14	14	14	14
				Mean	\$92,159	\$110,029	0.850	1.200
				Median	\$90,949	\$116,000	0.836	1.196
			2002	# Sales	21	21	21	21
				Mean	\$87,807	\$102,407	0.929	1.151
				Median	\$86,921	\$106,500	0.869	1.151
	23		2001	# Sales	9	9	9	9
				Mean	\$84,951	\$89,367	1.082	1.027
				Median	\$95,670	\$93,000	0.917	1.090
			2002	# Sales	7	7	7	7
				Mean	\$82,179	\$107,857	0.790	1.334
				Median	\$79,075	\$115,000	0.786	1.272
	24		2001	# Sales	3	3	3	3
				Mean	\$61,516	\$69,000	0.887	1.132
				Median	\$55,026	\$65,000	0.847	1.181
			2002	# Sales	2	2	2	2
				Mean	\$64,548	\$97,000	0.714	1.463
				Median	\$64,548	\$97,000	0.714	1.463
B	11		2001	# Sales	2	2	2	2
				Mean	\$78,415	\$73,472	1.066	0.938
				Median	\$78,415	\$73,472	1.066	0.938
			2002	# Sales	2	2	2	2
				Mean	\$68,096	\$61,284	1.195	0.905
				Median	\$68,096	\$61,284	1.195	0.905
	12		2001	# Sales	14	14	14	14
				Mean	\$93,858	\$111,911	0.839	1.230
				Median	\$87,280	\$97,500	0.789	1.268
			2002	# Sales	17	17	17	17
				Mean	\$76,468	\$81,661	1.022	1.759
				Median	\$69,824	\$75,777	0.996	1.004
	13		2001	# Sales	19	19	19	19
				Mean	\$76,949	\$92,316	0.845	1.226
				Median	\$68,636	\$95,000	0.794	1.260
			2002	# Sales	38	38	38	38
				Mean	\$78,895	\$98,744	0.852	1.303
				Median	\$71,441	\$99,950	0.764	1.309
	23		2002	# Sales	3	3	3	3
				Mean	\$68,545	\$135,333	0.504	2.024
				Median	\$73,698	\$135,000	0.503	1.988
C	11		2001	# Sales	2	2	2	2
				Mean	\$123,387	\$127,250	0.970	1.031
				Median	\$123,387	\$127,250	0.970	1.031
			2002	# Sales	5	5	5	5

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NBHD	SUB	USECODE	Sale Year		Current Value	Sale Price	Current A/S Ratio	Indicated Trend Factor
				Mean	\$77,118	\$81,200	0.945	1.070
				Median	\$68,081	\$86,000	0.988	1.012
	12		2001	# Sales	13	13	13	13
				Mean	\$92,999	\$89,568	1.072	0.973
				Median	\$91,225	\$89,900	1.066	0.938
			2002	# Sales	21	21	21	21
				Mean	\$83,087	\$86,115	1.163	1.065
				Median	\$76,591	\$76,591	0.998	1.002
	13		2001	# Sales	23	23	23	23
				Mean	\$74,297	\$85,729	0.903	1.161
				Median	\$66,090	\$87,900	0.903	1.108
			2002	# Sales	22	22	22	22
				Mean	\$84,187	\$139,041	0.751	1.833
				Median	\$81,784	\$115,000	0.755	1.326
	23		2001	# Sales	2	2	2	2
				Mean	\$73,160	\$90,000	0.813	1.230
				Median	\$73,160	\$90,000	0.813	1.230
			2002	# Sales	1	1	1	1
				Mean	\$73,160	\$49,000	1.493	0.670
				Median	\$73,160	\$49,000	1.493	0.670
D	12		2001	# Sales	1	1	1	1
				Mean	\$92,700	\$117,000	0.792	1.262
				Median	\$92,700	\$117,000	0.792	1.262
			2002	# Sales	2	2	2	2
				Mean	\$92,700	\$114,500	0.848	1.235
				Median	\$92,700	\$114,500	0.848	1.235
	13		2001	# Sales	6	6	6	6
				Mean	\$103,286	\$116,167	0.896	1.137
				Median	\$98,807	\$120,000	0.841	1.189
			2002	# Sales	8	8	8	8
				Mean	\$101,236	\$122,788	0.858	1.211
				Median	\$100,673	\$130,200	0.797	1.255
	97		2002	# Sales	1	1	1	1
				Mean	\$49,500	\$155,000	0.319	3.131
				Median	\$49,500	\$155,000	0.319	3.131
E	12		2001	# Sales	8	8	8	8
				Mean	\$95,593	\$126,555	0.759	1.341
				Median	\$87,086	\$134,000	0.793	1.261
			2002	# Sales	8	8	8	8
				Mean	\$99,921	\$97,475	1.109	1.014
				Median	\$95,026	\$98,775	1.014	0.991
	13		2001	# Sales	10	10	10	10
				Mean	\$90,927	\$105,000	0.880	1.155
				Median	\$91,815	\$105,000	0.900	1.111
			2002	# Sales	14	14	14	14
				Mean	\$84,674	\$112,663	0.773	1.337
				Median	\$84,175	\$113,750	0.733	1.365
	23		2002	# Sales	2	2	2	2
				Mean	\$78,216	\$76,000	1.030	0.971
				Median	\$78,216	\$76,000	1.030	0.971
19	A	11	2001	# Sales	38	38	38	38
				Mean	\$180,436	\$199,725	0.994	1.138

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NBHD	SUB	USECODE	Sale Year		Current Value	Sale Price	Current A/S Ratio	Indicated Trend Factor
				Median	\$183,855	\$201,800	0.879	1.138
			2002	# Sales	44	44	44	44
				Mean	\$181,184	\$235,282	0.821	1.330
				Median	\$180,130	\$239,975	0.769	1.300
	13		2001	# Sales	4	4	4	4
				Mean	\$191,850	\$251,646	0.765	1.342
				Median	\$191,390	\$255,213	0.814	1.230
			2002	# Sales	3	3	3	3
				Mean	\$192,257	\$189,663	1.076	1.002
				Median	\$189,080	\$191,990	0.985	1.015
	24		2001	# Sales	6	6	6	6
				Mean	\$165,077	\$202,549	0.897	1.179
				Median	\$188,325	\$226,500	0.820	1.220
			2002	# Sales	9	9	9	9
				Mean	\$185,717	\$196,111	1.027	1.074
				Median	\$176,620	\$200,000	0.879	1.138
	97		2001	# Sales	1	1	1	1
				Mean	\$90,910	\$163,000	0.558	1.793
				Median	\$90,910	\$163,000	0.558	1.793
B	11		2001	# Sales	36	36	36	36
				Mean	\$140,675	\$143,487	1.050	1.073
				Median	\$138,200	\$135,000	0.974	1.027
			2002	# Sales	55	55	55	55
				Mean	\$138,996	\$177,225	0.876	1.329
				Median	\$140,840	\$165,000	0.828	1.208
	12		2001	# Sales	3	3	3	3
				Mean	\$165,180	\$97,333	2.614	0.557
				Median	\$176,000	\$82,000	2.583	0.387
			2002	# Sales	1	1	1	1
				Mean	\$177,100	\$240,000	0.738	1.355
				Median	\$177,100	\$240,000	0.738	1.355
	13		2001	# Sales	6	6	6	6
				Mean	\$94,472	\$126,483	0.798	1.360
				Median	\$89,785	\$133,450	0.887	1.129
			2002	# Sales	10	10	10	10
				Mean	\$133,389	\$184,210	0.817	1.456
				Median	\$139,355	\$150,500	0.841	1.200
	23		2001	# Sales	5	5	5	5
				Mean	\$150,078	\$134,940	1.100	0.946
				Median	\$174,140	\$135,000	1.079	0.927
			2002	# Sales	6	6	6	6
				Mean	\$185,055	\$169,833	1.195	1.089
				Median	\$172,880	\$144,500	0.958	1.101
	24		2001	# Sales	1	1	1	1
				Mean	\$136,080	\$232,000	0.587	1.705
				Median	\$136,080	\$232,000	0.587	1.705
			2002	# Sales	4	4	4	4
				Mean	\$148,943	\$232,000	0.650	1.551
				Median	\$149,780	\$235,000	0.651	1.537
	15		2001	# Sales	1	1	1	1
				Mean	\$80,770	\$140,000	0.577	1.733
				Median	\$80,770	\$140,000	0.577	1.733

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NBHD	SUB	USECODE	Sale Year		Current Value	Sale Price	Current A/S Ratio	Indicated Trend Factor
		97	2001	# Sales	1	1	1	1
				Mean	\$40,320	\$40,000	1.008	0.992
				Median	\$40,320	\$40,000	1.008	0.992
			2002	# Sales	2	2	2	2
				Mean	\$84,490	\$135,000	0.682	1.701
				Median	\$84,490	\$135,000	0.682	1.701
27	0	12	2001	# Sales	12	12	12	12
				Mean	\$381,140	\$509,414	0.734	1.401
				Median	\$332,124	\$487,450	0.705	1.419
			2002	# Sales	11	11	11	11
				Mean	\$323,406	\$535,364	0.608	1.666
				Median	\$295,752	\$525,000	0.610	1.640
31	A	11	2001	# Sales	40	40	40	40
				Mean	\$142,769	\$173,427	0.890	1.226
				Median	\$142,470	\$156,269	0.966	1.036
			2002	# Sales	23	23	23	23
				Mean	\$137,470	\$235,387	0.656	1.709
				Median	\$134,290	\$212,000	0.614	1.629
		13	2001	# Sales	5	5	5	5
				Mean	\$181,832	\$173,980	1.182	1.039
				Median	\$153,770	\$137,900	1.098	0.911
			2002	# Sales	9	9	9	9
				Mean	\$146,703	\$215,322	0.861	1.339
				Median	\$138,860	\$147,900	0.891	1.122
		23	2001	# Sales	1	1	1	1
				Mean	\$163,750	\$315,000	0.520	1.924
				Median	\$163,750	\$315,000	0.520	1.924
			2002	# Sales	1	1	1	1
				Mean	\$212,990	\$285,000	0.747	1.338
				Median	\$212,990	\$285,000	0.747	1.338
		24	2001	# Sales	2	2	2	2
				Mean	\$123,145	\$174,000	0.793	1.402
				Median	\$123,145	\$174,000	0.793	1.402
			2002	# Sales	5	5	5	5
				Mean	\$157,758	\$289,800	0.603	1.911
				Median	\$165,150	\$324,000	0.493	2.027
	B	11	2001	# Sales	34	34	34	34
				Mean	\$161,730	\$206,882	0.844	1.354
				Median	\$176,530	\$205,000	0.799	1.251
			2002	# Sales	40	40	40	40
				Mean	\$172,530	\$263,724	0.758	1.683
				Median	\$175,440	\$263,450	0.750	1.334
		13	2001	# Sales	3	3	3	3
				Mean	\$187,367	\$141,333	1.353	0.765
				Median	\$185,970	\$133,500	1.488	0.672
			2002	# Sales	4	4	4	4
				Mean	\$227,660	\$301,923	0.855	1.295
				Median	\$218,280	\$229,346	0.815	1.265
		23	2002	# Sales	2	2	2	2
				Mean	\$173,515	\$186,000	0.980	1.185
				Median	\$173,515	\$186,000	0.980	1.185
		24	2001	# Sales	11	11	11	11

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NBHD	SUB	USECODE	Sale Year		Current Value	Sale Price	Current A/S Ratio	Indicated Trend Factor
				Mean	\$184,753	\$239,450	0.905	1.331
				Median	\$169,970	\$220,750	0.794	1.259
			2002	# Sales	6	6	6	6
				Mean	\$203,155	\$320,092	0.781	1.554
				Median	\$207,045	\$325,775	0.652	1.600
32	A	12	2001	# Sales	2	2	2	2
				Mean	\$124,615	\$145,000	0.857	1.168
				Median	\$124,615	\$145,000	0.857	1.168
			2002	# Sales	10	10	10	10
				Mean	\$101,486	\$144,857	0.801	1.554
				Median	\$100,114	\$149,000	0.786	1.282
		13	2001	# Sales	1	1	1	1
				Mean	\$52,102	\$50,000	1.042	0.960
				Median	\$52,102	\$50,000	1.042	0.960
			2002	# Sales	1	1	1	1
				Mean	\$47,759	\$94,900	0.503	1.987
				Median	\$47,759	\$94,900	0.503	1.987
	B	11	2001	# Sales	14	14	14	14
				Mean	\$85,616	\$102,264	0.842	1.196
				Median	\$89,278	\$100,000	0.860	1.164
			2002	# Sales	14	14	14	14
				Mean	\$83,387	\$114,171	0.742	1.377
				Median	\$84,276	\$117,500	0.752	1.330
		13	2001	# Sales	4	4	4	4
				Mean	\$82,403	\$92,850	0.904	1.128
				Median	\$84,045	\$89,250	0.898	1.121
			2002	# Sales	3	3	3	3
				Mean	\$86,275	\$88,167	1.010	1.040
				Median	\$88,207	\$95,500	1.008	0.992
35	0	11	2001	# Sales	1	1	1	1
				Mean	\$112,597	\$165,000	0.682	1.465
				Median	\$112,597	\$165,000	0.682	1.465
		12	2001	# Sales	30	30	30	30
				Mean	\$149,655	\$183,723	0.837	1.249
				Median	\$150,151	\$190,000	0.809	1.236
			2002	# Sales	17	17	17	17
				Mean	\$152,932	\$230,692	0.683	1.518
				Median	\$154,458	\$229,000	0.679	1.473
37	0	12	2001	# Sales	15	15	15	15
				Mean	\$394,049	\$624,600	0.636	1.603
				Median	\$384,461	\$615,000	0.633	1.579
			2002	# Sales	18	18	18	18
				Mean	\$421,257	\$789,644	0.557	1.868
				Median	\$367,754	\$660,000	0.545	1.837
		13	2001	# Sales	16	16	16	16
				Mean	\$388,716	\$519,334	0.746	1.367
				Median	\$356,344	\$512,500	0.706	1.417
			2002	# Sales	17	17	17	17
				Mean	\$357,344	\$554,569	0.660	1.560
				Median	\$358,779	\$575,000	0.610	1.640
		24	2002	# Sales	2	2	2	2
				Mean	\$330,825	\$497,203	0.667	1.504

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NBHD	SUB	USECODE	Sale Year		Current Value	Sale Price	Current A/S Ratio	Indicated Trend Factor
				Median	\$330,825	\$497,203	0.667	1.504
39	A	11	2001	# Sales	36	36	36	36
				Mean	\$153,942	\$180,609	0.937	1.197
				Median	\$154,755	\$170,500	0.900	1.114
			2002	# Sales	53	53	53	53
				Mean	\$147,989	\$197,865	0.863	1.382
				Median	\$152,260	\$200,000	0.795	1.258
		13	2001	# Sales	13	13	13	13
				Mean	\$150,515	\$164,875	0.996	1.112
				Median	\$139,160	\$148,000	1.007	0.993
			2002	# Sales	14	14	14	14
				Mean	\$165,511	\$227,064	0.840	1.443
				Median	\$159,115	\$237,000	0.719	1.396
		23	2001	# Sales	4	4	4	4
				Mean	\$169,685	\$213,939	0.868	1.349
				Median	\$170,945	\$214,000	0.833	1.345
			2002	# Sales	9	9	9	9
				Mean	\$222,541	\$322,957	0.824	1.478
				Median	\$223,280	\$379,000	0.728	1.374
		24	2001	# Sales	1	1	1	1
				Mean	\$161,140	\$209,000	0.771	1.297
				Median	\$161,140	\$209,000	0.771	1.297
	B	11	2001	# Sales	33	33	33	33
				Mean	\$189,483	\$221,205	0.970	1.175
				Median	\$184,910	\$229,000	0.800	1.251
			2002	# Sales	39	39	39	39
				Mean	\$205,932	\$247,566	0.916	1.227
				Median	\$201,790	\$260,000	0.803	1.246
		12	2001	# Sales	1	1	1	1
				Mean	\$245,180	\$206,000	1.190	0.840
				Median	\$245,180	\$206,000	1.190	0.840
		13	2001	# Sales	7	7	7	7
				Mean	\$250,763	\$226,757	1.141	0.917
				Median	\$215,630	\$209,500	1.200	0.833
			2002	# Sales	5	5	5	5
				Mean	\$206,178	\$310,554	0.704	1.495
				Median	\$203,430	\$255,000	0.704	1.421
		23	2001	# Sales	5	5	5	5
				Mean	\$134,588	\$180,900	0.930	1.247
				Median	\$108,240	\$105,000	1.019	0.981
			2002	# Sales	6	6	6	6
				Mean	\$187,293	\$191,110	1.010	1.053
				Median	\$177,740	\$159,500	1.033	0.968
		24	2001	# Sales	3	3	3	3
				Mean	\$211,040	\$306,000	0.700	1.459
				Median	\$213,400	\$325,000	0.647	1.546
	C	11	2001	# Sales	17	17	17	17
				Mean	\$154,501	\$183,165	1.066	1.132
				Median	\$147,780	\$111,000	0.964	1.038
			2002	# Sales	27	27	27	27
				Mean	\$144,050	\$228,713	0.691	1.583
				Median	\$137,130	\$220,000	0.625	1.601

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NBHD	SUB	USECODE	Sale Year		Current Value	Sale Price	Current A/S Ratio	Indicated Trend Factor
		12	2002	# Sales	1	1	1	1
				Mean	\$208,890	\$375,000	0.557	1.795
				Median	\$208,890	\$375,000	0.557	1.795
		13	2001	# Sales	5	5	5	5
				Mean	\$137,318	\$194,600	0.751	1.406
				Median	\$142,060	\$175,000	0.702	1.424
			2002	# Sales	5	5	5	5
				Mean	\$156,078	\$217,220	1.354	1.485
				Median	\$179,520	\$219,000	0.542	1.844
		23	2001	# Sales	3	3	3	3
				Mean	\$124,913	\$134,204	0.959	1.092
				Median	\$128,260	\$116,500	0.876	1.141
		24	2001	# Sales	2	2	2	2
				Mean	\$190,940	\$167,716	1.702	0.871
				Median	\$190,940	\$167,716	1.702	0.871
			2002	# Sales	5	5	5	5
				Mean	\$180,742	\$354,600	0.576	1.944
				Median	\$180,990	\$380,000	0.542	1.846
		97	2001	# Sales	1	1	1	1
				Mean	\$60,000	\$159,300	0.377	2.655
				Median	\$60,000	\$159,300	0.377	2.655
F		11	2001	# Sales	45	45	45	45
				Mean	\$160,386	\$195,761	0.886	1.237
				Median	\$163,080	\$183,000	0.805	1.241
			2002	# Sales	43	43	43	43
				Mean	\$153,711	\$213,746	0.849	1.414
				Median	\$158,510	\$210,000	0.718	1.394
		12	2002	# Sales	1	1	1	1
				Mean	\$82,100	\$157,500	0.521	1.918
				Median	\$82,100	\$157,500	0.521	1.918
		13	2001	# Sales	10	10	10	10
				Mean	\$166,245	\$204,086	0.872	1.244
				Median	\$179,080	\$175,000	0.870	1.152
			2002	# Sales	10	10	10	10
				Mean	\$202,817	\$233,800	0.887	1.179
				Median	\$187,875	\$222,500	0.852	1.174
		23	2002	# Sales	3	3	3	3
				Mean	\$254,410	\$387,667	0.758	1.507
				Median	\$240,710	\$473,000	0.585	1.710
		24	2001	# Sales	5	5	5	5
				Mean	\$174,584	\$238,200	0.754	1.364
				Median	\$176,460	\$243,000	0.793	1.261
			2002	# Sales	3	3	3	3
				Mean	\$163,947	\$205,833	1.238	1.528
				Median	\$167,210	\$160,000	1.325	0.755
G		11	2001	# Sales	22	22	22	22
				Mean	\$102,508	\$131,352	0.878	1.311
				Median	\$99,945	\$138,000	0.792	1.263
			2002	# Sales	30	30	30	30
				Mean	\$93,922	\$141,442	0.781	1.461
				Median	\$89,325	\$130,000	0.794	1.261
		13	2001	# Sales	7	7	7	7

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NBHD	SUB	USECODE	Sale Year		Current Value	Sale Price	Current A/S Ratio	Indicated Trend Factor
				Mean	\$87,520	\$75,221	1.160	0.876
				Median	\$87,450	\$71,000	1.202	0.832
			2002	# Sales	2	2	2	2
				Mean	\$75,685	\$92,000	0.923	1.256
				Median	\$75,685	\$92,000	0.923	1.256
	23		2001	# Sales	7	7	7	7
				Mean	\$95,627	\$106,021	1.056	1.046
				Median	\$78,480	\$80,000	0.960	1.042
			2002	# Sales	9	9	9	9
				Mean	\$118,944	\$124,914	1.362	1.133
				Median	\$115,340	\$125,000	1.100	0.909
	24		2001	# Sales	2	2	2	2
				Mean	\$119,035	\$85,000	1.378	0.788
				Median	\$119,035	\$85,000	1.378	0.788
			2002	# Sales	1	1	1	1
				Mean	\$132,010	\$175,000	0.754	1.326
				Median	\$132,010	\$175,000	0.754	1.326
H	11		2001	# Sales	28	28	28	28
				Mean	\$106,221	\$122,986	0.940	1.154
				Median	\$112,485	\$121,250	0.933	1.072
			2002	# Sales	26	26	26	26
				Mean	\$107,055	\$128,543	0.958	1.193
				Median	\$106,600	\$123,500	0.861	1.161
	13		2001	# Sales	3	3	3	3
				Mean	\$86,833	\$74,536	1.188	0.878
				Median	\$80,710	\$79,304	1.018	0.983
			2002	# Sales	5	5	5	5
				Mean	\$102,490	\$127,740	0.949	1.213
				Median	\$110,110	\$124,500	0.896	1.115
	23		2001	# Sales	8	8	8	8
				Mean	\$115,426	\$88,193	1.888	0.756
				Median	\$119,140	\$90,000	1.253	0.799
			2002	# Sales	13	13	13	13
				Mean	\$129,546	\$129,493	1.058	1.008
				Median	\$128,030	\$125,000	1.062	0.942
	24		2001	# Sales	1	1	1	1
				Mean	\$105,060	\$120,000	0.876	1.142
				Median	\$105,060	\$120,000	0.876	1.142
L	11		2001	# Sales	52	52	52	52
				Mean	\$120,416	\$137,906	0.953	1.210
				Median	\$122,755	\$129,450	0.969	1.032
			2002	# Sales	84	84	84	84
				Mean	\$105,071	\$167,730	0.719	1.691
				Median	\$105,495	\$165,250	0.656	1.524
	12		2002	# Sales	1	1	1	1
				Mean	\$176,770	\$312,000	0.567	1.765
				Median	\$176,770	\$312,000	0.567	1.765
	13		2001	# Sales	9	9	9	9
				Mean	\$125,851	\$113,500	1.170	0.907
				Median	\$121,980	\$126,500	1.086	0.920
			2002	# Sales	10	10	10	10
				Mean	\$114,099	\$150,691	0.888	1.343

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NBHD	SUB	USECODE	Sale Year		Current Value	Sale Price	Current A/S Ratio	Indicated Trend Factor
				Median	\$113,915	\$157,500	0.812	1.250
		23	2001	# Sales	4	4	4	4
				Mean	\$120,370	\$109,475	1.278	0.920
				Median	\$121,905	\$109,000	1.061	0.977
			2002	# Sales	3	3	3	3
				Mean	\$113,440	\$137,023	0.918	1.247
				Median	\$105,280	\$158,000	0.903	1.107
		24	2001	# Sales	4	4	4	4
				Mean	\$98,920	\$124,574	0.797	1.467
				Median	\$81,775	\$134,398	0.751	1.331
			2002	# Sales	10	10	10	10
				Mean	\$126,448	\$219,249	0.620	1.831
				Median	\$125,850	\$227,500	0.552	1.812
		97	2002	# Sales	1	1	1	1
				Mean	\$58,390	\$120,000	0.487	2.055
				Median	\$58,390	\$120,000	0.487	2.055
40	A	11	2001	# Sales	57	57	57	57
				Mean	\$98,048	\$143,629	0.832	1.594
				Median	\$92,950	\$141,000	0.718	1.393
			2002	# Sales	79	79	79	79
				Mean	\$115,732	\$261,538	0.637	2.169
				Median	\$99,670	\$200,000	0.536	1.864
		12	2001	# Sales	2	2	2	2
				Mean	\$79,255	\$82,500	0.971	1.045
				Median	\$79,255	\$82,500	0.971	1.045
			2002	# Sales	1	1	1	1
				Mean	\$72,100	\$135,000	0.534	1.872
				Median	\$72,100	\$135,000	0.534	1.872
		13	2001	# Sales	7	7	7	7
				Mean	\$89,070	\$160,714	1.019	2.918
				Median	\$84,880	\$125,000	1.038	0.964
			2002	# Sales	11	11	11	11
				Mean	\$113,553	\$191,110	0.659	1.772
				Median	\$121,380	\$169,297	0.769	1.300
		23	2001	# Sales	8	8	8	8
				Mean	\$125,525	\$139,200	1.853	1.354
				Median	\$115,215	\$144,500	0.944	1.090
			2002	# Sales	8	8	8	8
				Mean	\$108,811	\$274,688	0.621	2.986
				Median	\$96,215	\$229,000	0.504	2.074
		24	2001	# Sales	21	21	21	21
				Mean	\$140,389	\$191,519	0.806	1.467
				Median	\$140,080	\$200,000	0.713	1.402
			2002	# Sales	19	19	19	19
				Mean	\$112,783	\$225,937	0.614	2.102
				Median	\$106,990	\$190,000	0.501	1.994
	B	11	2001	# Sales	19	19	19	19
				Mean	\$106,288	\$139,228	0.856	1.374
				Median	\$97,620	\$123,600	0.825	1.213
			2002	# Sales	38	38	38	38
				Mean	\$101,187	\$218,623	0.533	2.215
				Median	\$95,555	\$205,000	0.512	1.955

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NBHD	SUB	USECODE	Sale Year		Current Value	Sale Price	Current A/S Ratio	Indicated Trend Factor
		12	2001	# Sales	1	1	1	1
				Mean	\$155,330	\$177,500	0.875	1.143
				Median	\$155,330	\$177,500	0.875	1.143
			2002	# Sales	2	2	2	2
				Mean	\$82,185	\$175,944	0.467	2.139
				Median	\$82,185	\$175,944	0.467	2.139
		13	2001	# Sales	4	4	4	4
				Mean	\$112,683	\$233,375	0.608	2.287
				Median	\$103,170	\$193,500	0.695	1.462
			2002	# Sales	8	8	8	8
				Mean	\$101,715	\$216,225	0.706	2.277
				Median	\$98,125	\$197,500	0.429	2.379
		23	2001	# Sales	3	3	3	3
				Mean	\$145,450	\$278,333	0.589	2.435
				Median	\$97,030	\$265,000	0.366	2.731
			2002	# Sales	9	9	9	9
				Mean	\$130,841	\$276,044	0.575	2.786
				Median	\$111,430	\$275,000	0.480	2.084
		24	2001	# Sales	7	7	7	7
				Mean	\$129,413	\$229,186	0.625	1.904
				Median	\$97,740	\$236,000	0.540	1.851
			2002	# Sales	16	16	16	16
				Mean	\$123,904	\$301,553	0.524	2.535
				Median	\$112,990	\$286,000	0.423	2.365
42	A	11	2001	# Sales	35	35	35	35
				Mean	\$112,524	\$148,998	0.769	1.328
				Median	\$111,765	\$152,500	0.760	1.316
			2002	# Sales	43	43	43	43
				Mean	\$117,649	\$201,108	0.655	1.714
				Median	\$117,045	\$190,000	0.649	1.542
		12	2001	# Sales	5	5	5	5
				Mean	\$138,396	\$197,560	0.692	1.461
				Median	\$117,201	\$164,800	0.692	1.444
		13	2001	# Sales	13	13	13	13
				Mean	\$116,492	\$136,755	0.963	1.203
				Median	\$112,742	\$141,000	0.845	1.183
			2002	# Sales	10	10	10	10
				Mean	\$116,838	\$209,205	0.577	1.810
				Median	\$119,691	\$225,000	0.567	1.765
		23	2002	# Sales	1	1	1	1
				Mean	\$81,342	\$290,000	0.280	3.565
				Median	\$81,342	\$290,000	0.280	3.565
		24	2002	# Sales	1	1	1	1
				Mean	\$117,382	\$270,000	0.435	2.300
				Median	\$117,382	\$270,000	0.435	2.300
	B	11	2001	# Sales	59	59	59	59
				Mean	\$109,974	\$149,103	0.760	1.368
				Median	\$110,024	\$150,000	0.731	1.368
			2002	# Sales	73	73	73	73
				Mean	\$107,609	\$170,768	0.663	1.595
				Median	\$107,498	\$175,000	0.623	1.605
		12	2001	# Sales	2	2	2	2

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NBHD	SUB	USECODE	Sale Year		Current Value	Sale Price	Current A/S Ratio	Indicated Trend Factor
				Mean	\$135,976	\$192,750	0.705	1.423
				Median	\$135,976	\$192,750	0.705	1.423
			2002	# Sales	5	5	5	5
				Mean	\$118,779	\$201,800	0.625	1.650
				Median	\$116,416	\$201,000	0.600	1.666
	13		2001	# Sales	11	11	11	11
				Mean	\$102,983	\$133,338	0.805	1.303
				Median	\$98,940	\$124,023	0.733	1.364
			2002	# Sales	19	19	19	19
				Mean	\$103,571	\$185,891	0.607	1.819
				Median	\$100,620	\$175,000	0.601	1.664
	23		2001	# Sales	1	1	1	1
				Mean	\$102,241	\$100,500	1.017	0.983
				Median	\$102,241	\$100,500	1.017	0.983
			2002	# Sales	1	1	1	1
				Mean	\$66,337	\$475,000	0.140	7.160
				Median	\$66,337	\$475,000	0.140	7.160
	24		2001	# Sales	4	4	4	4
				Mean	\$96,865	\$172,100	0.565	1.796
				Median	\$91,115	\$170,000	0.572	1.748
			2002	# Sales	2	2	2	2
				Mean	\$125,164	\$173,950	0.724	1.384
				Median	\$125,164	\$173,950	0.724	1.384
C	11		2001	# Sales	53	53	53	53
				Mean	\$123,001	\$154,920	0.808	1.265
				Median	\$124,540	\$151,900	0.807	1.239
			2002	# Sales	51	51	51	51
				Mean	\$123,963	\$176,794	0.760	1.426
				Median	\$124,750	\$171,750	0.714	1.400
	12		2002	# Sales	1	1	1	1
				Mean	\$70,394	\$144,500	0.487	2.053
				Median	\$70,394	\$144,500	0.487	2.053
	13		2001	# Sales	6	6	6	6
				Mean	\$135,320	\$161,625	0.838	1.216
				Median	\$129,880	\$159,375	0.826	1.211
			2002	# Sales	6	6	6	6
				Mean	\$122,740	\$181,088	0.694	1.514
				Median	\$119,260	\$181,263	0.668	1.502
	23		2001	# Sales	7	7	7	7
				Mean	\$107,690	\$131,871	0.833	1.262
				Median	\$117,219	\$134,600	0.896	1.116
			2002	# Sales	10	10	10	10
				Mean	\$135,099	\$167,104	0.853	1.255
				Median	\$135,535	\$161,500	0.850	1.178
	24		2001	# Sales	3	3	3	3
				Mean	\$112,065	\$126,000	1.195	1.076
				Median	\$109,530	\$165,000	0.801	1.249
			2002	# Sales	2	2	2	2
				Mean	\$92,755	\$176,500	0.526	1.905
				Median	\$92,755	\$176,500	0.526	1.905
47	0	11	2002	# Sales	3	3	3	3
				Mean	\$120,231	\$141,390	0.854	1.181

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NBHD	SUB	USECODE	Sale Year		Current Value	Sale Price	Current A/S Ratio	Indicated Trend Factor
				Median	\$123,913	\$137,170	0.903	1.107
		12	2001	# Sales	4	4	4	4
				Mean	\$158,760	\$172,250	0.918	1.094
				Median	\$157,362	\$171,250	0.920	1.090
			2002	# Sales	6	6	6	6
				Mean	\$148,569	\$192,039	0.823	1.283
				Median	\$143,937	\$202,000	0.760	1.316
		13	2001	# Sales	49	49	49	49
				Mean	\$118,438	\$137,384	0.872	1.162
				Median	\$117,475	\$140,000	0.848	1.179
			2002	# Sales	56	56	56	56
				Mean	\$120,606	\$145,742	0.849	1.211
				Median	\$118,690	\$149,000	0.811	1.234
48	0	12	2001	# Sales	19	19	19	19
				Mean	\$249,850	\$379,121	0.665	1.519
				Median	\$247,524	\$370,000	0.669	1.495
			2002	# Sales	36	36	36	36
				Mean	\$263,436	\$442,833	0.624	1.698
				Median	\$255,028	\$429,000	0.598	1.672
		13	2002	# Sales	1	1	1	1
				Mean	\$223,065	\$409,780	0.544	1.837
				Median	\$223,065	\$409,780	0.544	1.837
49	A	11	2001	# Sales	12	12	12	12
				Mean	\$158,810	\$236,876	0.694	1.497
				Median	\$159,160	\$226,500	0.719	1.391
			2002	# Sales	5	5	5	5
				Mean	\$187,836	\$323,120	0.593	1.783
				Median	\$158,780	\$340,000	0.597	1.676
		12	2001	# Sales	14	14	14	14
				Mean	\$213,702	\$410,214	0.536	1.945
				Median	\$225,252	\$404,500	0.509	1.968
			2002	# Sales	19	19	19	19
				Mean	\$242,375	\$440,817	0.584	1.858
				Median	\$219,750	\$441,623	0.507	1.973
		13	2001	# Sales	6	6	6	6
				Mean	\$177,413	\$322,250	0.557	1.815
				Median	\$180,285	\$307,500	0.553	1.814
			2002	# Sales	4	4	4	4
				Mean	\$176,440	\$265,250	0.956	1.460
				Median	\$174,658	\$240,750	0.697	1.494
		23	2001	# Sales	2	2	2	2
				Mean	\$108,740	\$182,500	0.594	1.697
				Median	\$108,740	\$182,500	0.594	1.697
			2002	# Sales	1	1	1	1
				Mean	\$103,316	\$260,000	0.397	2.517
				Median	\$103,316	\$260,000	0.397	2.517
		24	2001	# Sales	2	2	2	2
				Mean	\$244,243	\$330,000	0.789	1.293
				Median	\$244,243	\$330,000	0.789	1.293
			2002	# Sales	2	2	2	2
				Mean	\$110,306	\$230,000	0.468	2.157
				Median	\$110,306	\$230,000	0.468	2.157

1/6/03: NBHDs to Trend by Use

NBHD	SUB	USECODE	Sale Year		Current Value	Sale Price	Current A/S Ratio	Indicated Trend Factor	
B	11	2001	# Sales	2	2	2	2	2	
			Mean	\$117,505	\$165,500	0.712	1.412		
			Median	\$117,505	\$165,500	0.712	1.412		
		2002	# Sales	6	6	6	6	6	6
			Mean	\$124,689	\$229,650	0.619	1.847		
			Median	\$119,256	\$192,000	0.653	1.569		
		12	2001	# Sales	8	8	8	8	8
				Mean	\$158,890	\$265,813	0.604	1.680	
				Median	\$150,713	\$275,250	0.591	1.693	
	2002		# Sales	9	9	9	9	9	
			Mean	\$147,641	\$324,333	0.472	2.228		
			Median	\$148,755	\$295,000	0.436	2.295		
	13	2001	# Sales	3	3	3	3	3	
			Mean	\$138,606	\$249,667	0.575	1.791		
			Median	\$141,036	\$261,000	0.558	1.791		
		2002	# Sales	5	5	5	5	5	
			Mean	\$149,368	\$237,030	0.835	1.580		
			Median	\$145,174	\$265,000	0.535	1.870		
23	2002	# Sales	1	1	1	1	1		
		Mean	\$91,013	\$249,500	0.365	2.741			
		Median	\$91,013	\$249,500	0.365	2.741			
24	2001	# Sales	2	2	2	2	2		
		Mean	\$165,646	\$294,300	0.586	1.745			
		Median	\$165,646	\$294,300	0.586	1.745			
C	11	2001	# Sales	9	9	9	9	9	
			Mean	\$131,275	\$166,244	0.832	1.265		
			Median	\$130,925	\$145,700	0.843	1.186		
		2002	# Sales	5	5	5	5	5	
			Mean	\$127,274	\$249,100	0.528	1.963		
			Median	\$127,662	\$255,000	0.509	1.966		
		12	2001	# Sales	5	5	5	5	5
				Mean	\$155,415	\$262,630	0.594	1.723	
				Median	\$134,590	\$229,000	0.652	1.533	
	2002		# Sales	6	6	6	6	6	
			Mean	\$142,429	\$297,608	0.484	2.101		
			Median	\$139,211	\$287,500	0.505	1.979		
	13	2001	# Sales	1	1	1	1	1	
			Mean	\$125,829	\$152,000	0.828	1.208		
			Median	\$125,829	\$152,000	0.828	1.208		
	23	2001	# Sales	2	2	2	2	2	
			Mean	\$110,645	\$226,000	0.489	2.044		
			Median	\$110,645	\$226,000	0.489	2.044		
2002		# Sales	1	1	1	1	1		
		Mean	\$103,512	\$296,000	0.350	2.860			
		Median	\$103,512	\$296,000	0.350	2.860			
24	2001	# Sales	1	1	1	1	1		
		Mean	\$153,201	\$295,000	0.519	1.926			
		Median	\$153,201	\$295,000	0.519	1.926			
51	0	2001	# Sales	7	7	7	7	7	
			Mean	\$158,636	\$196,282	0.819	1.268		
			Median	\$158,050	\$170,000	0.778	1.285		
		2002	# Sales	18	18	18	18	18	

1/6/03: NBHDs to Trend by Use

NBHD	SUB	USECODE	Sale Year		Current Value	Sale Price	Current A/S Ratio	Indicated Trend Factor
				Mean	\$145,405	\$250,470	0.606	1.749
				Median	\$144,461	\$240,000	0.597	1.675
		13	2001	# Sales	9	9	9	9
				Mean	\$105,323	\$141,322	0.779	1.348
				Median	\$106,570	\$133,000	0.801	1.248
			2002	# Sales	8	8	8	8
				Mean	\$106,541	\$147,146	0.747	1.375
				Median	\$104,091	\$154,500	0.710	1.409
53	0	11	2002	# Sales	1	1	1	1
				Mean	\$175,339	\$172,031	1.019	0.981
				Median	\$175,339	\$172,031	1.019	0.981
		12	2001	# Sales	9	9	9	9
				Mean	\$417,879	\$558,667	1.040	1.367
				Median	\$434,199	\$562,000	0.617	1.621
			2002	# Sales	12	12	12	12
				Mean	\$344,794	\$538,141	0.731	1.560
				Median	\$342,545	\$585,750	0.629	1.590
		13	2001	# Sales	2	2	2	2
				Mean	\$245,405	\$385,000	0.633	1.605
				Median	\$245,405	\$385,000	0.633	1.605
			2002	# Sales	3	3	3	3
				Mean	\$233,931	\$444,400	0.530	1.891
				Median	\$244,210	\$445,000	0.549	1.822
56	A	11	2002	# Sales	2	2	2	2
				Mean	\$101,339	\$140,000	0.848	1.598
				Median	\$101,339	\$140,000	0.848	1.598
		12	2001	# Sales	22	22	22	22
				Mean	\$122,696	\$158,659	0.793	1.307
				Median	\$117,928	\$155,000	0.792	1.263
			2002	# Sales	25	25	25	25
				Mean	\$126,164	\$187,499	0.711	1.476
				Median	\$128,271	\$180,000	0.686	1.458
		13	2001	# Sales	6	6	6	6
				Mean	\$98,507	\$123,817	0.802	1.278
				Median	\$96,870	\$122,450	0.810	1.238
			2002	# Sales	5	5	5	5
				Mean	\$91,583	\$134,000	0.692	1.479
				Median	\$92,095	\$132,000	0.700	1.428
	B	12	2001	# Sales	11	11	11	11
				Mean	\$104,642	\$114,555	1.045	1.118
				Median	\$101,247	\$115,000	0.940	1.064
			2002	# Sales	17	17	17	17
				Mean	\$119,138	\$154,622	0.850	1.350
				Median	\$95,775	\$137,500	0.749	1.335
	C	11	2001	# Sales	7	7	7	7
				Mean	\$109,584	\$142,500	0.773	1.302
				Median	\$99,480	\$144,000	0.752	1.331
			2002	# Sales	2	2	2	2
				Mean	\$112,005	\$135,000	0.830	1.206
				Median	\$112,005	\$135,000	0.830	1.206
		12	2001	# Sales	20	20	20	20
				Mean	\$126,657	\$134,333	0.999	1.084

1/6/03: NBHDs to Trend by Use

NBHD	SUB	USECODE	Sale Year		Current Value	Sale Price	Current A/S Ratio	Indicated Trend Factor
				Median	\$127,020	\$125,500	0.923	1.083
			2002	# Sales	24	24	24	24
				Mean	\$119,591	\$169,183	0.780	1.416
				Median	\$117,896	\$160,000	0.696	1.437
	13		2001	# Sales	1	1	1	1
				Mean	\$58,891	\$137,000	0.430	2.326
				Median	\$58,891	\$137,000	0.430	2.326
			2002	# Sales	1	1	1	1
				Mean	\$73,915	\$169,000	0.437	2.286
				Median	\$73,915	\$169,000	0.437	2.286
	23		2001	# Sales	1	1	1	1
				Mean	\$72,008	\$69,100	1.042	0.960
				Median	\$72,008	\$69,100	1.042	0.960
D	12		2001	# Sales	7	7	7	7
				Mean	\$127,624	\$138,000	1.154	1.092
				Median	\$126,129	\$155,000	0.814	1.229
			2002	# Sales	4	4	4	4
				Mean	\$128,621	\$163,097	0.803	1.284
				Median	\$131,932	\$166,194	0.808	1.238
	13		2001	# Sales	1	1	1	1
				Mean	\$89,109	\$57,000	1.563	0.640
				Median	\$89,109	\$57,000	1.563	0.640
	24		2002	# Sales	1	1	1	1
				Mean	\$126,158	\$157,000	0.804	1.244
				Median	\$126,158	\$157,000	0.804	1.244

Market Approach to Land Valuation in Costed Neighborhoods

A non-linear regression model was used to calibrate the residential cost model. It was developed from citywide market analysis of qualified sales. One of the variables calibrated by the model was the land rate. Base land rates were adjusted for location in each sub-neighborhood. Regression analysis calibrated the land and building components of the model at the same time using the same market data. Additionally, the analysis established two size curves for land area. Land size curve “1” and land size curve “2” both indicate that as lot sizes increase, values also increase. However, with land size curve “2” values increase more rapidly with size. In both cases, land rates decrease as land area increases. Market data supports both curves up to approximately 5 times the standard lot size. However, in application, rates are assumed to continue similar decreases beyond that point. Each sub-neighborhood was assigned to one of the two land size curve groups based upon analysis of the qualified sales data. It is important to keep in mind, that land value is only one component of a number of variables that contribute to a property’s sale price and/or estimated market value. In practical terms, it is the combination of all of a property’s attributes, nuances in the market, and buyer preference that contribute to the final market value of a property. It is difficult to isolate some of the contributory elements and value them separately with certainty. Nevertheless, it is required in the District of Columbia that land and building values be separated for assessment purposes. Because of this requirement, it is necessary to create land rate tables for use in the District’s CAMA product. These rates were developed in the regression analysis referred to above. The results of the analysis are applied to the market-oriented cost model in the Vision CAMA system.

Land is calculated in Vision using the following algorithm:

Area * (Base Rate * Size Adj * % Special Adj 1 * % Special Adj 2 + \$ Special Adj 1 + \$ Special Adj 2)

Where:

Area is the lot size expressed in square feet.

Base Rate is the market-derived rate for each sub-neighborhood.

Size Adj is the market-derived adjustment made for the lot size as it relates to the standard size lot for the sub-neighborhood. The look-up along the size curve is based on the ratio of the subject lot size to the standard lot size.

% Special Adj is any adjustment present that is expressed and applied as a percentage adjustment to the rate.

\$ Special Adj is any adjustment present that is expressed and applied as a dollar adjustment to the rate.

Land Rate Development Example

A hypothetical example may help illustrate how regression analysis develops the base land rates and subsequent adjustments to the rates. Suppose two properties in a neighborhood were recently sold. The first, comprised of just a house without land, sold for \$400,000. The second property had the identical house but with a lot of 2,000 square feet (sf.), the typical size for that neighborhood. It sold for \$600,000. In a process similar to adjusting comparables in the sales comparison approach to value, regression analysis identifies the contributory value of the lot to the second property and sets its value to \$200,000. The base land rate of \$100 per sf ($\$200,000/2,000$ sf) will be the basis for lot values for all other properties in that (sub)neighborhood.

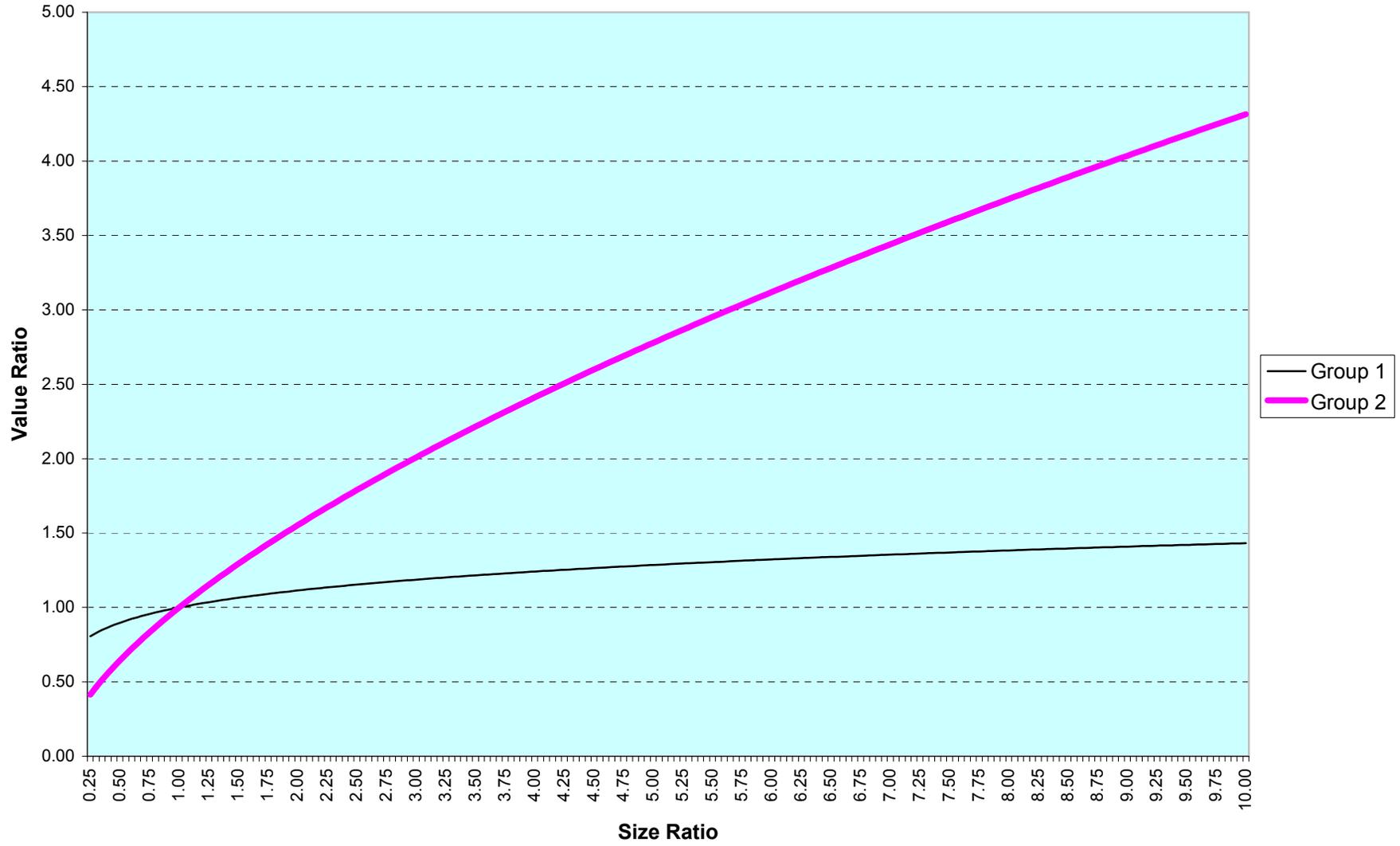
Next, let us assume another house sells. In this instance, the house is identical to the previous sale in all respects, except the lot size was 4,000 sf instead of the “standard” (base lot) size of 2,000 sf. This house recently sold for \$700,000, \$100,000 more than a property with the standard lot size. The land component of this sale is \$300,000. This sale helps develop size adjustments for non-standard lots in the neighborhood. If no adjustment was made to the land rate, the land component of this sale would be \$400,000 ($4,000$ sf * \$100). The appraisal would overstate the value of the property by \$100,000. An adjustment to the base land rate is necessary to recognize the market response to the departure from the standard lot size. Regression analysis would calculate the appropriate land size adjustment necessary to properly determine the contributory value of the larger lot. Dividing the market-indicated value of the lot by the unadjusted appraised value of the lot ($\$300,000/\$400,000$) yields a factor of 0.75. In this example, CAMA would follow the model:

$$\text{Appraised land value} = \text{Area} * (\text{Base Rate} * \text{Size Adj})$$

or

$$\$300,000 = 4000\text{sf} * (\$100 * .75)$$

Residential Land Size Curves



Residential Condominium Regime – Valuation Methods

Each condominium regime is assigned a regime number by OTR to help identify it. The first table in this section lists all of the regimes in numerical order and shows what method was used to value each regime. The other information details and describes the three methods used by assessors to value condominiums.

The Multiple Regression Analysis (MRA) as the primary method used to value most of the condominiums properties in the District of Columbia. The model took into consideration the unit size, quality grade, condition, number of bathrooms, view and location. The coefficients were calibrated by analyzing nearly 1,400 sales of condominium properties.

In some instances, there were sufficient sales to accurately estimate the value of a condominium, but data was insufficient to utilize the MRA model. These properties were valued individually by the assessor assigned to the condominium regime.

Finally, a very small number of condominium regimes were valued based upon the market trending methodology.

Residential Condominium Regimes -- Valuation Methods

Regime	# Units	Method
1001	36	Reg
1002	157	Reg
1003	16	Reg
1004	29	Reg
1005	5	T
1006	6	Reg
1007	12	Reg
1008	36	Reg
1009	101	Reg
1010	97	Reg
1011	79	Reg
1013	33	Reg
1014	217	Reg
1016	6	AV
1017	3	T
1018	114	Reg
1019	21	Reg
1020	9	AV
1021	13	Reg
1022	25	Reg
1023	8	Reg
1024	3	Reg
1025	34	Reg
1026	10	T
1027	2	T
1028	10	T
1029	9	AV
1030	31	Reg
1031	8	Reg
1032	6	Reg
1033	5	Reg
1034	11	Reg
1035	7	T
1036	6	AV
1037	6	AV
1038	195	Reg
1039	28	Reg
1040	114	Reg
1041	57	Reg
1042	10	T
1044	132	Reg
1045	25	Reg
1046	37	Reg
1049	6	Reg
1050	4	Reg
1051	274	Reg
1052	68	Reg
1053	23	Reg

Regime	# Units	Method
1054	3	Reg
1055	7	Reg
1056	6	Reg
1057	216	Reg
1058	104	Reg
1059	162	Reg
1060	95	Reg
1061	9	T
1062	79	Reg
1063	18	Reg
1064	188	Reg
1065	20	Reg
1066	720	Reg
1067	221	Reg
1068	309	AV
1069	11	Reg
1070	39	Reg
1071	120	Reg
1072	93	Reg
1073	108	Reg
1074	33	Reg
1075	46	Reg
1076	41	Reg
1077	143	Reg
1078	57	Reg
1079	147	Reg
1080	755	Reg
1081	30	Reg
1082	2	T
1083	29	Reg
1084	168	Reg
1085	178	Reg
1086	106	Reg
1087	6	Reg
1088	146	Reg
1089	68	Reg
1090	60	AV
1091	99	Reg
1092	216	Reg
1093	61	Reg
1094	42	Reg
1095	142	Reg
1096	206	Reg
1097	9	Reg
1098	44	Reg
1099	62	Reg
1100	17	Reg
1101	58	Reg

Regime	# Units	Method
1102	26	Reg
1103	57	Reg
1104	13	T
1105	37	Reg
1106	27	Reg
1107	9	Reg
1108	25	Reg
1109	64	Reg
1111	43	Reg
1112	10	Reg
1113	14	Reg
1114	99	Reg
1115	105	Reg
1116	25	Reg
1117	60	Reg
1118	5	Reg
1119	62	Reg
1120	7	Reg
1121	5	Reg
1122	35	Reg
1123	47	Reg
1124	3	T
1125	27	Reg
1126	8	Reg
1127	4	T
1129	7	Reg
1130	6	AV
1131	52	AV
1132	33	Reg
1133	174	Reg
1134	42	Reg
1135	15	Reg
1136	41	Reg
1137	2	Reg
1138	20	Reg
1139	246	AV
1140	4	Reg
1141	5	T
1142	7	Reg
1143	5	Reg
1144	4	T
1145	5	T
1146	16	Reg
1147	32	Reg
1148	28	Reg
1149	5	Reg
1150	49	Reg
1151	4	Reg

AV Assessor-Valued
T Trended
Reg Regression

Residential Condominium Regimes -- Valuation Methods

Regime	# Units	Method
1152	73	Reg
1153	7	Reg
1154	5	T
1155	18	Reg
1156	8	Reg
1157	11	T
1158	2	T
1159	2	T
1160	4	T
1161	73	Reg
1162	5	T
1163	19	Reg
1164	4	Reg
1165	9	Reg
1166	26	Reg
1167	4	Reg
1168	9	Reg
1169	37	Reg
1170	4	Reg
1171	41	Reg
1172	10	Reg
1173	16	T
1174	7	Reg
1175	6	T
1176	5	Reg
1177	4	Reg
1178	6	T
1179	14	Reg
1180	3	Reg
1181	3	T
1182	10	Reg
1183	14	Reg
1184	22	Reg
1185	9	Reg
1186	14	Reg
1187	4	T
1188	6	T
1189	35	Reg
1190	9	Reg
1191	28	Reg
1192	15	Reg
1193	10	Reg
1194	14	Reg
1195	40	Reg
1196	25	T
1197	11	Reg
1198	19	Reg
1199	18	Reg

Regime	# Units	Method
1200	20	AV
1201	15	Reg
1202	4	Reg
1203	2	T
1204	2	T
1205	2	Reg
1207	9	Reg
1208	27	Reg
1210	247	Reg
1211	142	Reg
1212	36	Reg
1214	36	Reg
1215	12	AV
1216	38	Reg
1217	34	Reg
1218	12	T
1219	27	AV
1220	60	Reg
1221	50	Reg
1222	4	Reg
1223	8	Reg
1224	8	Reg
1225	3	Reg
1226	30	Reg
1227	28	Reg
1228	32	Reg
1229	19	T
1230	22	Reg
1231	10	T
1232	34	Reg
1233	59	Reg
1234	57	Reg
1235	4	AV
1237	8	AV
1238	24	AV
1240	6	T
1241	30	Reg
1242	31	Reg
1243	68	AV
1244	7	Reg
1245	12	AV
1247	24	Reg
1248	2	T
1249	2	AV
1250	36	Reg
1251	8	T
1253	9	Reg
1254	13	Reg

Regime	# Units	Method
1255	4	T
1256	4	T
1257	4	T
1259	42	Reg
1260	37	Reg
1261	22	T
1262	24	T
1263	4	T
1264	4	Reg
1265	2	T
1266	4	T
1267	15	T
1268	52	AV
1269	55	Reg
1270	6	Reg
1271	59	Reg
1272	181	Reg
1273	49	Reg
1274	122	Reg
1275	70	Reg
1276	65	Reg
1277	121	Reg
1278	150	Reg
1279	136	Reg
1280	85	Reg
1281	4	T
1282	39	AV
1283	8	T
1285	28	T
1286	78	AV
1287	19	T
1288	10	T
1289	8	Reg
1290	2	T
1291	5	T
1292	34	T
1293	4	T
1294	4	AV
1295	2	T
1296	8	T
1297	3	T
1298	3	T
1299	4	T
1300	2	T
1301	4	T
1302	156	AV
1303	131	AV
1304	55	AV

AV Assessor-Valued
T Trended
Reg Regression

Residential Condominium Regimes -- Valuation Methods

Regime	# Units	Method
1308	3	T
1309	14	AV
1310	24	AV
1311	46	AV
1312	14	AV
1313	161	AV
1314	54	AV
1315	30	AV
1316	11	T
1317	4	AV
1318	18	AV
1319	45	AV
1320	4	AV
1475	4	T
1476	5	T
1477	4	AV
1478	67	AV
1480	6	AV
1481	42	AV
1482	43	AV
1483	16	AV
1484	10	AV
1485	14	AV
1486	4	AV
1487	3	T
1488	17	AV
1490	68	AV
1492	11	AV
1493	59	T
1494	4	T
1495	4	T
1496	6	T
1497	2	T
1498	6	T
1499	43	T
1500	22	T
1501	12	T
1502	36	T
1503	4	T
1505	12	T
2000	84	Reg
2001	86	Reg
2002	96	Reg
2003	40	Reg
2004	5	T
2005	8	T
2006	152	Reg
2007	51	Reg

Regime	# Units	Method
2008	19	T
2009	22	Reg
2010	223	Reg
2011	8	T
2012	152	Reg
2013	151	Reg
2014	52	T
2015	3	Reg
2016	2	T
2017	14	Reg
2018	125	Reg
2019	3	T
2020	147	Reg
2021	1	T
2022	20	T
2023	4	T
2024	2	Reg
2025	147	Reg
2026	4	Reg
2027	3	T
2028	29	Reg
2029	7	T
2030	11	Reg
2031	10	T
2032	6	T
2033	24	Reg
2034	20	Reg
2035	46	Reg
2036	4	T
2037	4	Reg
2038	6	Reg
2039	10	Reg
2040	70	Reg
2041	20	Reg
2042	15	AV
2043	17	AV
2044	7	Reg
2045	4	Reg
2046	5	Reg
2047	4	T
2048	5	T
2049	9	Reg
2050	7	Reg
2051	4	T
2052	6	Reg
2053	11	Reg
2054	22	Reg
2055	4	T

Regime	# Units	Method
2056	2	T
2057	5	Reg
2058	8	Reg
2059	19	Reg
2060	6	T
2061	2	Reg
2062	51	Reg
2063	55	Reg
2064	4	Reg
2065	5	Reg
2066	7	Reg
2067	5	Reg
2068	8	Reg
2069	20	Reg
2070	14	Reg
2071	2	T
2072	6	T
2073	3	T
2074	9	T
2075	5	Reg
2076	4	T
2077	2	Reg
2078	18	Reg
2079	5	T
2080	18	Reg
2081	4	T
2082	28	Reg
2083	77	Reg
2084	10	Reg
2085	3	T
2086	6	T
2087	26	Reg
2088	5	T
2089	5	Reg
2090	5	T
2091	2	T
2092	11	AV
2093	13	Reg
2094	3	Reg
2095	128	Reg
2096	63	Reg
2097	6	Reg
2098	7	T
2099	4	Reg
2100	12	Reg
2101	14	Reg
2102	6	T
2103	7	Reg

AV Assessor-Valued
T Trended
Reg Regression

Residential Condominium Regimes -- Valuation Methods

Regime	# Units	Method
2104	4	T
2105	14	Reg
2106	4	Reg
2107	9	Reg
2108	4	Reg
2109	4	Reg
2110	4	Reg
2111	21	Reg
2112	25	AV
2113	4	Reg
2114	43	Reg
2115	8	Reg
2116	34	Reg
2117	84	Reg
2118	17	Reg
2119	5	T
2120	4	Reg
2121	39	Reg
2122	22	Reg
2123	5	Reg
2124	35	Reg
2125	26	Reg
2126	28	Reg
2127	6	T
2128	8	T
2129	19	Reg
2130	4	Reg
2131	201	Reg
2132	6	T
2133	6	Reg
2134	6	T
2135	2	T
2136	17	Reg
2137	20	Reg
2138	243	Reg
2139	10	Reg
2140	17	Reg
2141	5	Reg
2142	5	T
2143	5	Reg
2144	5	T
2145	6	Reg
2146	7	Reg
2147	4	Reg
2148	2	T
2149	4	AV
2150	227	Reg
2151	142	Reg

Regime	# Units	Method
2152	344	Reg
2154	7	Reg
2155	7	Reg
2156	27	Reg
2157	53	Reg
2158	6	T
2159	13	Reg
2160	30	Reg
2161	16	Reg
2162	8	T
2163	53	Reg
2164	61	Reg
2165	8	Reg
2166	6	AV
2167	3	Reg
2168	2	T
2169	22	Reg
2170	2	Reg
2171	40	Reg
2172	11	Reg
2173	169	Reg
2174	15	Reg
2175	24	Reg
2176	47	Reg
2177	22	T
2178	6	T
2179	49	Reg
2180	130	Reg
2181	57	Reg
2182	6	T
2183	10	Reg
2184	18	Reg
2185	10	T
2186	21	Reg
2187	7	T
2188	8	T
2189	4	T
2190	11	T
2191	4	T
2192	4	Reg
2193	27	Reg
2194	9	Reg
2195	10	T
2196	7	T
2197	14	Reg
2198	4	T
2199	9	AV
2200	8	AV

Regime	# Units	Method
2201	5	T
2202	4	T
2203	15	AV
2204	10	T
2205	3	T
2206	15	Reg
2207	4	Reg
2208	7	AV
2209	3	AV
2210	4	T
2211	39	Reg
2212	181	Reg
2213	4	Reg
2214	5	Reg
2215	51	AV
2216	13	Reg
2217	27	AV
2218	5	Reg
2219	8	Reg
2221	12	AV
2222	3	T
2223	16	Reg
2224	6	Reg
2225	22	AV
2226	191	Reg
2227	172	Reg
2228	4	T
2229	4	T
2230	20	AV
2231	6	Reg
2233	14	Reg
2234	6	T
2235	16	Reg
2236	14	Reg
2237	7	T
2238	7	AV
2239	20	AV
2240	27	Reg
2241	4	T
2242	1	T
2243	4	Reg
2244	3	T
2245	27	Reg
2246	16	AV
2247	173	AV
2248	3	AV
2249	9	Reg
2250	9	Reg

AV Assessor-Valued
T Trended
Reg Regression

Residential Condominium Regimes -- Valuation Methods

Regime	# Units	Method
2251	5	T
2252	8	T
2253	194	AV
2254	4	T
2255	169	Reg
2256	35	Reg
2257	33	AV
2258	72	AV
2259	2	T
2260	39	Reg
2261	4	Reg
2262	5	T
2263	3	T
2264	2	T
2265	497	AV
2266	2	T
2267	2	T
2268	2	T
2269	2	T
2270	2	T
2271	2	T
2272	2	T
2273	64	Reg
2274	32	Reg
2275	455	Reg
2276	2	T
2277	9	AV
2278	4	T
2279	324	Reg
2281	102	Reg
2282	424	AV
2283	7	Reg
2284	86	Reg
2286	26	Reg
2287	27	Reg
2288	2	T
2289	28	Reg
2290	30	Reg
2291	99	Reg
2292	7	Reg
2293	5	Reg
2294	30	Reg
2295	8	Reg
2296	6	Reg
2297	46	Reg
2298	30	AV
2299	14	Reg
2300	28	Reg

Regime	# Units	Method
2301	12	T
2302	14	AV
2303	48	Reg
2304	5	Reg
2305	6	T
2306	10	Reg
2307	17	Reg
2308	7	T
2309	13	Reg
2310	23	Reg
2311	9	T
2312	8	T
2313	24	Reg
2314	7	Reg
2315	4	Reg
2316	4	T
2317	15	T
2318	24	Reg
2319	2	T
2320	17	Reg
2321	15	Reg
2322	8	Reg
2323	2	T
2324	9	Reg
2325	12	Reg
2326	9	Reg
2327	5	Reg
2328	44	Reg
2329	18	Reg
2330	4	Reg
2331	6	AV
2332	6	Reg
2333	9	Reg
2334	4	T
2336	35	Reg
2337	14	Reg
2339	26	AV
2340	38	Reg
2341	4	T
2342	15	Reg
2343	33	Reg
2344	8	Reg
2345	2	Reg
2346	5	Reg
2347	24	Reg
2348	20	Reg
2349	9	Reg
2350	9	Reg

Regime	# Units	Method
2351	6	T
2353	4	T
2354	16	Reg
2355	2	T
2356	2	T
2357	4	T
2358	12	Reg
2359	3	T
2360	18	Reg
2361	20	Reg
2362	18	Reg
2363	4	Reg
2364	4	T
2365	4	Reg
2366	28	Reg
2367	7	Reg
2368	15	Reg
2369	18	Reg
2370	4	T
2371	7	Reg
2372	37	T
2373	10	T
2374	6	T
2375	6	Reg
2376	2	T
2377	4	T
2379	16	Reg
2380	78	Reg
2381	54	Reg
2382	351	AV
2383	12	Reg
2384	51	Reg
2385	32	Reg
2386	77	Reg
2387	232	AV
2388	51	Reg
2389	9	Reg
2390	70	T
2391	11	Reg
2392	11	Reg
2393	5	Reg
2394	6	T
2395	16	Reg
2396	400	Reg
2397	28	T
2398	4	T
2399	2	T
2400	19	Reg

AV Assessor-Valued
T Trended
Reg Regression

Residential Condominium Regimes -- Valuation Methods

Regime	# Units	Method
2401	43	Reg
2402	34	AV
2403	5	Reg
2404	13	T
2405	13	T
2406	8	Reg
2407	183	Reg
2408	32	Reg
2409	8	Reg
2410	132	Reg
2411	79	T
2412	25	T
2413	34	AV
2415	97	AV
2416	57	Reg
2417	9	Reg
2418	58	Reg
2419	12	Reg
2420	7	T
2421	249	AV
2422	200	Reg
2423	1088	Reg
2424	191	Reg
2425	326	Reg
2426	21	Reg
2427	70	Reg
2428	73	AV
2430	575	Reg
2431	22	Reg
2432	4	Reg
2433	4	T
2434	3	AV
2440	100	AV
2441	14	AV
2442	6	AV
2444	8	AV
2446	10	T
2447	1	T
2448	2	T
2452	4	T
2455	45	AV
2456	10	AV
2458	2	AV
2465	5	T
2466	2	T
2468	16	Reg
2469	25	AV
2470	26	AV

Regime	# Units	Method
2472	18	AV
2476	11	AV
2478	11	AV
2479	8	AV
2480	10	AV
2481	23	AV
2485	4	AV
2486	4	Reg
2487	8	T
2501	2	T
2505	4	T
2506	156	AV
2507	3	AV
2508	5	Reg
2509	2	T
2510	2	T
2511	2	T
2512	13	AV
2513	19	T
2514	12	AV
2515	104	Reg
2516	34	Reg
2517	5	Reg
2518	2	Reg
2519	30	AV
2521	10	AV
2522	2	T
2523	4	T
2524	12	T
2525	12	AV
2526	28	AV
2527	7	AV
2528	2	Reg
2529	10	AV
2530	3	AV
2531	5	AV
2532	4	AV
2533	8	AV
2534	16	AV
2535	12	AV
2536	6	Reg
2537	10	AV
2538	150	AV
2539	4	AV
2540	8	T
2542	6	T
2543	2	T
2544	2	T

Regime	# Units	Method
2545	4	T
2546	7	T
2547	2	T
2549	2	T
3001	79	Reg
3002	4	Reg
3003	16	Reg
3004	255	Reg
3005	76	Reg
3006	39	AV
3007	28	Reg
3008	64	Reg
3009	8	Reg
3010	20	Reg
3011	51	Reg
3012	263	Reg
3013	233	Reg
3014	80	Reg
3015	15	Reg
3016	84	Reg
3017	15	Reg
3018	26	Reg
3019	3	Reg
3020	205	Reg
3021	10	T
3022	17	Reg
3023	71	Reg
3025	38	Reg
3026	30	Reg
3027	26	AV
3028	44	AV
3029	64	Reg
3030	105	Reg
3031	193	Reg
3032	239	Reg
3033	99	Reg
3035	12	Reg
3036	104	Reg
3037	105	Reg
3038	150	AV
3039	43	AV
3041	13	AV
3043	29	T
3045	89	Reg
3047	28	Reg
3048	17	T
3049	15	T

AV Assessor-Valued
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The Condominium Regression Model:

$$ESP = 373.38 * SIZE * SIZE_ADJ * PCTGOOD * COND_ADJ * VIEW_ADJ * PARK_ADJ * LOC_ADJ.$$

Estimated Sale Price (ESP) – the value predicted by the model for the parcel, given the variables in the model, the coefficients of those variables and the attributes of the subject unit.

Base Rate (373.38) – base size rate (constant)

Size – the square footage of the unit

Size Adj. – the adjustment for the unit’s size being larger or smaller than the base size

The base unit size is 800 sf. The formula for calculating the size adjustment is: $((SIZE^{.941})/SIZE)/.674$, where $.674 = (800^{.941})/800$. See graph titled Condominium Size Curve.

Percent Good – adjustment for the unit’s age

Percent good is the residual of depreciation (1-depreciation). It is based on the actual age of the unit. The age is “capped” at 40 years, so that the depreciation is “capped” at about 9.2% (see graph titled Condominium Age Curve). The formula for calculating percent good is: $(1 - AGE/100)^{.187}$.

Condition – adjustment for the unit’s physical condition

(1) Poor	.950
(2) Fair	.950
(3) Average	1.000
(4) Good	1.025
(5) Very Good	1.100
(6) Excellent	1.100

View – adjustment for the unit’s view

(1) Poor	.850
(2) Fair	.925
(3) Average	1.000
(4) Good	1.065
(5) Very Good	1.130
(6) Excellent	1.250

Parking – adjustment for Limited Common Element parking

1 space	1.105
2 (or more) spaces	1.205

Location – adjustment for unit’s geographic location

Location adjustments were made for neighborhood, sub-neighborhood, cluster of regimes, or unique regime. The actual location adjustment for any unit may be the combination of one or more of those location factors.

Assessor Valuation:

Some regimes had adequate sales data, but were not candidates for regression because part or all of the data variables required by the model were not present. In these cases, the individual assessors assigned to those regimes conducted their own analysis of the available sales data and valued the units in those regimes. They also, in most cases, were able to gather the information that was lacking, so that in coming years, those regimes will become candidates for regression analysis.

Trending:

Regimes identified for trending were typically smaller regimes with little or no recent sales data. Often, the data variables required by the model were not present. The trend factors were established by analyzing qualified sales data for the subject regime (if any) and the proposed increases of surrounding regimes valued using the other two methods. The sales data was split by neighborhood, square, regime, and use code. Mean and median sale prices, assessments, assessment-to-sale ratios, and sale-to-assessment ratios were examined within each split. The selected trend factor for each regime is based on any available sales data within the subject regime, but it is considered in the context of the other available data. Characteristics of units in surrounding regimes, such as unit size and age, were examined to ensure comparability.

TABLE: Condominium Trend Factors

The table that follows indicates the trend factors that were used in the 2004 revaluation of a select, small group of condominium regimes. By far, most of the regimes were appraised using the market-derived multiple regression analysis (MRA) model. However, these regimes were typically small regimes that lacked adequate sales information, or the regimes did not contain enough of the data elements modeled in the MRA to be reliably valued. Where sales were present, the mean and median assessment to sales ratio was calculated for each regime within a (sub)neighborhood. The reciprocal of the assessment to sales ratio produced the indicated trend factor.

Condominium Trend Factors

Regime #	Nbhd	Square	Suffix	Trend Factor
1005	10	0014		1.30
1017	10	0053		1.10
1026	10	0069		1.15
1027	10	0069		1.35
1028	10	0069		1.11
1035	10	0069		1.30
1042	10	0070		1.80
1061	26	1300		1.40
1082	13	2075		1.18
1104	29	2528		1.45
1124	29	2539		1.50
1127	29	2540		1.25
1141	29	2546		1.35
1144	29	2546		1.20
1145	29	2546		1.25
1154	29	2548		1.60
1157	29	2549		1.50
1158	29	2549		1.40
1159	29	2549		1.35
1160	29	2549		1.40
1162	29	2550		1.60
1173	29	2552		1.10
1175	29	2552		1.10
1178	29	2553		1.20
1181	29	2553		1.15
1187	29	2554		1.25
1188	29	2554		1.30
1196	29	2555		1.50
1203	36	2563		1.40
1204	36	2563		1.40
1218	36	2589		1.40
1229	36	2614		1.35
1231	36	2616		1.25
1240	15	2669		1.15
1248	15	2860		1.15
1251	15	3038		1.20
1255	19	3519		1.50
1256	5	3953		1.10
1257	52	4052		1.20
1261	22	5397		1.20
1262	22	5397	S	1.20
1263	22	5433		1.10
1265	22	5440		1.10
1266	28	5508		1.00
1267	28	5555		1.00
1281	43	5729		1.10
1283	3	5869		1.15
1285	16	5957		1.00
1287	16	6095		1.00
1288	16	6125		1.00
1290	3	5889		1.15
1291	16	6214		1.00
1292	16	6223		1.00
1293	16	6239		1.00
1295	16	6239		1.00
1296	16	6239	S	1.00
1297	16	6239	S	1.00
1298	16	6239	S	1.00

Condominium Trend Factors

Regime #	Nbhd	Square	Suffix	Trend Factor
1299	16	6239	S	1.00
1300	16	6239	S	1.00
1301	16	6239	S	1.00
1308	29	2555		1.50
1316	29	2549		1.60
1475	40	0210		1.20
1476	28	5636		1.15
1487	15	2860		1.00
1493	36	2560		1.00
1494	15	2665		1.00
1495	15	2675		1.00
1496	15	2675		1.00
1497	15	2895		1.00
1498	5	3953		1.00
1499	3	5869		1.00
1500	3	5871		1.00
1501	19	3522		1.00
1502	16	6095		1.00
1503	15	2660		1.00
1505	33	5316		1.00
2004	20	0015		1.25
2005	20	0016		1.30
2008	20	0028		1.30
2011	20	0028		1.00
2014	20	0043		1.40
2016	40	0066		1.30
2019	20	0080		1.20
2021	20	0081		1.00
2022	40	0092		1.30
2023	40	0093		1.40
2027	40	0109		1.15
2029	40	0109		1.15
2031	40	0110		1.30
2032	40	0110		1.30
2036	40	0110		1.30
2047	40	0132		1.30
2048	40	0132		1.50
2051	40	0132		1.25
2055	40	0133		1.40
2056	40	0133		1.20
2060	40	0133		1.15
2071	40	0151		1.15
2072	40	0151		1.50
2073	40	0151		1.25
2074	40	0151		1.50
2076	40	0151		1.20
2079	40	0151		1.20
2081	40	0151		1.25
2085	40	0151		1.25
2086	40	0151		1.20
2088	40	0151		1.20
2090	40	0151		1.30
2091	40	0151		1.15
2098	40	0152		1.00
2102	40	0152		1.15
2104	40	0153		1.35
2119	40	0154		1.25
2127	40	0155		1.20

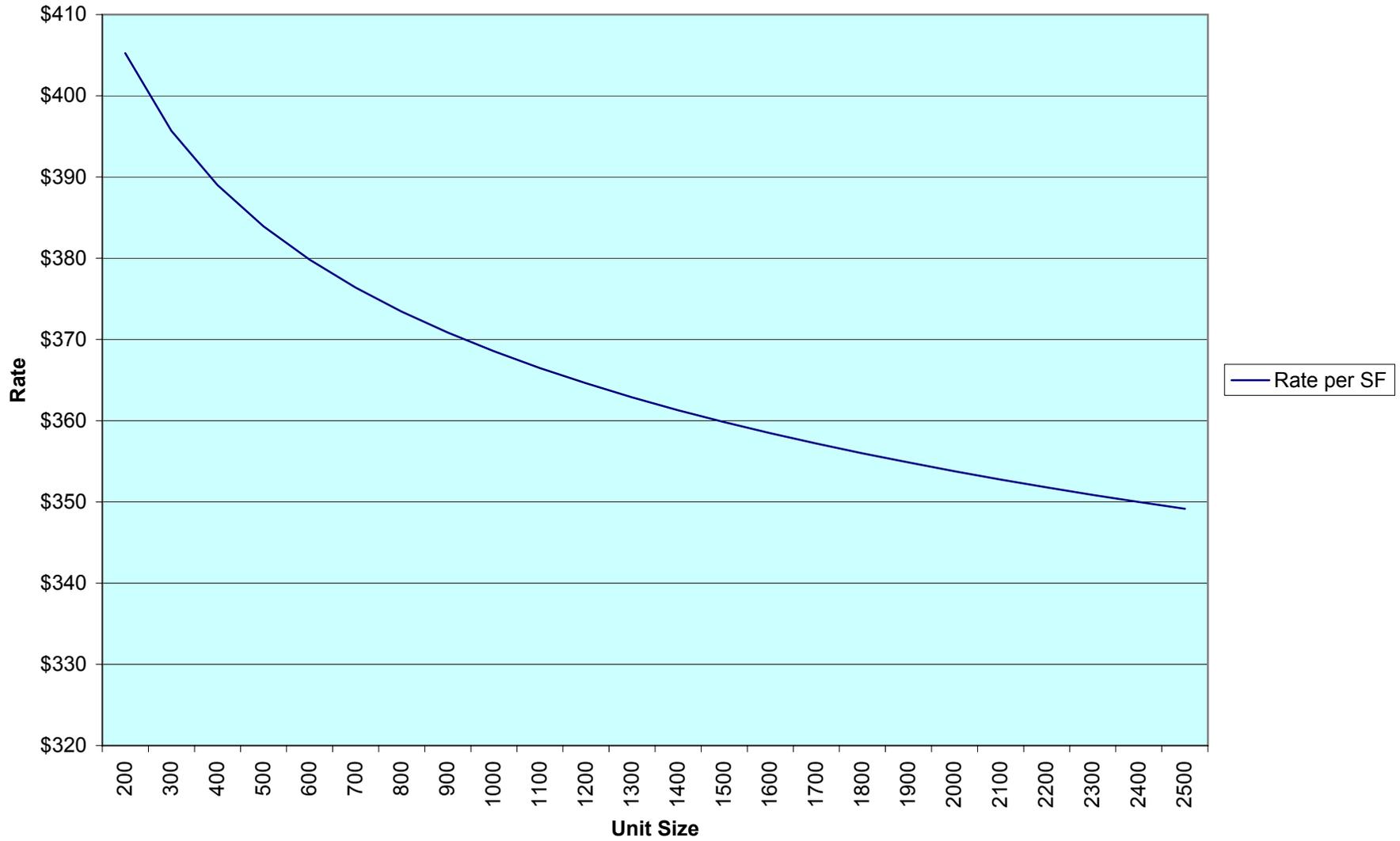
Condominium Trend Factors

Regime #	Nbhd	Square	Suffix	Trend Factor
2128	40	0155		1.20
2132	40	0155		1.40
2134	40	0155		1.10
2135	40	0155		1.50
2142	40	0156		1.30
2144	40	0156		1.35
2148	40	0156		1.40
2158	40	0176		1.20
2162	40	0176		1.40
2168	40	0177	N	1.40
2177	40	0180		1.30
2178	40	0180		1.25
2182	40	0189		1.30
2185	40	0190		1.50
2187	40	0190		1.30
2188	40	0191		1.30
2189	40	0191		1.20
2190	40	0191		1.20
2191	40	0191		1.40
2195	40	0191		1.10
2196	40	0192		1.50
2198	40	0193		1.20
2201	40	0193		1.15
2202	40	0193		1.15
2204	40	0194		1.20
2205	40	0194		1.10
2210	40	0194		1.20
2222	40	0208		1.30
2228	40	0237		1.35
2229	40	0238		1.40
2234	40	0240		1.10
2237	40	0241		1.40
2241	40	0242	N	1.20
2242	40	0242	N	1.20
2244	40	0242	N	1.20
2251	40	0279		1.30
2252	40	0279		1.30
2254	40	0278		1.45
2259	40	0362		1.10
2262	40	0368		1.15
2263	40	0441		1.20
2264	40	0441		1.20
2266	40	0475	S	1.20
2267	40	0475	S	1.20
2268	40	0475	S	1.20
2269	40	0477		1.20
2270	40	0477		1.20
2271	40	0477		1.20
2272	40	0479		1.20
2276	40	0509		1.20
2278	40	0514		1.40
2288	39	0755		1.20
2301	39	0778		1.20
2305	9	0784		1.15
2308	9	0786		1.20
2311	39	0813		1.50
2312	9	0816		1.20
2316	9	0819		1.20

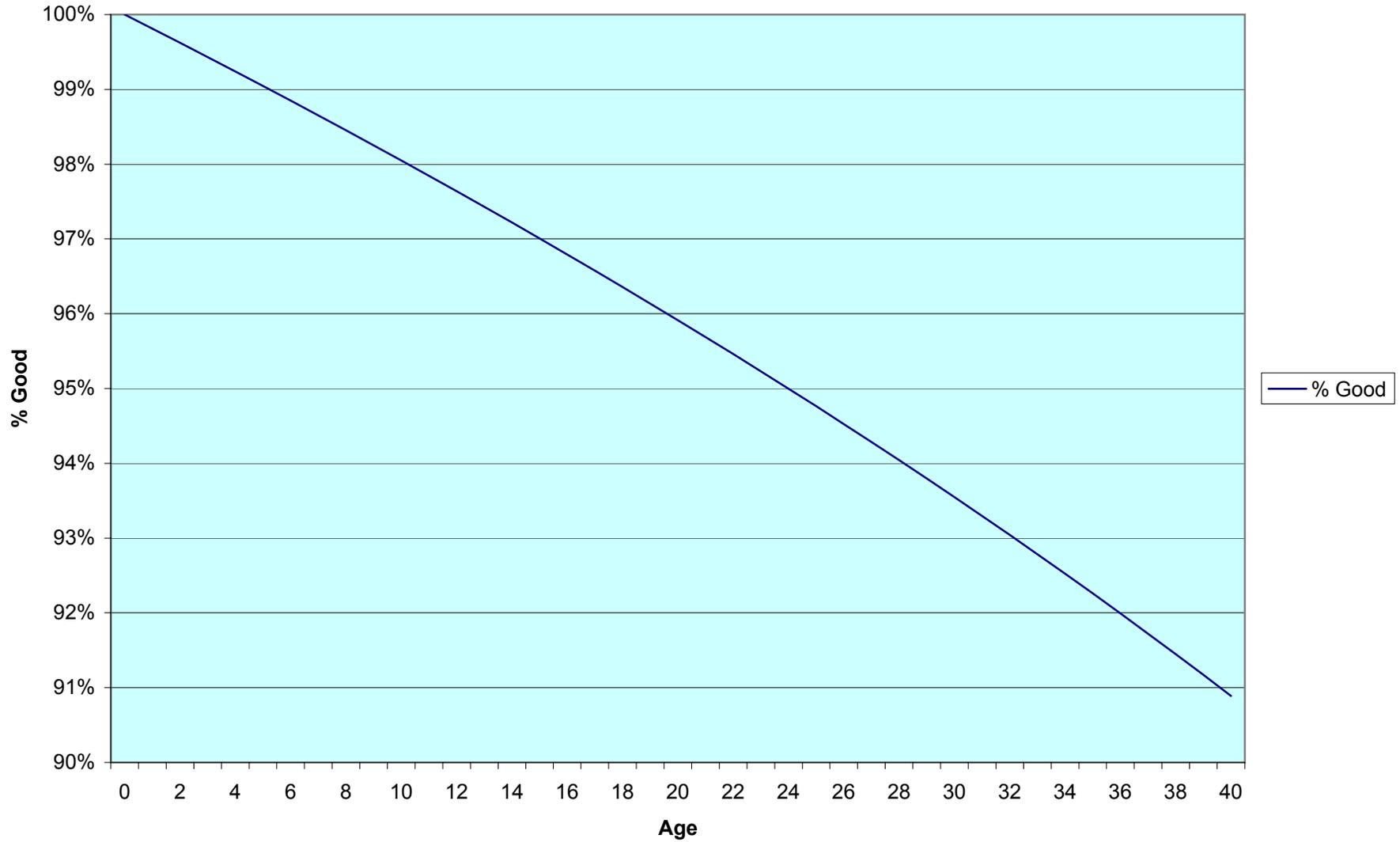
Condominium Trend Factors

Regime #	Nbhd	Square	Suffix	Trend Factor
2317	39	0830		1.33
2319	39	0835		1.30
2323	39	0860		1.30
2334	9	0872		1.50
2341	9	0920		1.30
2351	9	0966		1.30
2353	9	0968		1.30
2355	39	0986		1.40
2356	39	0988		1.33
2357	39	0990	S	1.40
2359	39	1010		1.20
2364	39	1017		1.15
2370	39	1046		1.20
2372	39	1047		1.40
2373	39	1058		1.40
2374	39	1059	S	1.50
2376	39	1072	S	1.40
2377	39	1086		1.00
2390	25	1214		1.15
2394	25	1231		1.25
2397	25	1268		1.15
2398	25	1270		1.20
2399	25	1277		1.20
2404	25	1282		1.20
2405	25	1283		1.10
2411	41	1356		1.40
2412	41	1356		1.30
2420	30	1411		1.20
2433	26	1810		1.50
2446	40	0313		1.20
2447	40	0314		1.15
2448	40	0362		1.10
2452	40	0363		1.15
2465	40	0208		1.40
2466	40	0206		1.20
2487	18	5256		1.00
2501	41	1367		1.40
2505	40	0312		1.20
2509	40	0206		1.20
2510	40	0206		1.20
2511	40	0206		1.20
2513	39	0780		1.00
2522	40	0362		1.10
2523	40	0211		1.00
2524	40	0205		1.20
2540	40	0194		1.00
2542	40	0239		1.00
2543	40	0240		1.00
2544	40	0240		1.00
2545	40	0312		1.00
2546	40	0524		1.00
2547	9	0967		1.00
2549	40	0508	N	1.00
3021	7	3637		1.00
3043	56	4327		1.40
3048	6	2940		1.00
3049	18	5087		1.00

Condominium Size Curve



Condominium Age Curve



Vision CAMA Residential Valuation Process

The market-derived cost approach to the valuation of real estate follows the generic formula of **Market Value = ((RCN LD) + land value)**, where **RCN** is Replacement Cost New of the improvements and **LD** means Less Depreciation. When properly developed and calibrated, this approach is a reliable indicator of market value, especially suited to mass-appraisal CAMA systems.

The following exercise will attempt to illustrate how the Vision[®] CAMA system, utilized by the District of Columbia, calculates values using the above model. The first portion will illustrate the development of the Replacement Cost New of a typical residence, and the last portion will show the steps involved in determining the amount of depreciation that has accrued to the residence. Land valuation is not discussed in this exercise.

Replacement Cost New

The Vision[®] CAMA system arrives at a RCN value for residential properties based on a market-calibrated hybrid cost model. The hybrid nature of the model simply means that the model employs both additive and multiplicative variables in its design and specification. The nature of the model will become clearer as we proceed through this exercise. Please also be aware that a model is dynamic in both its specifications and calibration. The specifications, those cost elements that comprise the model, may change from time to time based upon research and market conditions. As you may discover, the dollar rates, or calibrations, contained here most likely are different from the current model in use. The model used in this exercise is as follows:

$$\text{Building RCN} = [(\text{Base Rate} + \sum \text{ABRV}_n) * \text{Effective Area} * \text{Size Adjustment} + \sum \text{AFRV}_n] * (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)$$

Where:

RCN = Replacement Cost New

Base Rate = \$ rate based on use and style

ABRV = Additive Base Rate Variables

Effective Area = Adjusted SF area of improvement

Size Adjustment = Adjustment factor for deviation from base size

AFRV = Additive Flat Rate Variables

MV = Multiplicative Variables

Several items that will be helpful while examining the features of the cost model are collected as Appendix "A" of this document. You will need to refer to them often during this exercise. They include the following:

- Sample home's Property Record Card (PRC)
- Cost.dat printout of the sample home
- 70-Year Depreciation Schedule "6"
- 2004 CAMA Construction Valuation Guideline – Residential

1. First, let's illustrate the calculation of the Effective Area of our sample home.

$$\text{Building RCN} = [(\text{Base Rate} + \sum \text{ABRV}_n) * \text{Effective Area} * \text{Size Adjustment} + \sum \text{AFRV}_n] * (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)$$

Illustration 1 shows the CAMA sketch of the sample home we'll be using throughout this exercise.

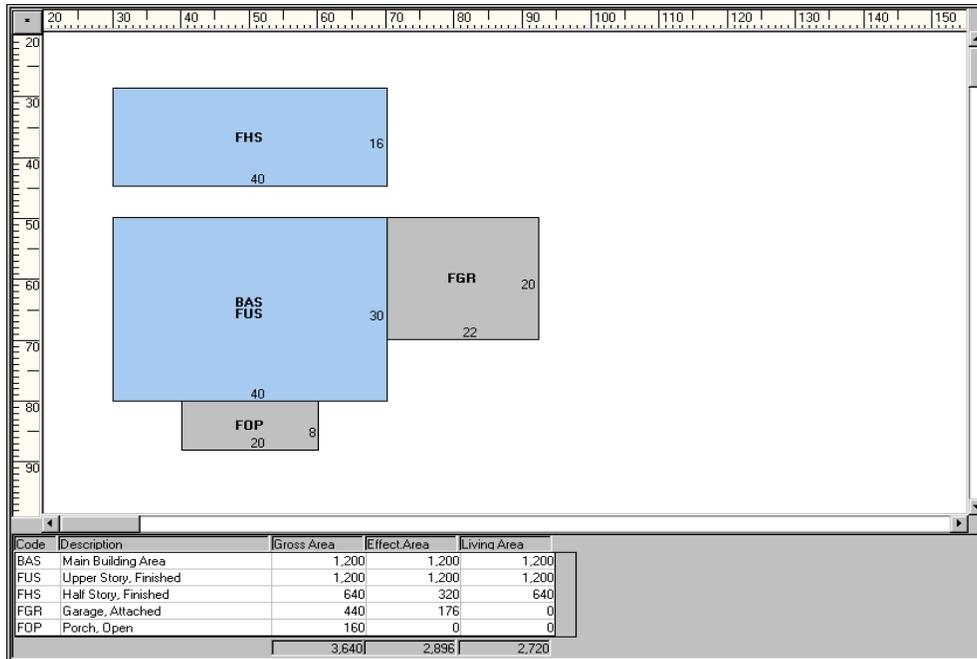


Illustration 1

It is described as a 2½ story single-family detached residence. It is brick veneer, frame construction with a two-car garage and small porch across the front. The bottom of the sketch screen in CAMA provides the information about the sizes of the various areas of the house.

Code	Description	Gross Area	Effect Area	Living Area
BAS	Main Building Area	1,200	1,200	1,200
FUS	Upper Story, Finished	1,200	1,200	1,200
FHS	Half Story, Finished	640	320	640
FGR	Garage, Attached	440	176	0
FOP	Porch, Open	160	0	0
		3,640	2,896	2,720

Illustration 2

The Effective Area is comprised of the totals of the base area (Main Building Area @ 1,200 SF), the finished second floor area (Upper Story, Finished @ 1,200 SF), the adjusted area of the finished half story (Half Story, Finished @ 50% of 640), and the adjusted area of the garage (Garage @ 40% of 440 SF).

The adjustments to the finished half story and garage take into account these areas are not as expensive as the finished main building area. For example, if

the base rate for the finished main building area is \$100/SF, the rate for the garage area may only be \$40/SF. The RCN value of the garage would be calculated as follows:

$$\text{RCN of Garage} = \$17,600 \text{ or } (440 \text{ SF} * \$40)$$

Another way to state the same situation is to adjust the size of the garage to 40% of its measured size and then multiply the resulting, *or effective*, size by the base rate of \$100/SF:

$$\text{RCN of Garage} = \$17,600 \text{ or } [(440 * .40) * \$100]$$

Both methods arrive at the same value for the garage. The first method is more intuitive and easier to explain to taxpayers as it adjusts for the differences in costs for the various areas. The second method again provides the same results but is much easier to model and calculate within a CAMA system, thus the effective area calculations shown here represent the methodology employed in the Vision[®] CAMA system.

The Gross Area shown in Illustration 2 is the total unadjusted size of all the areas that are a part of, and attached to, the home. The Living Area is the unadjusted size of the actual finished living area of the home.

The porch, while attached to the home, is not included in the Effective Area, but is listed as a Special Building Feature and valued separately.

Special Building Features											
Value Source: C		Living Area/GFA: 3,040		Regression: 0							
Primary Occ: 012		Effective Area: 2,896		Income: 0							
Structure Class: R		Percent Good: 88		RCNLD: 436,490							
S#	Code	Sub	Description		UOM	Units	Unit Price	Gra	RCN	RCNLD	M
▶ 1	PO1	OP	SLAB PORCH	OPEN	SF	160	19.5	4	3432	3020	1

Illustration 3

With the inclusion of the Effective Area calculation, our cost model now looks like this:

$$\text{Building RCN} = [(\text{Base Rate} + \sum \text{ABRV}_n) * \text{2,896} * \text{Size Adjustment} + \sum \text{AFRV}_n] * (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)$$

Effective Area

2. Next, let's look at the selection of the Base Rate for the sample home.

$$\text{Building RCN} = [(\text{Base Rate} + \sum \text{ABRV}_n) * \text{Effective Area} * \text{Size Adjustment} + \sum \text{AFRV}_n] * (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)$$

The Base Rate is the dollar rate per square foot used in the valuation model that is derived from market analysis and selected based on the building's Building Use Code and Style. Our sample home is Building Type 1 and Style 6, corresponding to a Residential-Detached –Single Family and 2½ Story-Finished. The Base Rate is automatically selected by the CAMA system and the appropriate base rate for the sample home is \$ 126.79. Now the cost model looks like this:

$$\text{Building RCN} = [(\text{\$126.79} + \sum \text{ABRV}_n) * \text{2,896} * \text{Size Adjustment} + \sum \text{AFRV}_n] * (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)$$

Base Rate
Effective Area

3. The Base Rate of the home is just the start of the valuation process and, it will be further modified as more specific features about the home are taken into consideration. Let's look at the first of two types of modifications that will affect the Base Rate, the Additive Base Rate Variables (ABRV).

$$\text{Building RCN} = [(\text{Base Rate} + \sum \text{ABRV}_n) * \text{Effective Area} * \text{Size Adjustment} + \sum \text{AFRV}_n] * (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)$$

Additive Base Rate Variables represent a variety of features found in residential improvements. For example, the value for air conditioning and floor covering are such features. The typical characteristic of these ABRVs is that the features are usually an integral part, and therefore an integral cost, of the whole house. As such, the value of the particular ABRV is added to the Base Rate. Each ABRV incrementally increases the Base Rate by its own SF rate. So therefore, the $\sum \text{ABRV}_n$ literally means the sum of all the rates for individual features are added to the Base Rate.

Highlighted in Illustration 4 are all the fields in the Construction Detail screen that can modify the selected Base Rate as ABRVs.

Construction Detail - Residential		
Value Source: C	Living Area/GFA: 3,040	Regression: 0
Primary Occ: 012	Effective Area: 2,896	Income: 0
Structure Class: R	Percent Good: 88	RCNLD: 436,490
Model: 01 Single Family	Total Rooms: <input type="text" value="8"/>	Fireplaces: <input type="text" value="1"/>
Style: <input type="text" value="6"/> 2.5 Story Fin	Bedrooms: <input type="text" value="4"/>	Park Spaces: <input type="text" value="0"/>
Stories: <input type="text" value="2.5"/>	Bathrooms: <input type="text" value="2"/>	
Building Type: <input type="text" value="1"/> Single	Half Baths: <input type="text" value="2"/>	Xtra Fixtures: <input type="text" value="3"/>
Roof Cover: <input type="text" value="3"/> Shingle	Bath Style: <input type="text" value="2"/> <input type="text" value="2"/> <input type="text" value="2"/>	
Foundation: <input type="text" value="2"/> Average	Kitchens: <input type="text" value="1"/>	
Exterior Finish: <input type="text" value="15"/> Face Brick	Eat In Kith: <input type="text" value="0"/> Default	
Exterior Condn: <input type="text" value="4"/> Good	Kitchen Style: <input type="text" value="2"/> <input type="text" value=""/> <input type="text" value=""/>	
Heat Type: <input type="text" value="1"/> Forced Air	Grade: <input type="text" value="40"/> Good Quality	
AC Type: <input type="text" value="Y"/> Yes	Overall Cndtn: <input type="text" value="4"/> Good	
Floor Cover: <input type="text" value="11"/> Hardwood/Carp	View: <input type="text" value="3"/> Average	
Interior Condition: <input type="text" value="4"/> Good	No. Units: <input type="text" value="1"/>	

Illustration 4

The Cost.dat sheet of our sample home lists each ABRV under the heading Base Rate Adjustments as follows:

```

*****Base Rate Adjustments*****
AIR CONDITIONING Y (Yes) = 1.8 + BaseRate
EXTERIOR WALL 15 (Face Brick) = 3.95 + BaseRate
FLOOR COVER 11 (Hardwood/Carp) = 4.67 + BaseRate
ROOF COVER 3 (Shingle) = .68 + BaseRate

```

The sum, Σ , is \$11.10 (1.80+3.95+4.67+0.68). This will be added to the Base Rate of \$126.79 to give a modified Base Rate of \$137.89. As with the Base Rate, the value attributed to each variable, and thus each feature, is derived from analysis of the market in the process called model calibration.

Our model now looks like this:

$$\text{Building RCN} = [(\$126.79 + \$11.10) * 2,896 * \text{Size Adjustment} + \sum \text{AFRV}_n] * (MV_0 * MV_2 * \dots * MV_N)$$

4. Next, let us turn our attention to the second type of modification to the Base Rate - the Size Adjustment.

$$\text{Building RCN} = [(\text{Base Rate} + \sum \text{ABRV}_n) * \text{Effective Area} * \text{Size Adjustment} + \sum \text{AFRV}_n] * (MV_0 * MV_2 * \dots * MV_N)$$

The Size Adjustment modifies the Base Rate to account for the size difference between the “standard size” for the “typical” house in the model and the actual size of the sample house. The “standard” size of 1,800 SF for the “typical” house, consisting of a 2-story frame residence, is used as the basis for establishing the initial Base Rates used in CAMA. The adjustment in the Base

Rate allows the proper square foot rate to be applied to a house based on its size. It is reasonable to expect that as a house becomes larger than typical, the rate per square foot would decrease and conversely, if the house were smaller than typical, the rate would be higher. This Size Adjustment variable is the component in the model that adjusts for this situation. Our sample home's Size Adjustment is 0.95547 as listed on the Cost.dat sheet. Now our Base Rate is calculated to be \$131.75 $((126.79+11.10) * 0.95547)$.

Because the adjustment is less than 1.00, it would be proper to conclude that our sample home is larger than the typical 2-story, frame home in the District of Columbia. Had the sample home been smaller than 1,800 SF, the Size Adjustment would have been greater than 1.00. The use of size adjustments eliminates the need for the traditional cost tables based on size.

The cost model continues to grow, and now looks like this:

$$\text{Building RCN} = [(\text{\$126.79} + \text{\$11.10}) * 2,896 * 0.95547 + \sum \text{AFRV}_n] * (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)$$

Base Rate
 $\sum \text{ABRV}_n$
Effective Area
Size Adjustment

5. We are finished establishing the Base Rate for our sample home and now turn to the Additive Flat Rate Variables. This portion of the cost model is relatively straightforward. The individual Additive Flat Rate Variables are summed and the added to the product of the previous calculations.

$$\text{Building RCN} = [(\text{Base Rate} + \sum \text{ABRV}_n) * \text{Effective Area} * \text{Size Adjustment} + \sum \text{AFRV}_n] * (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)$$

Here is where we make allowances for individual extra features contained in the sample house. Illustration 5 shows those features that constitute Additive Flat Rate Variables in the cost model:

Construction Detail - Residential		
Value Source: C	Living Area/GFA: 3,040	Regression: 0
Primary Occ: 012	Effective Area: 2,896	Income: 0
Structure Class: R	Percent Good: 88	RCNLD: 436,490
Model: 01 Single Family	Total Rooms: <input type="text" value="8"/>	Fireplaces: <input type="text" value="1"/>
Style: <input type="text" value="6"/> 2.5 Story Fin	Bedrooms: <input type="text" value="4"/>	Park Spaces: <input type="text" value="0"/>
Stories: <input type="text" value="2.5"/>	Bathrooms: <input type="text" value="2"/> per Grade Schedule	
Building Type: <input type="text" value="1"/> Single	Half Baths: <input type="text" value="2"/> Xtra Fixtures: <input type="text" value="3"/>	
Roof Cover: <input type="text" value="3"/> Shingle	Bath Style: <input type="text" value="2"/> <input type="text" value="2"/> <input type="text" value="2"/>	
Foundation: <input type="text" value="2"/> Average	Kitchens: <input type="text" value="1"/> If Greater than 1	
Exterior Finish: <input type="text" value="15"/> Face Brick	Eat In Kith: <input type="text" value="0"/> Default	
Exterior Condn: <input type="text" value="4"/> Good	Kitchen Style: <input type="text" value="2"/> <input type="text" value=""/> <input type="text" value=""/>	
Heat Type: <input type="text" value="1"/> Forced Air	Grade: <input type="text" value="40"/> Good Quality	
AC Type: <input checked="" type="checkbox"/> Yes	Overall Cndtn: <input type="text" value="4"/> Good	
Floor Cover: <input type="text" value="11"/> Hardwood/Carp	View: <input type="text" value="3"/> Average	
Interior Condition: <input type="text" value="4"/> Good	No. Units: <input type="text" value="1"/>	

Illustration 5

Unlike the Additive Base Rate Variables (ABRV) described earlier, these features are not an integral portion of the whole house, but stand alone, so to speak. Examples include things such as fireplaces, extra plumbing fixtures, and extra kitchens. Again, as with all other variables in the cost model, the values of these features are derived from market analysis.

Our sample home has several Additive Flat Rate Variables (AFRVs), including four additional plumbing fixtures and a fireplace.

*****Flat Value Additions*****
 ADD'L BATH FIXTURES = 10000 + RCN
 FIREPLACES = 4000 + RCN

The sum, Σ , is \$14,000 (10,000+4,000) that will be added to the product of the previous portions of the cost formula.

Whether or not the model adds AFRVs for additional bath fixtures is driven by the total number of plumbing fixtures and the grade of the house. Be aware that as the grade of the house increases the expected number of fixtures also increases, and to a point, are automatically accounted for in the grade multiplicative variable (MV) discussed next. After such point, the extra fixtures are added as AFRVs.

Our sample home is a "Good Quality – 4" and as such is expected to contain nine fixtures per the schedule. In actuality, the home has thirteen fixtures, four more than typical for the grade. Each fixture in excess of the anticipated amount

adds \$2,500 to the home's value, in this instance the total AFRV for plumbing is \$10,000 (2,500 x 4).

The cost model is almost finished for our sample home, and now looks like this:

$$\text{Building RCN} = [(\text{\$126.79} + \text{\$11.10}) * 2,896 * 0.95547 + \text{\$14,000}] * (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)$$

Base Rate
 \sum ABRV_n
Effective Area
Size Adjustment

\sum AFRV_n

6. The last portion of the cost model used to calculate the RCN are the multiplicative variables (MV).

$$\text{Building RCN} = [(\text{Base Rate} + \sum \text{ABRV}_n) * \text{Effective Area} * \text{Size Adjustment} + \sum \text{AFRV}_n] * (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)$$

This portion of the formula can have the largest influence on the cost model. Each multiplicative variable modifies *all* of the cost data that has preceded it. These variables modify the Base Rate, the sum of all the increases to the Base Rate (\sum ABRV_n), the Size Adjustment, and the sum of all the Flat Rate Variables (\sum AFRV_n). This is where such important characteristics as the building grade, Neighborhood and Sub Neighborhood factors have their impact.

The sample home is graded "Good Quality - 4", and consequently has a 1.1 multiplicative variable. This one variable, grade, is going to increase the RCN value of the sample home by 10%. It can not be stated often enough, grading, along with proper effective area, are extremely significant in terms of accurate appraisals. The other multiplicative variable, "Sub-Neighborhood Adj A", is the local neighborhood multiplier established for the particular neighborhood where the sample home is located. This variable is going to increase the RCN value of the sample home by 14%. The "Sub-Neighborhood Adj" reflects the market-derived fact that location is a very significant factor in the value of real estate. Two otherwise identical homes can have a substantial difference in value based on their locations.

These two variables are summarized in the Cost.dat file as follows:

```
*****Factor Adjustments*****
GRADE 40 (Good Quality) = 1.1 x RCN
SUB-NEIGHBORHOOD ADJ A = 1.14 x RCN
```

Each MV is multiplied together to determine the combined, or overall, MV. The sample home's MV is 1.254 (1.1 * 1.14).

7. Finally, the Building RCN model is complete and contains the specific data for the sample home used in this demonstration. The market-derived cost model for the sample home is as follows:

$$\begin{aligned}
 \text{Building RCN} &= [(\text{Base Rate} + \sum \text{ABRV}_n) * \text{Effective Area} * \text{Size} \\
 &\quad \text{\$ 496,017} = [(\text{\$ 126.79} + \text{\$ 11.10}) * \text{2,896} * .95547 \\
 &\quad \text{Adjustment} + \sum \text{AFRV}_n] * (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N) \\
 &\quad \text{+ \$14,000}] * (\text{1.254})
 \end{aligned}$$

The Cost.dat file shows a summary of the same information.

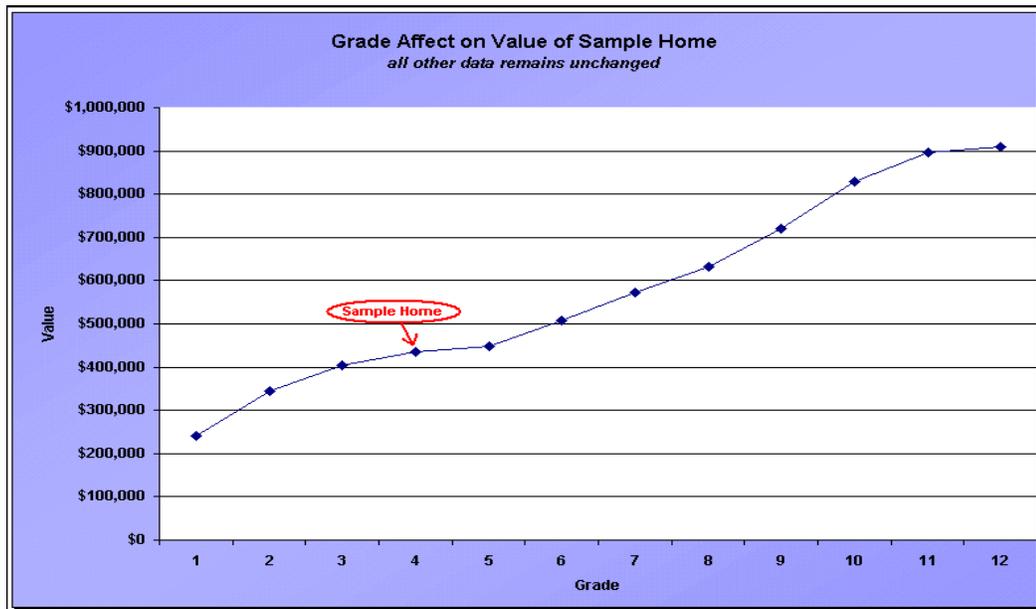
```

*****Building #1 Calc Start*****
Cost Calculation for pid, bid = 182803,173587
Account Number = 9999      9999
Use Code = 012
Cost Rate Group = R12
Model ID: R04

Section #
Base Rate: 126.79
Size Adjustment: .95547
Effective Area: 2896
Adjusted Base Rate = (126.79 + 11.1) * .95547
Adjusted Base Rate: 131.75
RCN = ((131.75 * 2896) + 14000) * 1.254
RCN: 496017

```

Let's take a moment to show the impact that grade selection has on RCN. Observe the chart below:



The chart illustrates the affect that different grades have on the value of residential property, all other factors remaining equal. For instance, our sample home is a Grade 4 - Good and its RCN is \$ 496,067. Had the home been Grade 6 - Excellent, the RCN would be \$ 571,382 over fifteen percent higher than the Grade 4 – Good home. The influence of grade on value is derived through the analysis of market sales data.

Back to our sample home. The replacement cost new for our sample home is \$496,017. There is still one thing left to address before we turn our attention to depreciation. Recall that the sample home had a small open porch across the front. This item was not costed as a component of the sample home, but rather as a Special Building Feature, with its own unit price of \$19.50 SF. Also, note that the depreciation applied to the Special Building Features is identical to the amount applied to the main building. See illustration 6 below.

Special Building Features										
Value Source: C		Living Area/GFA: 3,040		Regression: 0						
Primary Occ: 012		Effective Area: 2,896		Income: 0						
Structure Class: R		Percent Good: 88		RCNLD: 436,490						
S#	Code	Sub	Description		UOM	Units	Unit Price	Grade	RCN	RCNLD
1	PO1	OP	SLAB PORCH	OPEN	SF	160	19.5	4	3432	3020

Illustration 6

We now know the total replacement cost new (RCN) of our sample home, including the porch, is \$ 499,449 (\$496,017 + \$3,432).

If the sample home were brand new, we'd be finished, but it was actually built in 1937.

Therefore, we need to address accrued depreciation . . .

Depreciation

Depreciation is defined as a loss in the upper limits of value from all sources. Typically, three types of depreciation can affect real estate - physical deterioration, functional obsolescence and economic obsolescence. This next portion of the demonstration will illustrate how Vision[®] calculates the amount of depreciation accrued to our Sample Home.

Several terms come into use when discussing depreciation in Vision[®]. They are defined as follows:

- Actual Age: The mathematical difference between the Base Year and the actual year the improvement was built to completion.
- Actual Year Built (AYB): The earliest time the main portion of the building was built. It is not affected by subsequent construction.
- Base Year: The year, usually the current year, that the depreciation table is calibrated, such that the age of a building built during the base year would be 0 years old.
- Depreciation Table: A market-driven table that lists the amount of depreciation corresponding to an Effective Year Built and the Base Year predicated upon a specific economic life.
- Effective Age: The mathematical difference, in years, between the Base Year and the Effective Year Built.
- Effective Year Built (EYB): The calculated or apparent year, that an improvement was built that is most often more recent than AYB. The EYB is determined by the condition and quality of the improvement. Subsequent renovation, additions, upgrades and the like, extend an improvements remaining economic life and therefore cause the EYB to be closer to the Base Year than the AYB.
- Percent Good: The mathematical difference between 100 percent and the percent of depreciation. $(100\% - \text{depreciation } \%) = \text{percent good}$

The RCN model used above indicated that our Sample Home has an RNC of \$496,017. As stated earlier, the home was built in 1937 so there should be some depreciation to deduct from the RCN. We'll use a five-step process to depreciate improvements:

1. Calculate the Actual Age of the improvement
2. Determine the Effective Age of the improvement
3. Determine the improvement's Effective Year Built
4. Look-up Percent Good corresponding to EYB on depreciation table
5. Apply selected depreciation to RCN to determine RCNLD

1. Our first step is to calculate the Actual Age of our sample home. As you are aware, a valuation is always qualified as of a specific date. For ad valorem purposes in the District of Columbia, the valuation date is January 1 immediately preceding the tax year. In our example, the tax year is 2004. Therefore, the valuation date is January 1, 2003. This date is also significant in terms of the depreciation accrued to improvements. In the past, the nature of triennial assessments required that base years within a Tri-Group remain unchanged for a period of three years. Now, however, with the return to annual assessments, the base year coincides with the valuation date. The Base Year is used to determine the Actual Age of the sample home. In this case, the sample home's Actual Age is 66 years (2003-1937).

2. The next step is to determine the sample home's Effective Age. Effective Age may or may not represent actual or chronological age. The premise is simple but the application can be confusing. If a home is built and never maintained (painting, re-roof, etc.) or remodeled, the home would quickly depreciate from physical deterioration. The CAMA system would depreciate the home at the fastest rate possible based on the selected Depreciation Table. For example, CAMA uses a 70-year Economic Life Depreciation Table for residential property. If the home were left to rot, the Effective Age would most likely be the same as the Actual Age.

Let's say the owners of our sample home have completely neglected their property from the time it was built in 1937 to the present. Their home would have an effective age of 66 years as indicated on the Depreciation Table below:

70 Year Economic Life Depreciation Table			
Base Year 2003			
Age of Building	Percent of Depreciation	Percent Good	Effective Year Built
0	0	100	2003
1	2	98	2002
2	3	97	2001
3	3	97	2000
62	19	81	1941
63	19	81	1940
64	19	81	1939
65	19	81	1938
70	20	80	1932

Illustration 1

The Actual Year Built (1937) and the Effective Year Built (1937) would be the same and consequently the Effective Age is 66 years. Moving across the table, we see that a home with an EYB of 1937 has 19 percent depreciation and therefore is 81 Percent Good (100%-19%). If the RCN of our sample home is

\$ 496,017, the depreciated value, RCNLD, is only \$ 401,774 (496,017* 0.81). Note: The depreciation table moves in 5-year periods towards its end. This explains the apparent inconsistencies in 65 years v. 66 years. The Cost.Dat file represents the actual numbers used in calculations.

The situation described above rarely, if ever, occurs in the market. People do maintain and renovate their homes and in doing so, extend the home's useful or remaining economic life. As homeowners repair roofs, paint siding, replace windows and furnaces, they *prolong* the life of the home and consequently *decrease* its Effective Age.

A recent home remodel, renovation or rehabilitation will go a long way to extend its useful life. As the useful life is extended, the Effective Age is reduced and therefore, the Effective Year Built is more recent than the home's Actual Year Built.

Our sample home was remodeled in 2001. The portion of the CAMA record that captures this information is shown in Illustration 2 below.

The screenshot shows a software window titled "Depreciation" with the following data:

Value Source: C	Living Area/GFA: 3,040	Regression: 0
Primary Occ: 012	Effective Area: 2,896	Income: 0
Structure Class: R	Percent Good: 88	RCNLD: 436,490

Fields in the main window:

- Year Built: 1937
- CDU: AV
- Remodel Rating: 4
- Year Remodeled: 2001
- Effective Year Built: 1973 Overrides EYB
- Status: 0
- Percent Complete: 100

The "Remodel Rating" dialog box is open, showing a list of options:

0	Default
1	Unknown
2	Gut Rehab
3	Major Renov
4	Remodel
5	Addition
6	Cosmetic

The "4 Remodel" option is selected. The dialog box has "OK" and "Cancel" buttons.

Illustration 2

In addition to remodels and renovations, the observed condition of the interior, the condition of the exterior and the overall condition also affect the calculation of the Effective Year Built. Along with Illustration 2, Illustration 3, Construction Detail, highlights those features that affect the Effective Year calculation.

Construction Detail - Residential

Value Source: **C** Living Area/GFA: **3,040** Regression: **0**
 Primary Occ: **012** Effective Area: **2,896** Income: **0**
 Structure Class: **R** Percent Good: **88** RCNLD: **436,490**

Model: 01 Single Family

Total Rooms: Fireplaces: Park Spaces:

Style: 2.5 Story Fin Bedrooms:

Stories: Bathrooms:

Building Type: Single Half Baths: Xtra Fixtures:

Roof Cover: Shingle Bath Style:

Foundation: Average Kitchens:

Exterior Finish: Face Brick Eat In Kith: Default

Exterior Condtn: Good Kitchen Style:

Heat Type: Forced Air Grade: Good Quality

AC Type: Yes Overall Condtn: Good

Floor Cover: Hardwood/Carp View: Average

Interior Condition: Good No. Units:

Illustration 3

Let's briefly look at just one feature as an example. The next illustration gives the actual multiplicative variables (MV) used within CAMA to modify the Actual Age of our home based on its Overall Condition.

Overall Cndtn:		
0	Default	
1	Poor	Modifies Actual Age by MV factor of: 1.260
2	Fair	Modifies Actual Age by MV factor of: 1.216
3	Average	Modifies Actual Age by MV factor of: 1.000
4	Good	Modifies Actual Age by MV factor of: 0.909
5	Very Good	Modifies Actual Age by MV factor of: 0.794
6	Excellent	Modifies Actual Age by MV factor of: 0.794

OK
Cancel

Illustration 4

Our sample home's Overall Condition is "4-Good", and its associated multiplicative variable is 0.909. If this were the only multiplicative variable in the CAMA depreciation model, the Effective Age, Effective Year Built and depreciation would be calculated as follows:

1. Calculate Actual Age to be 66 years (2003 - 1937).
2. Determine Effective Age to be 59.99, say 60 years based on Good Condition (66 * 0.909).
3. Determine Effective Year Built to be 1943 (2003 - 60).
4. Observe amount of depreciation corresponding to EYB of 1943 on Depreciation Table to be 18%.

This example shows that the RCN of the sample home would be depreciated 18% based on its “4 - Good” Overall Condition. If the Overall Condition were “6 – Excellent”, the depreciation would be 17 % based on an EYB of 1951. Intuitively, a home in excellent condition should have less depreciation than the home in good condition and this example illustrates this fact.

Back to our Sample Home’s Effective Age calculation. All of the features or variables dealing with depreciation, highlighted in Illustrations 1 and 2 are multiplicative variables. As such, they are multiplied one by the other and then the Actual Age is multiplied by the product of the MVs. Below is the portion of the Cost.dat file that summaries these MV for our sample home.

```
*****Effective Age Adjustments*****
BATH STYLE 2 (Semi-Modern) = .95 * Age
OVERALL CONDITION 4 (Good) = .909 * Age
EXTERIOR CONDITION 4 (Good) = .909 * Age
EFF AGE GRADE 40 (Good Quality) = .95 * Age
INTERIOR CONDITION 4 (Good) = .909 * Age
KITCHEN STYLE 2 (Semi-Modern) = .9 * Age
REMODEL YEAR = .75 * Age
```

The product of each of these MV adjustments is calculated to be 0.45755429152894 ($0.95 * 0.909 * 0.909 * 0.95 * 0.909 * 0.9 * 0.75$). This product is then multiplied by the Actual Age to calculate the Effective Age. Recall our sample home’s Actual Age is 66 years. The Effective Age is calculated to be 30 years ($66 * 0.45755429152894$). Instead of CAMA using 66 chronological years to calculated depreciation, it will use 30 years, based on the home’s condition and quality. Below is a portion of the Cost.dat file that shows these calculations.

```
*****
Actual Year Built: 1937
Effective Age = 66 * .45755429152894
Effective Age: 30
Percent Good = 88
RCNLD: 436490
```

3. We’re almost finished. Knowing the Effective Age makes the calculation of the Effective Year Built for our Sample Home very simple. The Effective Year Built is 1973 ($2003 - 30$).

4. Having established the Effective Year Built, we look up 1973 on the *70 Year Economic Life Depreciation Table* and find that the Percent Good is 88% for that year. See Illustration 5.

5. The last step in the process is to simply multiple the RCN by 0.88 and we have RCN LD.

70 Year Economic Life Depreciation Table				
Base Year 2003				
Age of Building	Percent of Depreciation	Percent Good	Effective Year Built	
0	0	100	2003	
1	2	98	2002	
2	3	97	2001	
3	3	97	2000	
4	4	96	1999	
29	12	88	1974	
30	12	88	1973	
31	12	88	1972	
32	12	88	1971	
33	13	87	1970	

Illustration 5

The market-derived cost approach to the Sample Home used in this demonstration is \$ 439,510. Below is a portion of the Property Record Card that illustrates this information.

BUILDING COST		
<i>Effective Area</i>	2,896	
<i>Building RCN</i>	496,017	
<i>Spec.Feature RCN</i>	3,432	
<i>Total RCN</i>	499,449	
<i>% Good</i>	88	
<i>Building Cost</i>	439,510 ← RCN LD	
DEPRECIATION		
	Current	Change
<i>Primary OCC</i>	012	
<i>Structure Class</i>	R	
<i>Actual Year Built</i>	1937	
<i>Year Remodeled</i>	2001	
<i>Effective Year Built</i>	1973	
<i>CDU</i>	AV	
<i>Status</i>	0	
<i>% Complete</i>	100	

Illustration 6

Some closing comments regarding depreciation are in order. Recall from the outset that we defined depreciation as a loss in value resulting from physical deterioration, functional and/or economic obsolescence. The demonstration above dealt only with depreciation attributed to the physical deterioration of the Sample Home. This, by far, is the most common type of depreciation that exists in residential property. However, occasions may require additional depreciation because of excessive physical deterioration, functional and/or economic obsolescence. One must use caution when invoking these types of depreciation. The market must support any decision regarding the extent of these adjustments. Below illustrates our Sample Home with an additional ten percent economic

obsolescence. A gas station was built across the street from the home, and a recent sale of the next-door neighbor's house showed the impact of this situation.

Depreciation

Value Source: **C** Living Area/GFA: **3,040** Regression: **0**
 Primary Occ: **012** Effective Area: **2,896** Income: **0**
 Structure Class: **R** Percent Good: **78** RCNLD: **386,890**

Year Built: 1937
 CDU: AV
 Remodel Rating: 4
 Year Remodeled: 2001
 Effective Year Built: 1973 Override EYB
 Status: **E**
 Percent Complete: 10

	Value	Type	Rsn	Date	ID	Comment
% Good Ovr						
Misc. Improv						
Cost To Cure						

Illustration 7

The actual mechanics of adjusting depreciation for functional or economic obsolescence within CAMA are briefly discussed below. If the situation occurs, seek guidance from your supervisor and/or CAMA manager.

Illustration 8 shows the portion of the CAMA screen used to allow for additional depreciation. It is not necessary to make adjustments in the “CDU” field or to override the EYB field. Nor is it necessary to enter information on the lower 1/3 of the screen. The “Status” and “Percent Complete” fields are the only two fields that are utilized to account for additional depreciation.

Depreciation

Value Source: **C** Living Area/GFA: **3,040** Regression: **0**
 Primary Occ: **012** Effective Area: **2,896** Income: **0**
 Structure Class: **R** Percent Good: **78** RCNLD: **386,890**

Year Built: 1937
 CDU: AV
 Remodel Rating: 4
 Year Remodeled: 2001
 Effective Year Built: 1973 Override EYB
 Status: **E**
 Percent Complete: 10

	Value	Type	Rsn	Date
% Good Ovr				
Misc. Improv				
Cost To Cure				

Status

- 0 Default
- A Abandoned/Boarded
- B Burned Out
- C Commercial New Const
- E Economic Dep**
- F Functional Dep
- G Gut Rehab
- H Data Change
- L Limited Equity
- M Demolition
- N N/A
- NO Normal
- OV Overall Depreciation
- P Physical Depr
- PA Partial Abandon
- R Renovation

OK Cancel

Illustration 8

The “Status” field’s pick-list is expanded in Illustration 9 to show only those types of items that have a direct affect on depreciation and the nature of the affect. Notice that only a limited number of Status Codes are functional within CAMA and their affect on depreciation is either to **replace** the existing amount in the “% Good” field or **decrease** the “% Good.” The corresponding numeric amount that will affect the “% Good” is entered in the field called “Percent Complete.” Please note that the field name “Percent Complete” is somewhat erroneous because the word “Complete” has no meaning in this context. This is the field that you will enter the amount to either decrease the existing “% Good” or replace the existing “% Good”, based on the Status Code selected.

Status

Status Codes		
Code	Description	Affect on % Good
Q	Default	NONE
A	Abandoned/Boarded	NONE
B	Burned Out	NONE
C	Commercial New Const	REPLACE
E	Economic Dep	DECREASE
F	Functional Dep	DECREASE
G	Gut Rehab	NONE
H	Data Change	NONE
L	Limited Equity	NONE
M	Demolition	NONE
N	N/A	NONE
NO	Normal	NONE
OV	Overall Depreciation	REPLACE
P	Physical Depr	DECREASE
PA	Partial Abandon	NONE
R	Renovation	NONE
T	Order of Taking	NONE
V	Vacant	NONE

Illustration 9

Recall our example of the gas station. The Percent Complete field has “10” as it’s value. Based on the “E” Status Code, we know that the original depreciation will increase by ten percent resulting in a decrease in Percent Good to 78% (88-10).

Another comment regarding depreciation concerns the impact that the quality of design, material and workmanship have on depreciation. The grade assigned to a home obviously makes a considerable difference in the final RCN, but it also plays a substantial part in determining the amount of depreciation accrued to the home. It is easy to understand that if all other things were equal, a home built with better material and workmanship would age better than one with poorer materials and workmanship. The higher quality the home the more slowly it will deteriorate. Conversely, a shoddily-built home will age quicker than the average home.

Appendix A

1. Property Record Card, SSL 9999 9999
2. Cost.dat print-out, SSL 9999 9999
3. 70-Year Depreciation Schedule “6”
4. 2004 CAMA Construction Valuation Guideline – Residential

CURRENT OWNER		ACCOUNT INFORMATION					CURRENT ASSESSMENT			RES District of Columbia Real Property Assessment Division
		Use Type	Use Code	Lot SF	Status Code	Description	Use	Assessed Value		
		R1	012	99,999	0	RESIDNTL RES LAND	012 012	439,510 183,470		
		VISIT/CHANGE HISTORY					Value Source:	C	Total: 622,980	
Date	ID	Type	Inf. Source	Code	Description					
				Value Date	Value Status					
				Reg	12/30/1899					
				Cost	03/07/2003	C				

OWNERSHIP HISTORY		INSTRUMENT #		SALE DATE		q/u	v/i	SALE PRICE		A.C.	PREVIOUS ASSESSMENTS (HISTORY)						
											Yr.	Use	Type	Val Source	Land Value	Building Value	Assessed Value
											2004	012	R1	C	183,470	439,510	622,980

APPEALS			
Appeal #	Decision	Amount	Revised AV

PROPERTY FACTORS							
TOPO.		MLT FRONT		ALLEY ACCESS		LANDSCAPE	
1	Level	0	Default	2	No	0	Default

TAX TYPE		SUPPLEMENTAL DATA	
Year	Type/Description	Type	Description
		Neighborhood Part Part Mixed Use Vcnt Lnd Use Model Type Base Lot Val Abbutt Lot Dev FAR	

COMMENTS				

PARCEL LOCATION SUMMARY						
SSL:	NBHD	SUB-NBHD	ZONING	WARD	GROUP	ARN
	9	A				203

VALUE SUMMARY				
Regress (L&B)			Cost (L&B)	
186,490			622,980	

BUILDING PERMIT INFORMATION					
Permit ID	Issue Date	Type	Amount	Description	Insp. Date

Factor/Value	Type	Reason	Date	ID
Value Adjust.				
Override				
Comment				

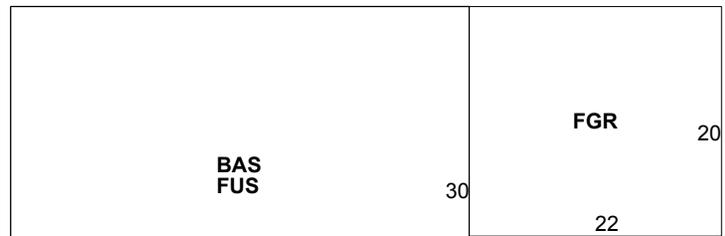
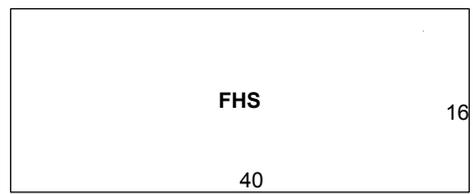
DATA ENTRY	
Entry Date:	Entry ID:
_____	_____

LAND LINE VALUATION SECTION																
B#	Occ	Description	Zone	Frontage	Depth	Units	S.I.	I. Factor	LT	Price	Size Adj	Site Rating	Adjustments/Special Use	Notes	Land Value	
1	012	Residential Detached Single Fa				1,500 SF	P	1.00		122.31	0.9751	1.00			183,470	
Total Land Units						1,500 SF									Total Land Value	183,470

CONSTRUCTION DETAIL **BUILDING SUMMARY SECTION** **SKETCH**

Element	Cd.	Chng	Description	Code	Description	Gross	Eff. Area	Living
Occupancy	012		Residential Detached	BAS	Main Building Are	1,200	1,200	1,200
Model	01		Single Family	FGR	Garage, Attached	440	176	0
Grade	40		Good Quality	FHS	Half Story, Finishes	640	320	640
Style	6		2.5 Story Fin	FOP	Porch, Open	160	0	0
Stories	2.5			FUS	Upper Story, Finish	1,200	1,200	1,200
Building Type	1		Single					
Roof Cover	3		Shingle					
Foundation	2		Average					
Exterior Wall	15		Face Brick					
Exterior Cndtn	4		Good					
Heat Type	1		Forced Air					
AC	Y		Yes					
Floor Cover	11		Hardwood/Carp					
Interior Cndtn	4		Good					
Total Rooms	8							
Fireplaces	1							
Bedrooms	4							
Full Baths	2							
Half Baths	2							
Extra Fixtures	3							
Bath Style	2		Semi-Modern					
Kitchens	1							
Kitchen Style	2		Semi-Modern					
Eat-In Kitchen	0		Default					
Overall Cndtn	4		Good					
View	3		Average					
Off Street Parkin	0							
Total:						3,640	2,896	3,040

BUILDING COST		
Effective Area	2,896	
Building RCN	496,017	
Spec.Feature RCN	3,432	
Total RCN	499,449	
% Good	88	
Building Cost	439,510	
DEPRECIATION		
	Current	Change
Primary OCC	012	
Structure Class	R	
Actual Year Built	1937	
Year Remodeled	2001	
Effective Year Built	1973	
CDU	AV	
Status	0	
% Complete	100	
% GD Override (Cost)		
Type		
Reason		
Date		
ID		
Comment		



SPECIAL FEATURES/AMENITIES							
Code	Description	Units	UOM	Unit Price	Grade	RCN	
PO1 OP	SLAB PORCH OPEN	160	SF	19.50	4		3,432

DETACHED STRUCTURES								
Code	Description	Units	UOM	Unit Price	Grade	Cndtn	RCN	Assessed Value



OUTPUT FROM STORED PROCEDURE
REPORT GENERATED ON 21-MAY-2002 AT 02:54

*****Building #1 Calc Start*****
Cost Calculation for pid, bid = 182803,173587
Account Number = 9999 9999
Use Code = 012
Cost Rate Group = SIN
Model ID: DCR

Section #
Base Rate: 59.8
Size Adjustment: .88705
Effective Area: 2874
Adjusted Base Rate = (59.8 + 11.1) * .88705
Adjusted Base Rate: 62.89
RCN = ((62.89 * 2874) + 5600) * 1.33926
RCN: 249566

*****Base Rate Adjustments*****
AIR CONDITIONING Y (Yes) = 1.8 + BaseRate
EXTERIOR WALL 15 (Face Brick) = 3.95 + BaseRate
FLOOR COVER 11 (Hardwood/Carp) = 4.67 + BaseRate
ROOF COVER 3 (Shingle) = .68 + BaseRate

*****Flat Value Additions*****
ADD'L BATH FIXTURES = 3300 + RCN
FIREPLACES = 2300 + RCN

*****Factor Adjustments*****
DC LOCAL COST MULTIPLIER 15 (Face Brick) = 1.02 x RCN
GRADE 40 (Good Quality) = 1.313 x RCN

*****Effective Age Adjustments*****
BATH STYLE 2 (Semi-Modern) = .95 * Age
OVERALL CONDITION 3 (Average) = .77 * Age
EXTERIOR CONDITION 4 (Good) = .73 * Age
EFF AGE GRADE 40 (Good Quality) = .95 * Age
INTERIOR CONDITION 4 (Good) = .73 * Age
KITCHEN STYLE 2 (Semi-Modern) = .9 * Age
REMODEL YEAR = .75 * Age

Actual Year Built: 1937
Effective Age = 65 * .2499697344375
Effective Age: 16
Percent Good = 90
RCNLD: 224610

**70-Year Depreciation Table, Real Property Assessment Division
Base Year January 1, 2003 "6"**

<i>Age of Building</i>	<i>Percent of Depreciation</i>	<i>Percent Good</i>	<i>Effective Year Built</i>
0	0	100	2003
1	2	98	2002
2	3	97	2001
3	3	97	2000
4	4	96	1999
5	4	96	1998
6	5	95	1997
7	5	95	1996
8	6	94	1995
9	6	94	1994
10	6	94	1993
11	7	93	1992
12	7	93	1991
13	7	93	1990
14	8	92	1989
15	8	92	1988
16	8	92	1987
17	9	91	1986
18	9	91	1985
19	9	91	1984
20	9	91	1983
21	10	90	1982
22	10	90	1981
23	10	90	1980
24	10	90	1979
25	11	89	1978
26	11	89	1977
27	11	89	1976
28	11	89	1975
29	12	88	1974
30	12	88	1973
31	12	88	1972
32	12	88	1971
33	13	87	1970

<i>Age of Building</i>	<i>Percent of Depreciation</i>	<i>Percent Good</i>	<i>Effective Year Built</i>
34	13	87	1969
35	13	87	1968
36	13	87	1967
37	14	86	1966
38	14	86	1965
39	14	86	1964
40	14	86	1963
41	14	86	1962
42	15	85	1961
43	15	85	1960
44	15	85	1959
45	15	85	1958
46	15	85	1957
47	16	84	1956
48	16	84	1955
49	16	84	1954
50	16	84	1953
51	16	84	1952
52	17	83	1951
53	17	83	1950
54	17	83	1949
55	17	83	1948
56	18	82	1947
57	18	82	1946
58	18	82	1945
59	18	82	1944
60	18	82	1943
61	19	81	1942
62	19	81	1941
63	19	81	1940
64	19	81	1939
65	19	81	1938
70	20	80	1932

2004 CAMA Residential Construction Valuation Guideline -- RPAD

CONSTRUCTION DETAIL

No. Description Value

Style (Descriptive)

1	1 Story
2	1.5 Story Unfin
3	1.5 Story Fin
4	2 Story
5	2.5 Story Unfin
6	2.5 Story Fin
7	3 Story
8	3.5 Story Unfin
9	3.5 Story Fin
10	4 Story
11	4.5 Story Unfin
12	4.5 Story Fin
13	Bi-Level
14	Split Level
94	Outbuildgs
99	Vac ant

Foundation (Descriptive)

0	No Data
4	Pier
5	Wood
6	Concrete

View (Descriptive)

0	Typical
1	Poor
2	Fair
3	Average
4	Good
5	Very Good
6	Excellent

Building Type (Selects Base Rate)

0	Default	
1	Single	\$126.79
2	Multi	\$ 68.09
6	Row End	\$112.79
7	Row Inside	\$112.79
8	Semi-Detached	\$112.79
12	Condo	
13	Vacant Land	
14	Condo Garage	
15	Co-op	

Roof (Add to Base Rate)

0	Typical	
1	Comp Shingle	
2	Built Up	
3	Shingle	\$0.68
4	Shake	\$0.79
5	Metal-Pre	\$0.50
6	Metal Sms	\$0.50
7	Metal-Cpr	\$0.50
8	Composition Roll	\$-0.43
9	Concrete Tile	\$1.88
10	Clay Tile	\$2.93
11	Slate	\$2.86
12	Concrete	\$1.88
15	Wood- FS	\$0.68

Exterior Finish (Add to Base Rate)

0	Default
1	Plywood
2	Hardboard Lap
3	Metal Siding
4	Vinyl Siding
5	Stucco
6	Wood Siding
7	Shingle
8	SPlaster

9	Rustic Log	
10	Brick Veneer	\$3.95
11	Stone Veneer	\$9.38
12	Concrete Block	
13	Stucco Block	
14	Common Brick	\$3.95
15	Face Brick	\$3.95
16	Adobe	
17	Stone	\$9.38
18	Concrete	\$3.95
19	Aluminum	
20	Brick/Stone	\$6.67
21	Brick/Stucco	\$1.98
22	Brick/Siding	\$1.98
23	Stone/Stucco	\$4.69
24	Stone/Siding	\$4.69

Heat Type (Add to Base Rate)

0	No Data	
1	Forced Air	
2	Air-Oil	\$ 0.55
3	Wall Furnace	\$-1.27
4	Electric Rad	\$-0.29
5	Elec Base Brd	\$-0.20
6	Water Base Brd	\$ 1.42
7	Warm Cool	
8	Ht Pump	
9	Evp Cool	

AC Type (Add to Base Rate)

0	Default	
N	No	
Y	Yes	\$1.80

Floor Covering (Add to Base Rate)

0	Default	\$2.50
1	Resilient	\$2.63
2	Carpet	\$2.17
3	Wood Floor	\$6.06
4	Ceramic Tile	\$8.53
5	Terrazzo	\$8.30
6	Hardwood	\$7.17
7	Parquet	\$8.15
8	Vinyl Comp	\$1.64
9	Vinyl Sheet	\$2.86
10	Lt Concrete	\$0.75
11	Hardwood/Carp	\$4.67

Plumbing Fixture Allowance based on Grade

Grade	No. of Fixtures
10	Fair Quality 3
15	Fair Quality 3
20	Fair Quality 4
25	Fair Quality 4
30	Average Quality 6
35	Average Quality 6
40	Average Quality 9
45	Average Quality 9
50	Good Quality 12
55	Good Quality 12
60	Good Quality 15
65	Good Quality 15
70	Very Good Quality 16
75	Very Good Quality 16
80	Very Good Quality 19
85	Very Good Quality 19
90	Excellent Quality 23
95	Excellent Quality 23
A0	Excellent Quality 28
A5	Excellent Quality 28
B0	Superior Quality 23
B5	Superior Quality 32
C0	Superior Quality 35

Fixtures in excess of the above quantities are **Flat Rate Add** at \$2,500 each.

Miscellaneous (Flat Rate Add)

Fireplace	\$ 4,000
Kitchen	\$ 4,590

Grade (Multiplies Base, Add & Flat)

0	Default	
10	Fair Quality	-40%
15	Fair Quality	-40%
20	Fair Quality	-15%
25	Fair Quality	--
30	Average Quality	--
35	Average Quality	10%
40	Average Quality	10%
45	Average Quality	10%
50	Good Quality	15%
55	Good Quality	25%
60	Good Quality	30%
65	Good Quality	40%
70	Very Good Quality	45%
75	Very Good Quality	50%
80	Very Good Quality	60%
85	Very Good Quality	70%
90	Excellent Quality	80%
95	Excellent Quality	100%
A0	Excellent Quality	105%
A5	Excellent Quality	110%
B0	Superior Quality	115%
B5	Superior Quality	120%
C0	Superior Quality	125%

DEPRECIATION DETAIL

No. Description Value

Grade (Adjust EYB)

0	Default	
10	Fair Quality	20%
15	Fair Quality	15%
20	Fair Quality	10%
25	Fair Quality	05%
30	Average Quality	--
35	Average Quality	--
40	Average Quality	-05%
45	Average Quality	-05%
50	Good Quality	-10%
55	Good Quality	-10%
60	Good Quality	-15%
65	Good Quality	-15%
70	Very Good Quality	-25%
75	Very Good Quality	-25%
80	Very Good Quality	-35%
85	Very Good Quality	-35%
90	Excellent Quality	-45%
95	Excellent Quality	-45%
A0	Excellent Quality	-50%
A5	Excellent Quality	-50%
B0	Superior Quality	-50%
B5	Superior Quality	-50%
C0	Superior Quality	-50%

Interior Condition (Adjust EYB)

0	Typical	
1	Poor	+26%
2	Fair	+22%
3	Average	
4	Good	-09%
5	Very Good	-21%
6	Excellent	-21%

2004 CAMA Residential Construction Valuation Guideline -- RPAD

Exterior Condition (Adjust EYB)

0	Default	
1	Poor	+26%
2	Fair	+22%
3	Average	
4	Good	-09%
5	Very Good	-21%
6	Excellent	-21%

Overall Condition (Adjust EYB)

0	Default	
1	Poor	+26%
2	Fair	+22%
3	Average	
4	Good	-09%
5	Very Good	-21%
6	Excellent	-21%

Bath Style (Adjust EYB)

0	Default	
1	No Remodeling	
2	Semi-Modern	- 05%
3	Modern	- 10%

Kitchen Style (Adjust EYB)

0	Default	
1	No Remodeling	
2	Semi-Modern	- 10%
3	Modern	- 20%
4	Luxury	- 40%

Year Remodeled (Adjust EYB)

1999-2003	-25%
1997-1998	-20%
1992-1996	-15%
1987-1991	-08%
1982-1986	-05%

Building RCN = [(Base Rate + ã ABRV_n) * Effective Area * Size Adjustment + ã AFRV_n] * (MV₀ * MV₂ * ... * MV_N)

Where:

RCN = Replacement Cost New
 Base Rate = \$ rate based on use and style
 ABRV = Additive Base Rate Variables
 Effective Area = Adjusted SF area of improvement
 Size Adjustment = Adjustment factor for deviation from base size
 AFRV = Additive Flat Rate Variables
 MV = Multiplicative Variables

70 Year Economic Life Depreciation Table			
Base Year 2003			
Age of Bldg	% of Deprec.	% Good	Effective Yr. Built
0	0	100	2003
1	2	98	2002
2	3	97	2001
3	3	97	2000
4	4	96	1999
5	4	96	1998
6	5	95	1997
7	5	95	1996
8	6	94	1995
9	6	94	1994
10	6	94	1993
11	7	93	1992
12	7	93	1991
13	7	93	1990
14	8	92	1989
15	8	92	1988
16	8	92	1987
17	9	91	1986
18	9	91	1985
19	9	91	1984
20	9	91	1983
21	10	90	1982
22	10	90	1981
23	10	90	1980
24	10	90	1979
25	11	89	1978
26	11	89	1977
27	11	89	1976
28	11	89	1975
29	12	88	1974
30	12	88	1973
31	12	88	1972
32	12	88	1971
33	13	87	1970
34	13	87	1969
35	13	87	1968
36	13	87	1967
37	14	86	1966
38	14	86	1965
39	14	86	1964
40	14	86	1963
41	14	86	1962
42	15	85	1961
43	15	85	1960
44	15	85	1959
45	15	85	1958

46	15	85	1957
47	16	84	1956
48	16	84	1955
49	16	84	1954
50	16	84	1953
51	16	84	1952
52	17	83	1951
53	17	83	1950
54	17	83	1949
55	17	83	1948
56	18	82	1947
57	18	82	1946
58	18	82	1945
59	18	82	1944
60	18	82	1943
61	19	81	1942
62	19	81	1941
63	19	81	1940
64	19	81	1939
65	19	81	1938
70	20	80	1932

Vision Commercial CAMA Valuation Process

The market-derived cost approach to the valuation of real estate follows the generic formula of **Market Value = ((RCN LD) + land value)**, where **RCN** is Replacement Cost New of the improvements and **LD** means Less Depreciation. When properly developed and calibrated, this approach is a reliable indicator of market value especially suited to mass-appraisal CAMA systems.

The following exercise will attempt to illustrate how the Vision[®] CAMA system utilized by the District of Columbia, calculates values using the above model. The first portion will illustrate the development of the Replacement Cost New of a small commercial building, and the last portion will show the steps involved in determining the amount of depreciation that has accrued to the building. Land valuation is not discussed in this exercise.

Replacement Cost New

The Vision[®] CAMA system arrives at a RCN value for commercial properties based on a market-calibrated hybrid cost model. The hybrid nature of the model simply means that the model employs both additive and multiplicative variables in its design and specification. The nature of the model will become clearer as we proceed through this exercise. Please also be aware that a model is dynamic in both its specifications and calibration. The specifications, those cost elements that comprise the model, may change from time to time based upon research and market conditions. As you may discover, the dollar rates, or calibrations, contained here most likely are different from the current model in use. The model used in this exercise is as follows:

$$\begin{aligned} \text{Building RCN} = & [\text{Section}_1 (\text{Base Rate} * \text{Effective Area} * \text{Size Adjustment}) * \\ & (\text{MV}_1 * \text{MV}_2 * \dots * \text{MV}_N)] + \\ & [\text{Section}_n (\text{Base Rate} * \text{Effective Area} * \text{Size Adjustment}) * \\ & (\text{MV}_1 * \text{MV}_2 * \dots * \text{MV}_N)] + \\ & [\sum \text{Special Building Features}] \end{aligned}$$

Where:

RCN = Replacement Cost New

Base Rate = \$ rate based on occupancy (use) code and construction class

Section_n = Each separate building or section of building

Effective Area = Adjusted SF area of improvement

Size Adjustment = Adjustment factor for deviation from base size

MV = Multiplicative Variables

Several items will be helpful while examining the features of the cost model and they are collected as Appendix “A” of this document. You will need to refer to them often during this exercise. They include the following:

- Sample building's Property Record Card (PRC)
- Cost.dat printout of the sample building
- Depreciation Schedule
- 2004 CAMA Construction Valuation Guideline – Commercial

The commercial building designed for this exercise is typical of a small commercial property in the District. It consists of a one-story full service restaurant and an adjoining two-story building. The two-story section consists of a package goods store and a small apartment on the second floor. The building is of good quality and is constructed of brick veneer over concrete block. For this exercise, the building has been logically sectioned into two sections. Section 1 covers the restaurant and Section 2 covers the package goods/apartment portion.

Below shows the Construction Detail in the CAMA record of the building. The first illustration depicts Section 1 – the restaurant and the second represents Section 2 – the package goods store and apartment.

Construction Detail - Commercial

Value Source: **C** Living Area/GFA: **5,400** Regression: **0**
 Primary Occ: **045** Effective Area: **8,460** Income: **0**
 Structure Class: **C** Percent Good: **79** RCNLD: **524,690**

Model: **94 Commercial** Section #:
 Bldg Stories:

Section Detail

Occupancy: Store-Restaurant Group: RS1
 Stories: # Units: Base Rate: 73.90
 Structure Class: Brick/Concr Adj Base Rate: 73.03
 Exterior Finish: Brick Veneer Effective Area: 3,600
 Grade: Good RCN: 343,337

Section Area Summary				
	Code	Description	Gross	GFA
	▶ BAS	Main Building Ar	1800	1800
	BM5	Basement, Full F	1800	0

Illustration 1

Construction Detail - Commercial

Value Source: **C** Living Area/GFA: **5,400** Regression: **0**
 Primary Occ: **045** Effective Area: **8,460** Income: **0**
 Structure Class: **C** Percent Good: **79** RCNLD: **524,690**

Model: **94 Commercial** Section #:
 Bldg Stories:

Section Detail

Occupancy: Commer-Retail-Misc Group: RT1
 Stories: # Units: Base Rate: 51.15
 Structure Class: Brick/Concr Adj Base Rate: 50.55
 Exterior Finish: Brick Veneer Effective Area: 4,860
 Grade: Good RCN: 320,829

Section Area Summary				
	Code	Description	Gross	GFA
	▶ BAS	Main Building Ar	1800	1800
	BM4	Basement Semi-	1800	0
	FUS	Upper Story, Fini	1800	1800

Illustration 2

Illustration 3 shows the CAMA sketch of the sample building we will be using throughout this exercise.

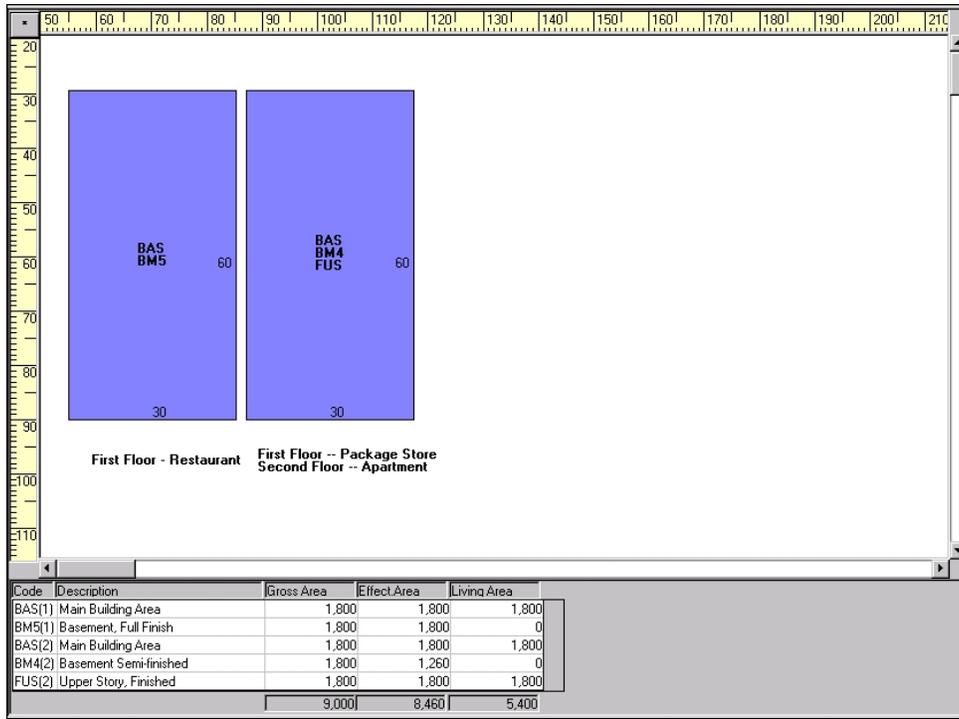


Illustration 3

The bottom of the sketch screen in CAMA provides the information about the sizes of the different areas that comprise the two sections of the building. Each section is denoted as (1) or (2) under the Code column.

Code	Description	Gross Area	Effect Area	Living Area
BAS(1)	Main Building Area	1,800	1,800	1,800
BM5(1)	Basement, Full Finish	1,800	1,800	0
BAS(2)	Main Building Area	1,800	1,800	1,800
BM4(2)	Basement Semi-finished	1,800	1,260	0
FUS(2)	Upper Story, Finished	1,800	1,800	1,800
		9,000	8,460	5,400

Illustration 4

1. First, let's illustrate the calculation of the Effective Area of our sample building's first section, the restaurant.

$$\begin{aligned}
 \text{Building RCN} = & [\text{Section}_1 (\text{Base Rate} * \text{Effective Area} * \text{Size Adjustment}) * \\
 & (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)] + \\
 & [\text{Section}_n (\text{Base Rate} * \text{Effective Area} * \text{Size Adjustment}) * \\
 & (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)] + \\
 & [\Sigma \text{Special Building Features}]
 \end{aligned}$$

Code	Description	Gross Area	Effect.Area	Living Area
BAS(1)	Main Building Area	1,800	1,800	1,800
BM5(1)	Basement, Full Finish	1,800	1,800	0
BAS(2)	Main Building Area	1,800	1,800	1,800
BM4(2)	Basement Semi-finished	1,800	1,260	0
FUS(2)	Upper Story, Finished	1,800	1,800	1,800
		9,000	8,460	5,400

Illustration 5

The Effective Area is comprised of the totals of the Bas(1) Main Building Area @ 1,800 SF and the BM5(1) Basement, Full Finish @ 1,800 SF for a total of 3,600 SF.

The second section's Effective Area is calculated in the same manner.

Code	Description	Gross Area	Effect.Area	Living Area
BAS(1)	Main Building Area	1,800	1,800	1,800
BM5(1)	Basement, Full Finish	1,800	1,800	0
BAS(2)	Main Building Area	1,800	1,800	1,800
BM4(2)	Basement Semi-finished	1,800	1,260	0
FUS(2)	Upper Story, Finished	1,800	1,800	1,800
		9,000	8,460	5,400

Illustration 6

BAS(2) Main Building Area, BM4 (2)Basement Semi-finished, and FUS (2) Upper Story, Finished total 4,860 SF. The adjustment to the semi-finished basement takes into account that this area is not as expensive as the finished main building area. For example, if the base rate for the finished main building area is \$100/SF, the rate for the semi-finished basement area may only be \$70/SF. The RCN value of the basement would be calculated as follows:

$$\text{RCN of Basement} = \$126,000 \text{ or } (1800 \text{ SF} * \$70)$$

Another way to state the same situation is to adjust the size of the basement to 70% of its measured size and then multiply the resulting *or effective* size by the base rate of \$100/SF:

$$\text{RCN of Basement} = \$126,000 \text{ or } [(1800 * .70) * \$100]$$

Both methods arrive at the same value for the basement. The first method is more intuitive and easier to explain to taxpayers as it adjusts for the differences in costs for the various areas. The second method again provides the same results, but is much easier to model and calculate within a CAMA system, thus the effective area calculations shown here represent the methodology employed in the Vision[®] CAMA system.

The Gross Area shown in Illustration 2 is the total unadjusted size of all the areas that are a part of the building. The Living Area is more properly called "Gross Floor Area" and is the unadjusted size of the actual finished floor area above grade in the building.

With the inclusion of the Effective Area calculation, our cost model now looks like this:

$$\begin{aligned} \text{Building RCN} = & [\text{Section}_1 (\text{Base Rate} * 3600 * \text{Size Adjustment}) * \\ & \text{Effective Area} \\ & (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)] + \\ & [\text{Section}_n (\text{Base Rate} * 4860 * \text{Size Adjustment}) * \\ & \text{Effective Area} \\ & (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)] + \\ & [\sum \text{Special Building Features}] \end{aligned}$$

2. Next, let's look at the selection of the Base Rate for the sample building. There will be two rates because there are two different sections. Each section's RCN will be independently calculated.

$$\begin{aligned} \text{Building RCN} = & [\text{Section}_1 (\text{Base Rate} * \text{Effective Area} * \text{Size Adjustment}) * \\ & (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)] + \\ & [\text{Section}_n (\text{Base Rate} * \text{Effective Area} * \text{Size Adjustment}) * \\ & (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)] + \\ & [\sum \text{Special Building Features}] \end{aligned}$$

The Base Rate is the dollar rate per square foot used in the valuation model that is derived from tables within the CAMA system. It is selected based on the building's Building Occupancy (Use) Code and Construction Class. Our sample's first section is a "45-Store-Restaurant" constructed as a Class "C", concrete block/brick building. Based on this information, the Base Rate of \$ 73.90 is automatically selected.

The second section, "49-Commercial Retail-Misc.", also constructed as a Class "C", concrete block/brick building, has a Base Rate of \$51.15.

With the inclusion of the selected Base Rates, our model now looks like this:

$$\begin{aligned} \text{Building RCN} = & [\text{Section}_1 (\$73.90 * 3600 * \text{Size Adjustment}) * \\ & \text{Base Rate Effective Area} \\ & (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)] + \\ & [\text{Section}_n (\$51.15 * 4860 * \text{Size Adjustment}) * \\ & \text{Base Rate Effective Area} \\ & (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)] + \\ & [\sum \text{Special Building Features}] \end{aligned}$$

3. Next, let us turn our attention to a modification to the Base Rate - the Size Adjustment.

$$\text{Building RCN} = [\text{Section}_1 (\text{Base Rate} * \text{Effective Area} * \text{Size Adjustment}) * (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)] + [\text{Section}_n (\text{Base Rate} * \text{Effective Area} * \text{Size Adjustment}) * (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)] + [\Sigma \text{Special Building Features}]$$

The Size Adjustment modifies the Base Rate to account for the size difference between the “standard size” for the “typical” building of a particular occupancy type and the actual size of the sample building. The comparison is based on the building’s “gross floor area.” The “standard” size of 5,000 square feet for the “typical” restaurant is used as the basis for establishing the initial Base Rates used in Section 1 of this appraisal. The “standard” size of 4,000 square feet for the “typical” retail-misc. is used as the basis for establishing the initial Base Rates used in Section 2.

The adjustment in the Base Rate allows the proper square foot rate to be applied to a building based on its size. It is reasonable to expect that as a building becomes larger than typical, the rate per square foot would decrease and conversely, if the building were smaller than typical, the rate would be higher. The Size Adjustment variable is the component in the model that adjusts for this situation. Our sample building’s size, the “gross floor area,” is the total area of both sections, 5,400 square feet. Our building is only slightly larger than the standard size of 5,000 square feet. The Size Adjustment is 0.98825. Now our Adjusted Base Rate is calculated to be \$73.03(73.90 * 0.98825) for Section 1 and \$ 50.55 (51.15 * 0.98825) for Section 2 of our example.

Because the adjustment is less than 1.00, it would be proper to conclude that our sample building is larger than the typical building of its type in the District of Columbia. Our sample building was compared to the larger of the two “standard” sizes, 5,000 square feet. Had the sample building been smaller than 5,000 square feet, the Size Adjustment would have been greater than 1.00. The use of size adjustments eliminates the need for the traditional cost tables based on size.

The cost model continues to grow, and now looks like this:

$$\text{Building RCN} = [\text{Section}_1 (\text{\$73.90} * \text{3600} * \text{0.98825}) * (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)] + [\text{Section}_n (\text{\$51.15} * \text{4860} * \text{0.98825}) * (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)] + [\Sigma \text{Special Building Features}]$$

- The next portion of the cost model used to calculate the RCN are the multiplicative variables (MV).

$\text{Building RCN} = [\text{Section}_1 (\text{Base Rate} * \text{Effective Area} * \text{Size Adjustment}) * (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)] +$ $[\text{Section}_n (\text{Base Rate} * \text{Effective Area} * \text{Size Adjustment}) * (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)] +$ $[\Sigma \text{Special Building Features}]$

This portion of the formula can have the largest influence on the cost model. Each multiplicative variable modifies *all* of the cost data that has preceded it. These variables modify the Base Rate and Size Adjustment. This is where such important characteristics as the building grade, local cost multipliers, Neighborhood and Sub Neighborhood factors have their impact.

The sample building is graded “Good Quality - 4”, and consequently has a 1.12 multiplicative variable. This one variable, grade, is going to increase the RCN value of the sample building by 12%. It can not be stated often enough that grading, along with proper effective area, are extremely significant in terms of accurate appraisals. Another MV, “DC Local Multiplier C” modifies costs to account for the small additional costs incurred in construction of “C” class buildings in the DC area. The other multiplicative variable, “COMM NBHD 9”, is the local neighborhood multiplier established for the particular neighborhood where the sample building is located. This variable is going to increase the RCN value of the sample building by 10%. The “COMM NBHD” adjustment reflects the market-derived fact that location is a very significant factor in the value of real estate. Two otherwise identical buildings can have a substantial difference in value based on their locations.

These three variables are summarized in the Cost.dat file as follows:

```

*****Factor Adjustments*****
      GRADE 40 (Good) = 1.12 x RCN
      DC LOCAL MULTIPLIER C = 1.06 x RCN
      COMM NBHD 9 = 1.1 x RCN

```

Each MV is multiplied together to determine the combined, or overall, MV. The sample building’s MV is 1.30592 (1.12 * 1.06 * 1.1).

- Except for the Special Building Features, our RCN model is complete and contains the specific data for the sample building used in this demonstration. The RCN cost model for the sample building is as follow:

$$\begin{aligned}
 \text{Building RCN} = & [\text{Section}_1 (\text{\$73.90} * \text{3600} * \text{0.98825}) * \\
 & \text{Base Rate Effective Area Size Adjustment} \\
 & (\text{1.30592})] + \\
 & \text{Multiplicative Variables} \\
 & [\text{Section}_n (\text{\$51.15} * \text{4860} * \text{0.98825}) * \\
 & \text{Base Rate Effective Area Size Adjustment} \\
 & (\text{1.30592})] + \\
 & \text{Multiplicative Variables} \\
 & [\Sigma \text{Special Building Features}]
 \end{aligned}$$

The RCN for Section 1, the restaurant is \$ 343,337 (\$73.90 * 3600 * 0.98825 * 1.30592). The package goods store's RCN is \$320,829 (\$51.15 * 4860 * 0.9885 * 1.30592).

The Cost.dat file shows a summary of the same information as follows:

Section #1

Base Rate: 73.9
 Size Adjustment: .98825
 Effective Area: 3600
 Adjusted Base Rate = (73.9 + 0) * .98825
 Adjusted Base Rate: 73.03
 RCN = ((73.03 * 3600) + 0) * 1.30592
 RCN: 343337

Section #2

Base Rate: 51.15
 Size Adjustment: .98825
 Effective Area: 4860
 Adjusted Base Rate = (51.15 + 0) * .98825
 Adjusted Base Rate: 50.55
 RCN = ((50.55 * 4860) + 0) * 1.30592
 RCN: 320829

So far, the RCN of the building is \$ 664,166 (343,337+320,829). We still have Special Features to add to complete the cost model.

6. The Special Features component is the last portion of the cost model. This is the place where such things as sprinklers and HVAC systems are accounted for and valued in the building.

$$\begin{aligned}
 \text{Building RCN} = & [\text{Section}_1 (\text{Base Rate} * \text{Effective Area} * \text{Size Adjustment}) * \\
 & (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)] + \\
 & [\text{Section}_n (\text{Base Rate} * \text{Effective Area} * \text{Size Adjustment}) * \\
 & (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)] + \\
 & [\Sigma \text{Special Building Features}]
 \end{aligned}$$

Take a look at illustration 7. Here we see that both sections are sprinklered, heated and cooled with a complete HVAC system. Both of these Special Building features are calculated based on the size, in square feet, of the area affected. Their value is determined by the size, dollar rate and quality grade for

each feature. Finally, the Special Building Features are depreciated at the same rate as the main buildings.

Special Building Features

Value Source: C Living Area/GFA: **5,400** Regression: 0
 Primary Occ: **045** Effective Area: **8,460** Income: 0
 Structure Class: C Percent Good: **79** RCNLD: **524,690**

S#	Code	Sub	Description		UOM	Units	Unit Price	Grade	RCN	RCNLD
1	HVAC	617	(HVAC) Heating	Cmplt HVAC	SF	1800	5.4	4	12150	9600
1	SPRK	683	Sprinklers	Wet	SF	1800	2.5	4	5625	4440
2	HVAC	617	(HVAC) Heating	Cmplt HVAC	SF	3600	5.4	4	24300	19200
2	SPRK	683	Sprinklers	Wet	SF	1800	2.5	4	5625	4440

Add

Illustration 7

Illustration 8 shows the data-entry screen, as it would look if we were to add an elevator to the building.

Special Building Features

Value Source: C Living Area/GFA: **5,400** Regression: 0
 Primary Occ: **045** Effective Area: **8,460** Income: 0
 Structure Class: C Percent Good: **79** RCNLD: **524,690**

S#	Code	Sub	Description		UOM	Units	Unit Price	Grade	RCN	RCNLD
1	HVAC	617	(HVAC) Heating	Cmplt HVAC	SF	1800	5.4	4	12150	9600
1	SPRK	683	Sprinklers	Wet	SF	1800	2.5	4	5625	4440
2	HVAC	617	(HVAC) Heating	Cmplt HVAC	SF	3600	5.4	4	24300	19200
2	SPRK	683	Sprinklers	Wet	SF	1800	2.5	4	5625	4440

Add New Item

Add Extra Feature

Section #:

Code: Description:

Subtype: Description:

Unit Price: UOM:

Units: Grade: Measure 1+2:

Comment:

OK Cancel

Illustration 8

Note that this extra feature's UOM (unit of measurement) is by count and not SF. For each count, the unit price is \$35,250. Be sure that the UOM is proper for the individual special feature included in the building.

The total RCN of the Special Feature in this sample is \$ 47,700 (Σ Special Building Features =12,500 + 5,625 +24,300 + 5,625).

We now know the total replacement cost new (RCN) of our sample building, including Special Features, is \$ 711,866 (\$664,166 + \$47,700).

\$711,866 Building RCN	=	[Section₁ (\$73.90	*	3600	*	0.98825) *		
					Base Rate		Effective Area		Size Adjustment			
		(1.30592)						
					Multiplicative Variables							
		[Section_n (\$51.15	*	4860	*	0.98825) *		
					Base Rate		Effective Area		Size Adjustment			
(1.30592)								
			Multiplicative Variables									
			[\$47,700]									
			[\$ΣSpecial Building Features]									

If the sample building were brand new, we'd be finished, but it was actually built in 1953.

Therefore, we need to address accrued depreciation . . .

Depreciation

Depreciation is defined as a loss in the upper limits of value from all sources. Typically, three types of depreciation can affect real estate - physical deterioration, functional obsolescence and economic obsolescence. This next portion of the demonstration will illustrate how Vision[®] calculates the amount of depreciation accrued to our sample building.

Several terms come into use when discussing depreciation in CAMA. They are defined as follows:

- Actual Age: The mathematical difference between the Base Year and the actual year the improvement was built to completion.
- Actual Year Built (AYB): The earliest time the main portion of the building was built. It is not affected by subsequent construction.
- Base Year: The year, usually the current year, that the depreciation table is calibrated, such that the age of a building built during the base year would be 0 years old.
- Depreciation Table: A market-driven table that lists the amount of depreciation corresponding to an Effective Year Built and the Base Year predicated upon a specific economic life.
- Economic Life: The useful life span for a structure based on its occupancy (use) code and its construction class.
- Effective Age: The mathematical difference, in years, between the Base Year and the Effective Year Built.
- Effective Year Built (EYB): The calculated or apparent year, that an improvement was built that is most often more recent than AYB. The EYB is determined by the condition and quality of the improvement. Subsequent renovation, additions, upgrades and the like, extend an improvements remaining economic life and therefore cause the EYB to be closer to the Base Year than the AYB.
- Percent Good: The mathematical difference between 100 percent and the percent of depreciation. $(100\% - \text{depreciation } \%) = \text{percent good}$

The RCN model used above indicated that our sample building has an RNC of \$711,866. As stated earlier, the building was built in 1953, so there should be some depreciation to deduct from the RCN. We'll use a seven-step process to depreciate the improvements:

1. Calculate the Actual Age of the improvement.
2. Determine the Effective Age of the improvement.
3. Determine the improvement's Effective Year Built.
4. Look-up Depreciation corresponding to EYB on depreciation table.
5. If required, multiply the depreciation by the variable generated by the CDU factor.
6. If required, modify the depreciation by the amount given for obsolescence.
7. Apply final depreciation to RCN to determine RCNLD.

1. Our first step is to calculate the Actual Age of our sample building. As you are aware, a valuation is always qualified as of a specific date. For ad valorem purposes in the District of Columbia, the valuation date is January 1 immediately preceding the tax year. In our example, the tax year is 2004, therefore the valuation date is January 1, 2003. This date is also significant in terms of the depreciation accrued to improvements. In the past, the nature of triennial assessments required that base years within a Tri-Group remain unchanged for a period of three years. Now, however, with the return to annual assessments, the base year coincides with the valuation date. The base year is used to determine the Actual Age of the sample building. In this case, the sample building's Actual Age is 50 years (2003-1953).

2. The next step is to determine the sample building's Effective Age. Effective Age may or may not represent actual or chronological age. The premise is simple but the application can be confusing. If a building is built and never maintained (painting, re-roof, etc.) or remodeled, the building would quickly depreciate from physical deterioration. The CAMA system would depreciate the building at the fastest rate possible based on the selected Depreciation Table. For example, our building has an economic life of sixty years. If the building were left to rot, the Effective Age would most likely be the same as the Actual Age.

Let's say the owners of our sample building have completely neglected their property from the time it was built in 1950 to the present. Their building would have an effective age of 50 years as indicated on the Depreciation Table below:

Economic Life Depreciation Tables					
Base Year 2003		60 Year Economic Life		50 Year Economic Life	
Age of Building	Effective Year Built	Percent of Depreciation	Percent Good	Percent of Depreciation	Percent Good
0	2003	0	100	0	100
1	2002	0	100	0	100
2	2001	1	99	2	98
3	2000	1	99	2	98
47	1956	56	44	75	25
48	1955	58	43	77	23
49	1954	59	41	78	22
50	1953	61	39	82	18
51	1952	64	36		
52	1951	65	35		
53	1950	68	33		
54	1949	69	31		

Illustration 9

The Actual Year Built (1953) and the Effective Year Built (1953) would be the same and consequently the Effective Age would be 50 years. Moving across the table, we see that a building with an EYB of 1953 has 61 percent depreciation and, therefore, is 39 Percent Good (100%-61%). If the RCN of our sample building is \$ 711,866, the depreciated value, RCNLD, is only \$ 277,628 (711,866 * 0.39).

The situation described above rarely, if ever, occurs in the market. People do maintain and renovate their buildings and in doing so, extend the building's useful or remaining economic life. As building owners repair roofs, paint siding, replace windows and furnaces, they *prolong* the life of the building and consequently *decrease* its Effective Age.

A recent building remodel, renovation or rehabilitation will go a long way to extend its useful life. As the useful life is extended, the Effective Age is reduced and therefore the Effective Year Built is more recent than the building's Actual Year Built.

Our sample building had a major renovation done in 1998. The portion of the CAMA record that captures this information is shown in Illustration 10 below.

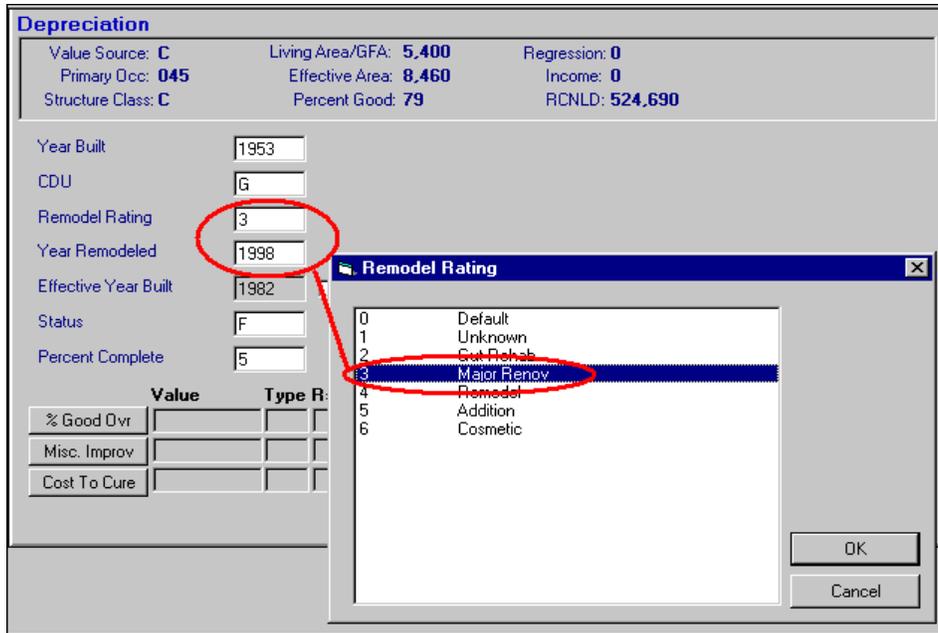


Illustration 10

Two factors come together to determine the impact a remodel has on the amount of depreciation calculated for the building – the Remodel Rating and the Year Remodeled. How extensive the remodel is and how recently it has occurred combines to determine its overall affect on its effective year built, and in turn, the building’s depreciation. A brand-new gut rehab would substantially decrease the effective age of a building much more so than an older remodel. Conversely, an older remodel may have little or no affect on the depreciation.

We’ll see the significance of that renovation in a moment, but first, back to our sample building’s Effective Age calculation.

The construction class of the building also affects the calculation of Effective Age. It is only natural that an “A” class structure would have a longer economic life than a “D” class building (recall the story of the three little pigs). The Structure Class Age Factor makes allowance for this situation by reducing the effective age of an “A” class building by more than, say, a “D” building. As an example, CAMA reduces the effective age by 20% for “A” buildings, 15% for “B” structures, 10% on “C” buildings, and no adjustment for the “D” class buildings.

The features or variables dealing with the effective age calculation are multiplicative variables. As such, they are multiplied one by the other and then the Actual Age is multiplied by the product of the MVs. Below is the portion of the Cost.dat file that summaries these MV for our sample building.

```

*****Effective Age Adjustments*****
REHAB FACTOR 3 = .45 * Age
STRUCTURE CLASS AGE FACTOR C = .9 * Age
REHAB YEAR = 1.05 * Age

```

The product of each of these MV adjustments is calculated to be 0.42525 ($0.45 * 0.90 * 1.05$). This product is then multiplied by the Actual Age to calculate the Effective Age. Recall our sample building's Actual Age is 50 years. The Effective Age is calculated to be 21 years ($50 * 0.42525$). Instead of CAMA using 50 chronological years to calculate depreciation, it will use 21 years, based on the building's quality and renovation. The portion of the Cost.dat file that illustrates this information is below:

```
*****  
Actual Year Built: 1953  
Effective Age = 50 * .42525  
Effective Age: 21  
Percent Good = 79  
RCNLD: 524690
```

Back to our renovation, the 1998 gut rehab done to the building reduced the Effective Age to 47.25% (Rehab Factor 3 = $0.45 * 1.05$) of the 50 years of Actual Age, resulting in an Effective Age of 24 years old. What impact on the Effective Age would there be if just a small remodel occurred in 1990? We would expect the Effective Age not to shorten, or decrease, as much as a result. Let's see what happens.

As you know, CAMA has many calibrated variables associated with all of the calculations it makes to determine the RCN and calculate depreciation. Again, the two variables that come into play here are the Rehab Factor and the Rehab Year. We've just seen what the values of those variables were with regard to the recent gut rehab example. For the 1990 remodel, the values are: Rehab Factor 4 = 0.55 and Rehab Year = 1.25. This combination will reduce the Effective Age to 68.75% ($0.55 * 1.25$) of the 50 years of actual age, as a result, making the Effective Age now 34 years old.

The difference between the two scenarios is ten years. Without doing all math, the difference in the appraised value as a result of an Effective Age of 34 years versus 24 years is \$99,611 on a building with a RCN of \$771,866. The proper documentation of remodel activity is significant when arriving at proper appraised values.

3. We're almost finished. Knowing the Effective Age makes the calculation of the Effective Year Built for our sample building very simple. The Effective Year Built is 1982 ($2003 - 21$).

4. Having established the Effective Year Built, we look up 1982 on the *60 Year Economic Life Depreciation Table* and find that the Depreciation is 16% for that year. See Illustration 11.

Economic Life Depreciation Tables					
Base Year 2003		60 Year Economic Life		50 Year Economic Life	
Age of Building	Effective Year Built	Percent of Depreciation	Percent Good	Percent of Depreciation	Percent Good
0	2003	0	100	0	100
1	2002	0	100	0	100
2	2001	1	99	2	98
3	2000	1	99	2	98
20	1983	16	84	22	78
21	1982	16	84	22	78
22	1981	18	83	23	77
23	1980	19	81	25	75
24	1979	20	80	27	73

Illustration 11

You may notice that there is a conflict between the Cost.dat file and the depreciation table with regards to “Percent Good.” The Cost.dat file report that our building’s percent good is 79, whereas the depreciation table says it’s 84. The explanation is addressed in step 6, dealing with obsolescence and direct adjustments to depreciation, not effective year built calculations.

5. If an entry other than “AV-Average” was made to the CDU (condition, desirability, utility) factor, the current depreciation is multiplied by the CDU’s corresponding variable. In the case of our sample building, the CDU was Good. The factor is 0.97 per the Cost.dat file.

*****Depreciation Adjustments*****
 CDU DEPREC FACTOR G = .97 * Depreciation

This is actually a very insignificant adjustment to the calculated depreciation. The calculated depreciation from Step 4 was 16%. When multiplied by 0.97 the result is still 16% because of rounding ($16 * 0.97 = 15.52$, say 16).

6. If the assessor notes any obsolescence, this is where it is addressed. Recall from the outset that we defined depreciation as a loss in value resulting from physical deterioration, functional and/or economic obsolescence. The demonstration up to this point has dealt only with depreciation attributed to the physical deterioration of the sample building. This, by far, is the most common type of depreciation that exists in commercial property. However, occasions may require additional depreciation because of excessive physical deterioration, functional and/or economic obsolescence. One must use caution when invoking these types of depreciation. The market must support any decision regarding the extent of these adjustments.

Our sample building is suffering from a small amount of functional obsolescence. The assessor has noted that the interior design of the building contains many

support columns interrupting the efficient use of the floor space. As a result, the restaurant has a few less tables and the package goods store does not have a good aisle layout. Consequently, it is appropriate to allow for a small amount of functional obsolescence – five percent.

Illustration 12 shows the results of this additional allowance for functional obsolescence. Whereas the depreciation table in illustration 3 shows the percent good for 16 years at 84%, by subtracting the 5% attributed to functional obsolescence, we are left with 79% as the percent good for our building. This matches the figure shown in the Cost.dat file.

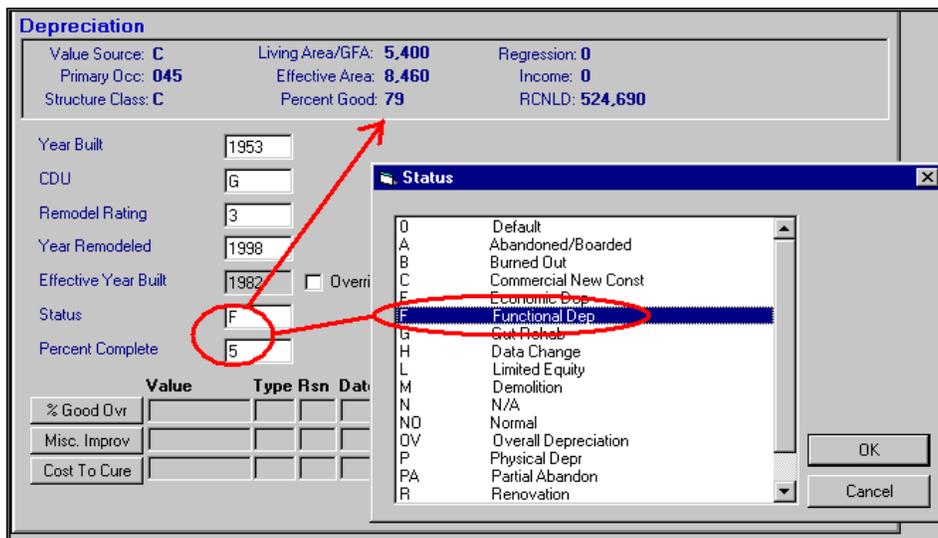


Illustration 12

The actual mechanics of adjusting depreciation for functional or economic obsolescence within CAMA are briefly discussed below. If the situation occurs, seek guidance from your supervisor and/or CAMA manager.

The “Status” field’s pick-list is expanded in Illustration 13 to show only those types of items that have a direct affect on depreciation and the nature of the affect. Notice that only a limited number of Status Codes are functional within CAMA and their affect on depreciation is either to **replace** the existing amount in the “% Good” field or **decrease** the “% Good.” The corresponding numeric amount that will affect the “% Good” is entered in the field called “Percent Complete.” Please note that the field name “Percent Complete” is somewhat erroneous because the word “Complete” has no meaning in this context. This is the field that you will enter the amount to either decrease the existing “% Good” or replace the existing “% Good,” based on the Status Code selected.

Status			
Status Codes			
Code	Description		Affect on % Good
0	Default		NONE
A	Abandoned/Boarded		NONE
B	Burned Out		NONE
C	Commercial New Const		REPLACE
E	Economic Dep		DECREASE
F	Functional Dep		DECREASE
G	Gut Rehab		NONE
H	Data Change		NONE
L	Limited Equity		NONE
M	Demolition		NONE
N	N/A		NONE
NO	Normal		NONE
OV	Overall Depreciation		REPLACE
P	Physical Depr		DECREASE
PA	Partial Abandon		NONE
R	Renovation		NONE
T	Order of Taking		NONE
V	Vacant		NONE

Illustration 13

7. The last step in the process is to simply multiple the RCN by 0.79 and we have RCN LD of the building. Knowing the total RCN of our sample building is \$711,866, the RCN LD is \$562,370 (711,866 * 0.79). Below is a portion of the Property Record Card that illustrates this information.

BUILDING COST SUMMARY						% GOOD OVERRIDE		COST VALUE SUMMARY	
Total GFA			5,400			% Good Override		Land Value	300,000
Effective Area			8,460			Type		Building Value	562,370
Building RCN			664,166			Reason		Detached Structures	0
Spec. Feature RCN			47,700			Comment		Misc. Improvements	0
Total RCN			711,866					Cost to Cure (-)	0
% Good			79					Final Cost Value	862,370
Building Cost			524,690					Type	
								Reason	
								Date	
								ID	
								Comment	
BUILDING SPECIAL FEATURES						Assessed Value		FINAL VALUE SECTION	
UOM	Units	Unit Price	Grade	RCN	Assessed Value				
C	SF	1,800	1800	5.40	4	12,150	9,600	Final Land Value	300,000
	SF	1,800	1800	2.50	4	5,625	4,440	Final Building Value	562,370
C	SF	3,600	3600	5.40	4	24,300	19,200	Final Total Value	862,370
	SF	1,800	1800	2.50	4	5,625	4,440		

Illustration 14

Conclusion

This exercise has been prepared to assist the commercial assessor understand some of the concepts, features and techniques employed by the Vision® CAMA system in arriving at a cost approach to valuation of commercial properties in the District of Columbia. It does not serve as an exhaustive training manual. Any specific questions regarding the features and operations of this CAMA should be directed to your supervisor or the CAMA manager.

Appendix “A”

- 1.** Vision[®] Property Record Card, SSL 9999 8888.
- 2.** “Cost.dat” printout of sample building.
- 3.** Economic Life Depreciation Tables, 2004.
- 4.** 2004 CAMA Commercial Construction Valuation Guideline.

CURRENT OWNER		ACCOUNT INFORMATION					CURRENT ASSESSMENT				Comm
		Land Type	State Class	Lot SF	Status	Description	Code	Appraised Value	Assessed Value	Washington DC OTR Assessment Div.	
		C	045	999,999	F	COMMERCL COM LAND	045 045	562,370 300,000	562,370 300,000		
VISIT/CHANGE HISTORY						Value Source: C Total: 862,370				862,370	
		Date	ID	Type	Inf. Source	Code	Description	WARD/TRIGROUP/SQUARE			
		Building Name:									
		CAD: 9			RAD: 9		CONDO: 9				
		WD:			TRIGROUP:			SQUARE:			

RECORD OF OWNERSHIP		BK-VOL/PAGE	SALE DATE	q/u	v/i	SALE PRICE	V.C.	PREVIOUS ASSESSMENTS (HISTORY)						
								Yr.	Use	Type	Val Source	Land Value	Building Value	Assessed Value
								2004	047	C	C	300,000	562,370	862,370

MIXED USE			ABATEMENTS/ATB				ASSOCIATED PARCELS					
Code	Description	%	Appno	Decision	Amount	Revised AV	Primary PID	PID	CLS	Lot Size	%	Total Value
	Res Land	%										
	Res Building	%										
	Cmrel Land	%										
	Cmrel Building	%										

EXEMPTIONS			FIRES			COMMENTS					
Year	Type/Description	Amount	Date	Description	Loss						
Total											

GIS SUMMARY				
GIS ID	CAD	Zoning	Tracing	ZVAR
	9		457	

LAND USE CHANGE / ADD AND DELETE PARCEL				
Primary OCC:	045	<input type="checkbox"/>	Add Parcel	
		<input type="checkbox"/>	Delete Parcel	
Signature	Date	<input type="checkbox"/>	Land Use Change	

LAND LINE VALUATION SECTION															
Site Rate:		Pocket NBHD:		Zone	Frontage	Depth	Units	Site Index	SI- OVR	Unit Price	Size Adj	Nbhd.	Adj 1	Adj 2	Land Value
1	047	Store-Super Market					10,000	0	P	30.00	0.0000				300,000
Total Land Units:							10,000	Total Land Value							300,000

PARCEL ID: 9999 8888

BLDG #: 1 of 1 CARD NUMBER:

ADDRESS: 9999 9TH ST NW

PRINT DATE: 04/07/2003 13:56

BUILDING SUB-AREA SUMMARY

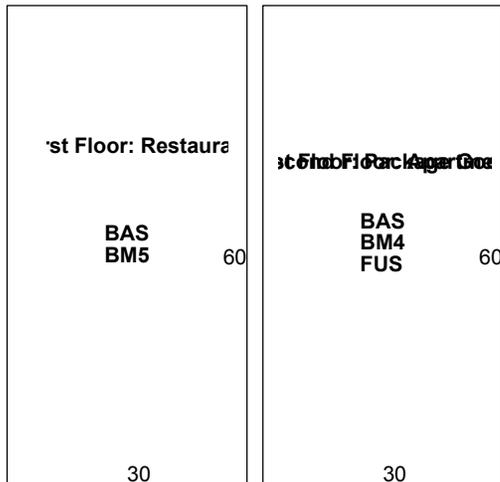
Sect #	Code	Description	Gross Area	Eff Area	Living Area
1	BAS	Main Building Area	1,800	1,800	1,800
1	BM5	Basement, Full Finish	1,800	1,800	0
2	BAS	Main Building Area	1,800	1,800	1,800
2	BM4	Basement Semi-finished	1,800	1,260	0
2	FUS	Upper Story, Finished	1,800	1,800	1,800
Total Gross Living/Lease Area:			9,000	8,460	5,400

<1>BAS/BM5[R30,D60,L30,U60],PTR[R32],<2>BAS/BM4/FUS[R30,D60,L30,U60]

BUILDING PERMIT INFORMATION

Permit ID	Issue Date	Type	Amount	Description

INCOME NOTES



Cost.dat

OUTPUT FROM STORED PROCEDURE
REPORT GENERATED ON 21-MAY-2003 AT 12:26

*******Building #1 Calc Start*******

Cost Calculation for pid, bid = 183145,173784
Account Number = 9999 8888
Use Code = 047
Cost Rate Group = RS1
Occupancy Type = 045 (Store-Super Market)
Model ID: DCC

Section #1

Base Rate: 73.9
Size Adjustment: .98825
Effective Area: 3600
Adjusted Base Rate = $(73.9 + 0) * .98825$
Adjusted Base Rate: 73.03
RCN = $((73.03 * 3600) + 0) * 1.30592$
RCN: 343337

*******Factor Adjustments*******

GRADE 40 (Good) = $1.12 * RCN$
DC LOCAL MULTIPLIER C = $1.06 * RCN$
COMM NBHD 9 = $1.1 * RCN$

Section #2

Base Rate: 51.15
Size Adjustment: .98825
Effective Area: 4860
Adjusted Base Rate = $(51.15 + 0) * .98825$
Adjusted Base Rate: 50.55
RCN = $((50.55 * 4860) + 0) * 1.30592$
RCN: 320829

*******Factor Adjustments*******

GRADE 40 (Good) = $1.12 * RCN$
DC LOCAL MULTIPLIER C = $1.06 * RCN$
COMM NBHD 9 = $1.1 * RCN$

*******Effective Age Adjustments*******

REHAB FACTOR 3 = $.45 * Age$
STRUCTURE CLASS AGE FACTOR C = $.9 * Age$
REHAB YEAR = $1.05 * Age$

*******Depreciation Adjustments*******

CDU DEPREC FACTOR G = $.97 * Depreciation$

Actual Year Built: 1953
Effective Age = $50 * .42525$
Effective Age: 21
Percent Good = 79
RCNLD: 524690

Economic Life Depreciation Tables

Base Year 2003	
Age of Building	Effective Year Built
0	2003
1	2002
2	2001
3	2000
4	1999
5	1998
6	1997
7	1996
8	1995
9	1994
10	1993
11	1992
12	1991
13	1990
14	1989
15	1988
16	1987
17	1986
18	1985
19	1984
20	1983
21	1982
22	1981
23	1980
24	1979
25	1978
26	1977
27	1976
28	1975
29	1974
30	1973
31	1972
32	1971
33	1970
34	1969
35	1968
36	1967
37	1966
38	1965
39	1964
40	1963
41	1962
42	1961
43	1960
44	1959
45	1958
46	1957
47	1956
48	1955
49	1954
50	1953
51	1952
52	1951
53	1950
54	1949
55	1948
56	1947
57	1946
58	1945
59	1944
60	1943
61	1942
62	1941
63	1940
64	1939
65	1938
70	1932
75	1927

70 Year Economic Life	
Percent of Depreciation	Percent Good
0	100
0	100
1	99
1	99
2	98
2	98
3	97
3	97
4	96
4	96
5	95
5	95
6	94
6	94
7	93
7	93
8	92
8	92
9	91
9	91
10	90
10	90
11	89
11	89
12	88
12	88
13	87
13	87
14	86
14	86
15	85
15	85
16	84
16	84
17	83
17	83
18	82
18	82
19	81
19	81
20	80
20	80
21	79
21	79
22	78
22	78
23	77
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69	31
70	30
70	30
71	29
71	29
72	28
72	28
73	27
73	27
74	26
74	26
75	25
75	25
76	24
76	24
77	23
77	23
78	22
78	22
79	21
79	21
80	20
80	20

60 Year Economic Life	
Percent of Depreciation	Percent Good
0	100
0	100
1	99
1	99
2	98
2	98
3	97
3	97
4	96
4	96
5	95
5	95
6	94
6	94
7	93
7	93
8	92
8	92
9	91
9	91
10	90
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12	88
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14	86
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67	33
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69	31
69	31
70	30
70	30
71	29
71	29
72	28
72	28
73	27
73	27
74	26
74	26
75	25
75	25
76	24
76	24
77	23
77	23
78	22
78	22
79	21
79	21
80	20
80	20

50 Year Economic Life	
Percent of Depreciation	Percent Good
0	100
0	100
1	98
1	98
2	97
2	97
3	96
3	96
4	95
4	95
5	94
5	94
6	93
6	93
7	92
7	92
8	91
8	91
9	90
9	90
10	89
10	89
11	88
11	88
12	87
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13	86
13	86
14	85
14	85
15	84
15	84
16	83
16	83
17	82
17	82
18	81
18	81
19	80
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66	33
67	32
67	32
68	31
68	31
69	30
69	30
70	29
70	29
71	28
71	28
72	27
72	27
73	26
73	26
74	25
74	25
75	24
75	24
76	23
76	23
77	22
77	22
78	21
78	21
79	20
79	20
80	18
80	18

2004 CAMA Commercial Construction Valuation Guideline -- RPAD

CONSTRUCTION DETAIL

Section Detail

No. Description Value

Building Stories

As Indicated.

Occupancy

As Indicated.
Select from list.

Stories and #Units

As Indicated.

Structure Class

- 0 Default
- A Fireproof Steel
- B Reinforced Concrete
- C Con. Block/Solid Brick
- D Wood Frame
- P Wood Pole
- S Steel/Sheet Metal

Exterior Finish

- 0 Typical
- AS Asphalt Siding
- BR Brick (Solid)
- BV Brick Veneer
- C Concrete
- CB Concrete Block
- MS Metal Siding
- S Stone
- SU Stucco
- SV Stone Veneer
- WS Wood Siding

Grade (Multiplies Base, Features)

- 0 Default --
- 0 Poor Quality -30%
- 15 Poor+ Quality -20%
- 20 Fair Quality -10%
- 25 Fair+ Quality -05%
- 30 Average Quality --
- 35 Average+ Quality 06%
- 40 Good Quality 12%
- 45 Good+ Quality 21%
- 50 Very Good Quality 30%
- 55 Very Good + Quality 28%
- 60 Excellent 45%

Story Height (Multiplies Base)

Currently not in use

Wall Height (Adds to Base Rate)

Currently not in use

DEPRECIATION DETAIL

No. Description Value

Structure Class (Adjust EYB)

- 0 Default 0
- A Fireproof Steel -20%
- B Reinforced Conc. -15%
- C Con. Block/Brick -10%
- D Wood Frame 0
- S Steel/Sheet Metal 0

CDU Condition, Desirability, Utility (Adjust Calc'd Deprec.)

- EX Excellent -12%
- VG Very Good -08%
- G Good -03%
- AV Average --
- F Fair 06%
- P Poor 12%
- VP Very Poor 18%
- US Unsound 30%

Remodel Rating (Adjusts EYB)

- 0 Default --
- 1 Unknown -10%
- 2 Gut Rehab -70%
- 3 Major Renovation -55%
- 4 Remodel -45%
- 5 Addition -30%
- 6 Cosmetic -10%

Year Remodeled (Adjust EYB)

- 1999-2003 0%
- 1997-1998 5%
- 1992-1996 15%
- 1987-1991 25%
- Earlier -1986 50%

Extra Features (Flat and Sq Ft Add)

- BL Balcony Flat
- ELEV Elevators Flat
- HVAC Heat & Cool Sq. Ft.
- MZ Mezzanines Sq. Ft.
- SPRK Sprinklers Sq. Ft.

$$\text{Building RCN} = [\text{Section}_1 (\text{Base Rate} * \text{Effective Area} * \text{Size Adjustment}) * (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)] + [\text{Section}_n (\text{Base Rate} * \text{Effective Area} * \text{Size Adjustment}) * (\text{MV}_0 * \text{MV}_2 * \dots * \text{MV}_N)] + [\sum \text{Special Building Features}]$$

Where:

RCN = Replacement Cost New
Base Rate = \$ rate based on occupancy (use) code and construction class
 Section_n = Each separate building or section of building
Effective Area = Adjusted SF area of improvement
Size Adjustment = Adjustment factor for deviation from base size
MV = Multiplicative Variables

Depreciation

Value Source: C Living Area/GFA: 5,400 Regression: 0
 Primary Occ: 045 Effective Area: 8,460 Income: 0
 Structure Class: C Percent Good: 79 RCNLD: 524,690

Year Built: 1953
 CDU: 6
 Remodel Rating: 3
 Year Remodeled: 1998
 Effective Year Built: 1982 Override EYB
 Status: F
 Percent Complete: 5

Value	Type	Rsn	Date	ID	Comment
	% Good/Dirv				
	Miss. Improv				
	Cost To Cure				

Construction Detail - Commercial

Value Source: C Living Area/GFA: 5,400 Regression: 0
 Primary Occ: 045 Effective Area: 8,460 Income: 0
 Structure Class: C Percent Good: 79 RCNLD: 524,690

Model: 94 Commercial
 Bldg Stories: 2
 Section #: 1

Section Detail

Occupancy: 045 Store-Restaurant
 Stories: 1 # Units: 0
 Structure Class: C Brick/Concr
 Exterior Finish: BV Brick Veneer
 Grade: 40 Good
 1st Floor Occ: 045 Store-Restaurant
 Wall Height: 10
 Shape/Peri: 2 Rectangular

Group: RS1
 Base Rate: 73.90
 Adj Base Rate: 73.03
 Effective Area: 3,600
 RCN: 343,337

Code	Description	Grp	Section Area Sur
B4S	Main Building An	180	
B4M	Basement, Full F	180	

INCOME APPROACH VALUATION MODEL AND DESCRIPTION

Commercial property in the District of Columbia is generally valued based upon its ability to generate income. Therefore, it is considered “investment property” and is assessed by the Major Properties section of Real Property Assessment Division (RPAD). The most reliable method for appraising these properties is a property-specific income capitalization approach to value where a stabilized annual net operating income is converted to an estimate of value by an appropriate market-derived capitalization rate. The direct over-all capitalization method is employed by the RPAD. There is a discounted cash-flow analysis component of the process as well.

The income and expense information utilized by the RPAD in its valuation process is gathered from approximately 15,000 commercial property owners in the District. Annually, this information is collected from property owners and scanned into the Department’s economic database. The data is further synthesized and incorporated into the Department’s “Pertinent Data Book.”

The next section includes four pages of a sample spreadsheet and five pages of field definitions corresponding to that spreadsheet that are utilized by the Major Properties section for the income capitalization approach valuation.

(A)

626 18TH STREET, SE - SQ/LOT:626-76						
TY	2002					
RETER	AREA	L-T RETAIL	OFC ER	AREA	L-T OFFICE	VACANT/ST SPACE
(1)	(4)	(6)	(9)	(12)	(14)	OFFICE RETAIL
						(16) (23)
\$ -	0	\$0				\$0 0
\$ -	0	\$0				\$0 0
\$ -	0	\$0				\$0 0
\$ -		\$0	\$ -			\$0 0
\$ -		\$0	\$ -	0		\$0 0
\$ -		\$0	\$ -	0		\$0 0
\$ -		\$0	\$ -	0		\$0 0
\$ -		\$0	\$ -	0		\$0 0
\$ -		\$0	\$ -	0		\$0 0
\$ -		\$0	\$ -	0		\$0 0
\$ -		\$0	\$ -	0		\$0 0
\$ -		\$0	\$ -	0		\$0 0
		(7b)			(15b)	(17) (24)
		(7)			(15)	(18) (25)
	(5)	(7a)		(13)	(15a)	(19) (26)
(2) #VALUE!			(10)			(20) (27) VACANT/ST LL
VAC MEZZ	(3)	(8)	(11)			(21) (28) LL INCOME
						(22) (29)

(B)

VACANT AND S-T OFFICE LEASE-UP COSTS		
2001	2002	2003
(1)	(14)	(27)
0		0
0		0
0	0	0
0	0	0
(2)	(15)	(28)
(3)	(16)	(29)
(4)	(17)	(30)
(5)	(18)	(31)
(6)	(19)	(32)
(7)	(20)	(33)
(8)	(21)	(34)
(9)	(22)	(35)
(10)	(23)	(36)
(11)	(24)	(37)
(12)	(25)	(38)
(13)	(26)	(39)

(D)

ASSUMPTIONS	
LEASE GROWTH RATE:	(1)
LEASE-UP ASSUMPTION:	
USE 50% IF 6 MO. PERIOD	(2)
USE 100% IF 12 MO. PERIOD	
STANDARD TENANT IMP:	(3)
RENEWAL TENANT IMP:	(4)
NEW TENANT COMM:	(5)
RENEWAL COMM:	(6)
EGI-VAC RATE:	(7)
OP EXP:	(8)
VACATE PROBABILITY:	(9)
DISCOUNT FACTORS @ 12%	(10)
\$0 PV OF(11)	
EX. VAC	
\$0 PV TI's(12)	
\$0 PV COMM (13)	
\$0 PV OF LEASE-UP (14)	

(E)

NRA: (1) SF OF OFC/RETAIL	
VALUE CALCULATION	
PGI	(2) #VALUE!
CONCESSIONS	(3) \$0
VAC	(4) (7)
SUBTOTAL	(5) #VALUE!
PARKING	(6)
ROOF	(7)
STORAGE	(8)
OTHER	(9)
OP EXP	(10) \$0.00 (11)
NOI	(12) #VALUE!
OAR	(13)
(14) #VALUE!	STAB VALUE
(15) \$0	PV OF LEASE UP COSTS
(16) \$0	REHAB COSTS
(17) #VALUE!	MARKET VALUE AS IS
(18) #VALUE!	VALUE PER SF

(C)

RETAIL-VACANT/ST SPACE LEASE UP COSTS		
2001	2002	2003
(1)	(6)	(11)
(2)	(7)	(12)
(3)	(8)	(13)

VACANT AND S-T RETAIL LEASE UP		
2001	2002	2003
(4)	(9)	(14)
0	0	0
0	0	0
0	0	0
0	0	0
(5a)	(10a)	(15a)
(5)	(10)	(15)

Retail Totals	
PV OF COMMISSIONS	(15)
EXCESS VACANCY	(16)
	(17)

TOTAL VACANT AND S-T RETAIL

THIS WORKPAPER IS CONFIDENTIAL

(K)

Selection of Overall Rate of Capitalization			
Using Mortgage Equity & Capitalization			
Holding Period in Years		10.00	(1)
Annual Rate -- Equity Yield		13.000%	(2)
Annual Rate -- Mortgage		8.500%	(3)
Term of Mortgage in Years		25.00	(4)
Loan to Value Ratio		75.0%	(5)
Change in Property Value: Annual / Total	(6)	2.500%	28.0% (6a)
Change in Income: Annual / Total	(7)	3.000%	34.4% (7a)
Calculations Using Inputs:			
Weighted Cost of Capital		0.10497	(8)
Monthly Mortgage Rate		0.00708	(9)
Annual Loan Constant -- Full Term		0.09663	(10)
Annual Loan Constant -- Hold Period		0.14878	(11)
Part Paid Off		0.18229	(12)
Equity Sinking Fund Factor			
Step 1 (equity yield%to the power of the holding period)		3.39457	(13)
Step 2 (step 1 minus 1)		2.39457	(14)
Step 3 (step 2 divided by the equity yield)		18.41975	(15)
SF Factor (one divided by step 3)		0.05429	(16)
J-Factor -- Ellwood			
Step 1 (1 minus the inverse of step one above)		0.70541	(17)
Step 2 (holding period divided by step 1)		14.17612	(18)
Step 3 (step 2 minus inverse of equity yield)		6.48381	(19)
J-Factor (step 2 times sinking fund)		0.35200	(20)
OAR -- Akerson Format			
Loan Ratio x Annual Constant		0.07247	(21)
Equity Ratio x Equity Yield Rate		0.03250	(22)
Loan Ratio x PP Off x SF Factor		0.00742	(23)
Adjustment for Change in Property Value		0.01521	(24)
Adj. for Change in Income -- J-Factor		0.89201	(25)
OAR before Adding R.E. Tax Rate		7.35%	(26)
Effective Rate of Taxation		1.85%	(27)
OAR Loaded for R.E. Taxes		9.1950%	(28)

(L)

FACTORS		12% (1)		
Year		Estimated Loss	PV Factor	PV of Loss(es)
	1	(2)	0.89286 (3)	(4)
	2	\$0	0.79719	\$0
	3	\$0	0.71178	\$0
	4	\$0	0.63552	\$0
	5	\$0	0.56743	\$0
	6	\$0	0.50663	\$0
	7	\$0	0.45235	\$0
	8	\$0	0.40388	\$0
	9	\$0	0.36061	\$0
	10	\$0	0.32197	\$0
			(5)	

Income Approach

#	Field Name	Description	Calc	Calculation
A-1	Retail Effective Rates	Long term (beyond 3 years) Retail, Rental Rates from Rent Roll	NO	
A-2		Weighted Average Long Term Retail Rental Rate X Lease Growth Rate	YES	Total of Long Term Retail Income divided by Total Long Term Retail Area
A-3	Vacant Mezzanine Area	Vacant or Short Term Mezzanine Area from Rent Roll	NO	
A-4	Area	Long Term (Beyond 3 Years) Retail Area From Rent Roll (col 3)	NO	
A-5		Total of Long Term Retail Area from A-4	YES	Sum of Long Term Leases
A-6	Long Term Retail	Actual Reported Income from Long Term Retail Leases	YES	Rental Rate X Area
A-7		Total of Long Term Retail Income	YES	Sum of Actual Long Term Retail Leases
A-7a		Total of Long Term Retail Income	YES	Total of Long Term Retail Income X Lease Growth Rate
A-7b		Total of all Long Term Retail Rent from Additional Revenue Worksheet	YES	Brings Total Long Term Retail Leases from Additional Revenue Worksheet (F4)
A-8		Market Rental Rate Assigned to Vacant/Short Term Mezzanine Area	NO	
A-9	Office Effective Rents	Long Term Office Rental Rate From Rent Roll	NO	
A-10		Weighted Average Long Term Office Rental Rate X Lease Growth Rate	YES	Total of Long Term Office Income X Lease Growth Rate/Total Area Long Term Office
A-11		Vacant or Short Term Market Mezzanine Income	YES	Vacant/Short Term Mezzanine Area X Mezzanine Market Rental Rate
A-12	Area	Long Term Office Area From Rent Roll	NO	
A-13		Total of Long Term Office Area from A12	YES	Sum of Long Term Office Leases
A-14	Long Term Office	Actual Rental Income From Long Term Office Leases	YES	Office Rental Rate X Area
A-15		Total of Long Term Office Income	YES	Sum of Actual Long Term Office Leases
A15a		Total of Long Term Office Income Increased by Lease Growth Rate	YES	Sum of Actual Long Term Office Leases X Lease Growth Rate
A15b		Total of all Long Term Office Rent from Additional Revenue Worksheet	YES	Brings Total Long Term Office Leases from Additional Revenue Worksheet (G4)
A-16	Vacant/Short Term Space	Vacant or Expiring (Within 3 Years)Office Leases	NO	
A-17		Additional Vacant/Short Term Office Space from Additional Spaces Worksheet	YES	Sum of Additional Vacant/Short Term Office From Additional Spaces Worksheet (H3)
A-18		Total of Vacant/Short Term Office Space	YES	Sum of Vacant/Short Term Office Spaces
A-19		Vacant/Short Term Office Market Income	YES	Vacant/Short Term Office Area X Office Market Rate
A-20	Vacant/Short Term Lower Level	Vacant/Short Term Lower Level Office Space	NO	
A-21		Vacant/Short Term Lower Level Office Market Rental Rate	NO	
A-22	Lower Level Income	Vacant/Short Term Lower Level Office Market Income	YES	Vacant/Short Term Lower Level Office Area X Market Rental Rate
A-23	Vacant/ Short Term Space	Vacant or Expiring(Within 3 Years) Retail Leases	NO	
A-24		Additional Retail Space from Additional Revenue Worksheet	YES	Adds Total Retail from Additional Revenue Worksheet (H-4)
A-25		Total of Vacant/Short Term Retail Spaces	YES	Sum of Vacant/Short Term Retail Leases
A-26		Vacant/Short Term Retail Market Income	YES	Sum of Vacant/Short Term Retail Leases X Retail Market Rate
A-27	Vacant/Short Term Lower Level Retail	Vacant/Short Term Lower Level Retail Space	NO	
A-28		Vacant/Short Term Lower Level Retail Market Rental Rate	NO	
A-29	Lower Level Income	Vacant/Short Term Lower Level Retail Market Income	YES	Vacant /Short term Retail Area X Market Retail Rate
B-1		Office Leases Scheduled to Expire in Year 1 of Valuation	NO	
B-2		Additional Office Leases Scheduled to Expire in Year 1 of Valuation	YES	Sum of Additional Office Leases from Lease Worksheet (H7)
B-3		Total of Office Leases Scheduled to Expire in Year 1 of Valuation	YES	Sum of Office Leases from Lease Worksheet
B-4	Office Market Rate	Market Rental Rate for Vacant Short Term Office Space for Year 1 of Valuation	NO	
B-5	Potential Gross Income	Market Office Income From Leases to Expire in Year 1 of Valuation	YES	Sum of Office Leases Scheduled to Expire in Year 1 X Office Market Rental Rate
B-6		Effective Office Gross Income From Leases to Expire in Year 1 of Valuation	YES	Potential Gross Income(PGI) - Vacancy Rate
B-7		Estimated Expenses for Office Leases Scheduled to Expire in Year 1 of Valuation	YES	Total Off Leased Area to Expire in Year 1 X Reduced Op Ex X Occupancy Rate
B-8	NOI Loss	EGI Less Estimated Expenses for Office Leases to Expire in Year 1 of Valuation	YES	Effective Gross Income(EGI) - Estimated Expenses
B-9		Income Loss Adjusted for Lease-up Time and Vacate Probability for Year 1 of Valuation	YES	Net Operating Income(NOI) Loss X Lease-up Assumption X Vacate Probability Rate
B-10	Discount Factor	Converts To Present Value(PV)	NO	
B-11		Present Value of Excess Vacancy for Year 1 of Valuation	YES	NOI Loss X Discount Rate
B-12		Present Value of Tenant Improvements for Year 1 of Valuation	YES	Expiring or Vacant Office Space X Occupancy Rate X Tenant Improvement Cost X Vacate Probability X Discount Rate
B-13		Present Value of Leasing Commissions for Year 1 of Valuation	YES	Office Market Rate X Expiring Year 1 Lease Area X Occupancy Rate X Average Commission Rate X 7.5 Years X Discount Rate
B-14		Office Leases Scheduled to Expire in Year 2 of Valuation	NO	
B-15		Additional Office Space to Expire in Year 2 of Valuation	YES	Sum of Additional Year 2 Office Leases from Additional Worksheet (H11)
B-16		Total of Office Leases Scheduled to Expire in Year 2 of Valuation	YES	Sum of Office Leases to Expire in Year 2

Income Approach

#	Field Name	Description	Calc	Calculation
B-17	Office Market Rate	Market Rental Rate Adjusted by CPI for Vacant Office Space in Year 2 of Valuation	NO	
B-18	Potential Gross Income	Office Market Income From Leases To Expire in Year 2 of Valuation	YES	Sum of Office Leases Scheduled to Expire in Year 2 X Year 2 Market Rental Rate
B-19		Effective Office Gross Income From Leases to Expire in Year 2 of Valuation	YES	Potential Gross Income - Vacancy Rate
B-20		Estimated Expenses for Office Leases Scheduled to Expire in Year 2 of Valuation	YES	Total Office Leased Space To Expire in Year 2 X Reduced OpEX Rate X Occ Rate
B-21	NOI Loss	Effective Gross Income Less Expenses for Office Space to Expire in Year 2 of Valuation	YES	Effective Gross Income - Estimated Expenses
B-22		Income Loss Adjusted for Lease Up Time & Vacate Probability for Year 2 of Valuation	YES	NOI Loss X Leaseup Assumption X Vacate Probability Rate
B-23	Discount Rate	Converts To Present Value	NO	
B-24		Present Value of Excess Vacancy for Year 2 of Valuation	YES	NOI Loss X Discount Factor
B-25		Present Value of Tenant Improvements for Year 2 of Valuation	YES	Year 2 Expiring or Vacant Office Space X Occupancy Rate X Tenant Improvement Cost X Vacate Probality X Discount Rate
B-26		Present Value of Leasing Commissions for Year 2 of Valuation	YES	Office Market Rate X Expiring Year 2 Lease Area X Occupancy Rate X Average Commision Rate X 7.5 YearsX Discount Rate
B-27		Office Leases Scheduled to Expire in Year 3 of Valuation	NO	
B-28		Additional Office Space to Expire in Year 3 of Valuation	YES	Sum of Additional Year 3 Office Leases from Additional Worksheet (H15)
B-29		Total of Office Leases Scheduled to Expire in Year 3 of Valuation	YES	Sum of Office Leases to Expire in Year 3 of Valuation
B-30	Office Market Rate	Market Rental Rate Adjusted by CPI for Vacant Office Space in Year 3 of Valuation	NO	
B-31	Potential Gross Income	Office Market Income From Leases To Expire in Year 3 of Valuation	YES	Sum of Office Leases Scheduled to Expire in Year 3 X Year 3 Market Rental Rate
B-32		Effective Office Gross Income From Leases to Expire in Year 3 of Valuation	YES	Potential Gross Income - Vacancy Rate
B-33		Estimated Expenses for Office Leases Scheduled to Expire in Year 3 of Valuation	YES	Total Office Leased Space To Expire Year 3 X Reduced OpEX Rate X Occupancy Rate
B-34	NOI Loss	EGI Less Expenses for Office Space to Expire in Year 3 of Valuation	YES	Effective Gross Income - Estimated Expenses
B-35		Income Loss Adjusted for Lease Up Time & Vacate Probability for Year 3 of Valuation	YES	NOI Loss X Leaseup Assumption X Vacate Probability Rate
B-36	Discount Rate	Converts To Present Value	NO	
B-37		Present Value of Excess Vacancy for Year 3 of Valuation	YES	NOI Loss X Discount Factor
B-38		Present Value of Tenant Improvements for Year 3 of Valuation	YES	Year 3 Expiring or Vacant Office Space X Occupancy Rate X Tenant Improvement Cost X Vacate Probality X Discount Rate
B-39		Present Value of Leasing Commissions for Year 3 of Valuation	YES	Office Market Rate X Expiring Year 3 Lease Area X Occupancy Rate X Average Commision Rate X 7.5 YearsX Discount Rate
C-1		Present Value of Retail Leasing Commissions for Year 1	YES	Retail Market Rate X Retail Area Expiring in Year 1 X Occupancy % X Commission % X 7.5 Years X Discount Rate
C-2		Retail Excess Vacancy for Year 1	YES	Retail Rental Rate X Area X Occupancy Rate X Leaseup Assumption % X Vacate % X Discount Rate
C-3	Rental Market Rate	Market Rate for Vacant/Short Term Retail Space for Year 1	NO	
C-4		Retail Leases Scheduled to Expire in Year 1	NO	
C-5		Total of Retail Leases Scheduled to Expire in Year 1	YES	Sum of Retail Leases Scheduled to Expire in Year 1
C5a		Additional Retail Area from Additional Revenue Worksheet	YES	Adds Total Area from Additional Revenue Worksheet Section (H-8)
C-6		Present Value of Retail Leasing Commissions for Year 2	YES	Retail Market Rate X Retail Area Expiring in Year 2 X Occupancy % X Commission % X 7.5 Years X Discount Rate
C-7		Retail Excess Vacancy for Year 2	YES	Retail Rental Rate X Area X Occupancy Rate X Leaseup Assumption % X Vacate % X Discount Rate
C-8	Rental Market Rate	Market Rate for Vacant/Short Term Retail Space for Year 2	NO	
C-9		Retail Leases Scheduled to Expire in Year 2	NO	
C-10		Total of Retail Leases Scheduled to Expire in Year 2	YES	Sum of Retail Leases Scheduled to Expire in Year 2
C-10a		Additional Retail Area from Additional Revenue Worksheet	YES	Adds Total Area from Additional Revenue Worksheet Section (H-12)
C-11		Present Value of Retail Leasing Commissions for Year 3	YES	Retail Market Rate X Retail Area Expiring in year 3 X Occupancy % X Commission % X 7.5 Years X Discount Rate
C-12		Retail Excess Vacancy for Year 3	YES	Retail Rental Rate X Area X Occupancy Rate X Leaseup Assumption % X Vacate % X Discount Rate
C-13	Rental Market Rate	Market Rate for Vacant/Short Term Retail Space for Year 3	NO	
C-14		Retail Leases Scheduled to Expire in Year 3	NO	
C-15		Total of Retail Leases Scheduled to Expire in Year 3	YES	Sum of Retail Leases Scheduled to Expire in Year 3
C-15a		Additional Retail Area from Additional Revenue Worksheet	YES	Adds Total Area from Additional Revenue Worksheet Section (H-16)

Income Approach

#	Field Name	Description	Calc	Calculation
D-1	Lease Growth Rate	Selected Yearly Lease Growth Rate	NO	
D-2	Lease-up Assumption	Used to Estimate Excess Vacancy	NO	
D-3	Standard Tenant Improvement	Tenant Improvement Cost Applied to New Leased Space	NO	
D-4	Renewal Tenant Improvement	Tenant Improvement Cost Applied to Renewal Leased Space	NO	
D-5	New Tenant Commission	Leasing Commission Applied to New Leased Space	NO	
D-6	Renewal Commission	Leasing Commission Applied to Renewal Leased Space	NO	
D-7	Vacancy Rate	Selected Vacancy Rate to Determine Effective Gross Income	NO	
D-8	Op Exp Saved Per Square Foot	Expenses Used to Determine NOI Loss for Excess Vacancy	NO	
D-9	Vacate Probability	If Tenant is Leaving 100% is Used This Effects Vacancy, TI's & Leasing Commissions	NO	
D-10	Discount Rate	Used to Calculate Discount Factors	NO	
D-11	Present Value of Excess Vacancy	Sum of Present Value Office Excess Vacancy for Years 1 to 3	YES	Sum of Present Value Office Excess Vacancy for Years 1 to 3
D-12	Present Value of Tenant Improvement's	Sum of Present Value of Office Tenant Improvements for Years 1 to 3	YES	Sum of Present Value of Office Tenant Improvements for Years 1 to 3
D-13	Present Value of Leasing Commissions	Sum of Office Commissions for Years 1 to 3	YES	Sum of Present Value Office Leasing Commissions for Years 1 to 3
D-14	Present Value of Lease-up	Sum of Present Value of Office Excess Vacancy, Tenant Improvements & Commissions	YES	Sum of Present Value of Office Excess Vacancy, Tenant Improvements & Commissions
D-15	Present Value of Leasing Commissions	Sum of Present Value of Retail Leasing Commissions for Years 1 to 3	YES	Sum of Present Value of Retail Commissions for Years 1 to 3
D-16	Excess Vacancy	Sum of Retail Excess Vacancy for Years 1 to 3	YES	Sum of Present Value of Retail Excess Vacancy for Years 1 to 3
D-17	Total Present Value of Retail	Present Value of Total Retail Leasing Commissions & Retail Excess Vacancy	YES	Total of Present Value of Retail Commissions & Retail Excess Vacancy
E-1	NRA	Total Square Footage of Office and Retail	YES	Total of all Square Feet in Section A (Office, Retail, Mezz, Lower Level)
E-2	PGI	Potential Office Mezzanine Retail Gross Income	YES	Total of all Income in Section A (Off, Retail, Mezz and Lower Level)
E-3	Concessions	Enter Lease Concessions	NO	
E-4	Vacancy Rate	Vacancy Percentage	YES	Vacancy from Section D
E-5	Subtotal	Office and Retail Income Minus	YES	Potential Gross Income-Concessions-Vacancy
E-6	Parking	Estimated Parking Income	NO	
E-7	Roof	Typical Antenna Income	NO	
E-8	Storage	Storage Income	NO	
E-9	Other	Other Income	NO	
E-10	Op Expenses	Operating Expenses	NO	
E-11		Operating Expenses Per Square Foot	YES	Operating Expenses divided by Net Rentable Area
E-12	Net Operating Income (NOI)	Net Operating Income	YES	SubTotal Income minus Operating Expenses
E-13	Overall Rate (OAR)	Selected Capitalization Rate	NO	
E-14	Stabilized Value	Value before Any Lease-up Costs	YES	Net Operating Income divided by Overall Rate
E-15	Present Value of Lease-up Cost	Present Value of All Office & Retail Lease-up Cost	YES	Present Value of Office Lease-up Cost + Present Value of Retail Lease-up Cost
E-16	Present Value of Rehab Cost	Present Value of Rehab Cost, PV of Above or Below Market Rent Difference	NO	
E-17	Market Value	Total Estimated Market Value	YES	Stabilized Value minus Present Value of Lease-up Cost minus Present Value of Rehab \$
E-18	Value Per Square Foot	Market Value Per Square Foot of Net Rentable Areas (NRA)	YES	Market Value divided by NRA
F-1	Long Term Retail Rent	Continuation from Income Worksheet Of Long Term Retail Rents	NO	
F-2	Long Term Retail Area	Leased Area for Retail Tenants With Long Term Rents	NO	
F-3	Long Term Retail Annual Rent	Annual Rent From Long Term Retail Tenants	YES	Long Term Retail Rent X Leased Square Feet
F-4	Total Long Term Retail Rent	Sum of all Retail Tenants in this Section	YES	Totals all Annual Rents in this Section to be added to Worksheet in Section A7-b
G-1	Long Term Office Rent	Continuation from Income Worksheet Of Long Term Office Rents	NO	
G-2	Long Term Office Area	Leased Area for Office Tenants With Long Term Rents	NO	
G-3	Long Term Office Annual Rent	Annual Rent From Long Term Office Tenants	YES	Long Term Office Rent X Leased Square Feet
G-4	Total Long Term Office Rent	Sum of all Office Tenants in this Section	YES	Totals all Annual Rents in this Section to be added to Worksheet in Section A15-b

Income Approach

#	Field Name	Description	Calc	Calculation
H-1	Office Short Term Area	Continuation from Income Worksheet of Short Term/Vacant Office Area	NO	
H-2	Retail Short Term Area	Continuation from Income Worksheet of Short Term/Vacant Retail Area	NO	
H-3	Total Office Area	Total of all Office Area in this Section	YES	Sums all Short Term or Vacant Office Space in this Section added to A-17
H-4	Total Retail Area	Total of all Retail Area in this Section	YES	Sums all Short Term or Vacant Retail Space in this Section added to A-24
H-5	Office Short Term Year 1	Area of Office Tenants Whose Leases Expire in Year 1	NO	
H-6	Retail Short Term Year 1	Area of Retail Tenants Whose Leases Expire in Year 1	NO	
H-7	Total Office Short Term Year 1	Total Area of Office Tenants Whose Leases Expire in Year 1	YES	Sums Office Area in this Section to be added to Section B-2
H-8	Total Retail Short Term Year 1	Total Area of Retail Tenants Whose Leases Expire in Year 1	YES	Sums Retail Area in this Section to be added to Section C-5a
H-9	Office Short Term Year 2	Area of Office Tenants Whose Leases Expire in Year 2	NO	
H-10	Retail Short Term Year 2	Area of Retail Tenants Whose Leases Expire in Year 2	NO	
H-11	Total Office Short Term Year 2	Total Area of Office Tenants Whose Leases Expire in Year 2	YES	Sums Office Area in this Section to be added to Section B-15
H-12	Total Retail Short Term Year 2	Total Area of Retail Tenants Whose Leases Expire in Year 2	YES	Sums Retail Area in this Section to be added to Section C-10a
H-13	Office Short Term Year 3	Area of Office Tenants Whose Leases Expire in Year 3	NO	
H-14	Retail Short Term Year 3	Area of Retail Tenants Whose Leases Expire in Year 3	NO	
H-15	Total Office Short Term Year 3	Total Area of Office Tenants Whose Leases Expire in Year 3	YES	Sums Office Area in this Section to be added to Section B-28
H-16	Total Retail Short Term Year 3	Total Area of Retail Tenants Whose Leases Expire in Year 3	YES	Sums Retail Area in this Section to be added to Section C-15a
I-1	Office Market Leases Date	Date Signed for Office Market Leases to be Used as Comparables	NO	
I-2	Office Market Leases Rent	Rent per Square Foot for Office Market Leases to be Used as Comparables	NO	
I-3	Office Market Leases Area	Square Foot Area for Office Market Leases to be Used as Comparables	NO	
I-4	Office Market Leases Annual \$	Annual Rent for Office Market Leases to be Used as Comparables	YES	Office Area X Market Rent
I-5	Office Market Comps Square and Lot	Square & Lot for Comparable Lease if not from Subject	NO	
I-6	Total Area Office Market Leases	Total Area of Office Leases in this Section	YES	Sums Total Rented Area in this Section
I-7	Total Rent Office Market Leases	Total Rent for Office Leases in this Section	YES	Sums Total Office Annual Rent For This Section
I-8	Weighted Avg Office Market Leases	Average of all Office Leases in this section	YES	Divides Total Annual Rent By Total Office Area For Weighted Average
J-1	Retail Market Leases Date	Date Signed for Retail Market Leases to be Used as Comparables	NO	
J-2	Retail Market Leases Rent	Rent per Square Foot for Retail Market Leases to be Used as Comparables	NO	
J-3	Retail Market Leases Area	Square Foot Area for Retail Market Leases to be Used as Comparables	NO	
J-4	Retail Market Leases Annual \$	Annual Rent for Retail Market Leases to be Used as Comparables	YES	Retail Area X Market Rent
J-5	Retail Market Comps Square and Lot	Square & Lot for Comparable Lease if not from Subject	NO	
J-6	Total Area Retail Market Leases	Total Area of Retail Leases in this Section	YES	Sums Total Rented Area in this Section
J-7	Total Rent Retail Market Leases	Total Rent for Retail Leases in this Section	YES	Sums Total Retail Annual Rent For This Section
J-8	Weighted Avg Retail Market Leases	Average of all Retail Leases in this section	YES	Divides Total Annual Rent By Total Retail Area For Weighted Average
K-1	Holding Period in Years	Estimated Holding Period	NO	
K-2	Annual Rate -- Equity Yield	Estimated Annual Equity Rate	NO	
K-3	Annual Rate -- Mortgage	Estimated Annual Mortgage Rate	NO	
K-4	Term of Mortgage in Years	Estimated Term of Mortgage	NO	
K-5	Loan to Value Ratio	Estimated Loan to Value Ratio	NO	
K-6	Change in Property Value: Annual	Estimated Change in Annual Property Value	NO	
K-6a	Change in Property Value: Total	Change in Total Value over Holding Period Based on Estimated Annual %	YES	One Plus Annual Property Percent Increase to the Power of the Holding Period
K-7	Change in Income: Annual	Estimated Change in Annual Income	NO	
K-7a	Change in Income: Total	Change in Total Income Over Holding Period Based on Estimated Annual %	YES	One Plus Annual Income Percent Increase to the Power of the Holding Period
K-8	Weighted Cost of Capital	Determines the Overall Cost Including Equity Yield and Mortgage Rate	YES	1-Loan to Value Ratio x Equity Yield + Mortgage Term X Annual Loan Constant
K-9	Monthly Mortgage Rate	Monthly Mortgage Rate	YES	Mortgage Rate Divided by 12
K-10	Annual Loan Constant -- Full Term	Total Annual Debt Service for the Term of the Mortgage	YES	((Monthly Mortgage Rate Divided By (1+ Monthly Mortgage Rate to the Power of the Mortgage Term in Months) -1)+ Monthly Mortgage Rate) x 12

Income Approach

#	Field Name	Description	Calc	Calculation
K-11	Annual Loan Constant -- Hold Period	Total Annual Debt Service for the Holding Period	YES	((Monthly Mortgage Rate Divided By (1+ Monthly Mortgage Rate to the Power of the Holding Period in Months) -1)+ Monthly Mortgage Rate) x 12
K-12	Part Paid Off	Portion of Loan Paid Off During the Holding Period	YES	(Annual Loan Constant - Mortgage Rate) divided by (Annual Loan Constant for the Holding Period - Mortgage Rate)
K-13		Step 1 (Equity Yield%to the Power of the Holding Period)	YES	(1 + Annual Equity Yield Rate) to the Power of The Holding Period
K-14		Step 2 (Step 1 minus 1)	YES	((1 + Annual Equity Yield Rate) to the Power of The Holding Period) - 1
K-15		Step 3 (Step 2 Divided by the Equity Yield)	YES	((1 + Annual Equity Yield Rate) to the Power of The Holding Period) - 1) divided by the Annual Equity Yield)
K-16	Sinking Fund Factor	Sinking Fund is Used to Determine the J-Factor	YES	1 divided by(((1 + Annual Equity Yield Rate) to the Power of The Holding Period -1)divided by the Annual Equity Yield
K-17	Step 1	Step 1 for Determining the J-Factor-Used When Income Growth is Expected	YES	1- (1 divided by (1 + Equity Yield) to the Power of the Holding Period)
K-18	Step 2	Holding Period Divided by Step 1	YES	Holding Period/(1- (1 / (1 + Equity Yield) to the Power of the Holding Period)
K-19	Step 3	Step 2 Minus Inverse of Equity Yield	YES	Holding Period/(1- (1 / (1 + Equity Yield) to the Power of the Holding Period) minus (1 divided by the Equity Yield Rate)
K-20	J-Factor	J-Factor-used in Determining Cap Rates when Income Growth is Expected Step 2 times Sinking Fund	YES	(Holding Period/(1- (1 / (1 + Equity Yield) to the Power of the Holding Period) minus (1 divided by the Equity Yield Rate)) X Sinking Fund
K-21	Loan Ratio x Annual Constant	Mortgage Portion of Overall Rate- in Mortgage Equity Cap Rate	YES	Loan Ratio x Annual Constant
K-22	Equity Ratio x Equity Yield Rate	Equity Portion of Overall Rate- in Mortgage Equity Cap Rate	YES	Equity Ratio x Equity Yield Rate
K-23	Loan Ratio x PP Off x SF Factor	Part of Overall Rate- Accounts for Portion of Loan Paid Off in Holding Period	YES	Loan Ratio x Part Paid Off x Sinking Fund Factor
K-24	Adjustment for Change in Property Value	Part of Overall Rate- Accounts for Increase in Property Value	YES	Total Annual Property Value Increases Over Holding Period x Sinking Fund
K-25	J-Factor	Part of Overall Rate- Accounts for Increase in Income during Holding Period	YES	1 divided by Total annual Income Increase over Holding Period X J Factor
K-26	OAR before Adding Real Estate Tax Rate	Overall Capitalization Rate ((K21+K22)-K23-K24)*K25	YES	Loan Ratio x Annual Constant+Equity RatioxEquity Yield Rate-Part Of Mortgage Paid Off - Annual Property Increase x Sinking Fund x J Factor
K-27	Effective Rate of Taxation	Added to Overall Rate for Tax Loaded Cap Rate	NO	
K-28	OAR Loaded for Real Estate Taxes	Real Estate Tax Loaded Capitalization Rate	YES	Adds Effective Tax Rate to Overall Capitalization Rate
L-1	Discount Rate	Discount Rate Used to Estimate Present Value of Losses	NO	
L-2	Estimated Loss	Year 1 of Loss of Estimated Loss, Capitalized Expense or Excess Rent	NO	
L-3	Present Value Factor	Present Value Formula for Discount Rate in L1	YES	Present Value Formula for Discount Rate in L1
L-4	Present Value of Loss(es)	Present Value times Annual Loss	YES	Present Value times Annual Loss
L-5	Total Present Value of Losses	Totals Present Value of Losses	YES	Totals Present Value of Losses Over Holding Period

Revaluation 2004:

The Role of the Real Property Assessment Division

District of Columbia law requires all real property to be valued on an annual basis. This means that the market value for each and every property in the District must be reviewed for possible change every year. The function of the Real Property Assessment Division (RPAD) is to determine the fair market value of every property in the District. RPAD's professional staff is responsible for the valuation of these properties. The job of the assessor is to follow and analyze the market, whether it is the erection of new structures, significant changes to an existing structure, loss of value from fire or catastrophic loss, or changes in the general market conditions for properties of various types. These general market conditions apply to all similar parcels, both those that have sold as well as those that have not sold. While RPAD takes this responsibility very seriously, it also recognizes its responsibility to be as fair as possible to District property owners.

Fair Market Value and Taxes

The basis of fair market value for any residential property is the sale of a similar property. When sale prices for a given type of property are increasing, the market is said to be appreciating. When the real estate market rises and the RPAD does not adjust market values to keep pace with a rising market, equity, fairness, and uniformity are diminished. The resulting inequity in the valuation process then becomes inequity in the real estate taxation system.

Dynamics of Revaluation

Revaluation and equalization are processes that provide for one standard of analysis and valuation for all affected properties. All sales are analyzed utilizing the same standards. The market value changes that are made as a result of that analysis are applied equally to all parcels with the same use code and in the same sub-neighborhood (not costed). The goal is to remove subjectivity from the valuation process and to apply the same objective standards to all parcels. The market value of any given property is determined strictly by the sales of similar properties.

Property Sales: The Key to Equalizing Values Via Market Trending Methodology

The most significant change to the program has been the creation of an enhanced sales data file.

This year we used the following steps to edit the sales file:

1. A sales file was compiled containing nearly 8,000 sales dated from January 2001 to December 2002. Sales coded as foreclosure sales, multiple property transactions, renovated property transactions and family transfers were excluded.
2. The sales file was then distributed to the assessors for review and manual editing. An assessor reviewed each sale in the file. Assessors coded any and all sales that did not appear to be "arms length" transactions as disqualified. Those sales were removed from the sales file.
3. Assessor editing was screened for quality by supervisors. Step two (2) was repeated to insure a higher degree of accuracy.

Revision of Market Values for 2004

There are several factors that have led the Real Property Assessment Division to revise market values this year.

- A Strong Real Estate Market. The residential market has been moving upward for several years. This is attributed to supply and demand factors in the District of Columbia and reasonable mortgage rates.
- Improved Grouping of Parcels. The real estate market does not change uniformly. We are now able to compare and identify those segments of the market that are changing by grouping like parcels together.
- For example, under the prior system, which grouped properties by neighborhood, there are single family detached, semi-detached and row homes. Let us assume that the most numerous types, the row homes, are stable in value. Let us also assume that the semi-detached are stable or declining in value, and the least numerous grouping, the single family detached are increasing in value. In previous equalizations, all three types would have been grouped together, probably resulting in no change for any of these parcels. The current trending method would produce different adjustment factors for all three groups so that a more accurate value would be applied to each property type.
- Our residential property database recognizes 56 neighborhoods and 139 sub-neighborhood analysis groups.
- Improved Sales Review and Editing. Professional staff review has enabled us to identify which segments of the market contain undervalued or overvalued parcels. The market-trending process for 2004 joins current technology with the extensive knowledge and experience of our professional staff. The RPAD believes that this combination of resources has created a more accurate valuation process and will continue to improve uniformity and equity for property owners throughout the District.

TABLES: COST OCCUPANCY / USE CODE & BASE COST RATES

The tables that follow represent various elements of information used in the market-derived cost approach to valuation of improvements in the District. The first table "Cost Occupancy/Use Code," lists occupancy codes and the cost group to which they are assigned. The other information provided in this table includes various standards and adjustments to the base rate appropriate for the particular cost occupancy code.

The second table, "Base Cost Rates" represent the base square foot cost rates for the previously enumerated cost groups utilized by Vision CAMA in the market-derived cost approach to valuation. A rate is listed for each construction class within a cost group. Additional information includes the depreciation tables details associated with each cost group.

Land Class	Occ Code	Description	Bldg Model	Bldg Occ	Cost Group	Cost Adjustment	Size Adj Table	Standard Size	Standard Wall Height	Wall Height Adjustment	Run Cost?
C	001	Non-conform residential-single	94	001	RH1	1	S90	2000	8	0.015	-1
C	004	Commercial-Retail (NC)	94	004	RT1	1	S90	5000	12	0.01	-1
C	005	Commercial-Office (NC)	94	005	OF1	1	S90	6000	10	0.015	-1
C	006	Commercial-Spec Purpose (NC)	94	006	GS1	1	S90	6000	8	0.015	-1
C	007	Industrial (NC)	96	007	MN2	1	S90	20000	8	0.015	-1
C	008	Special Purpose (NC)	94	008	GS1	1	S90	8000	8	0.015	-1
C	021	Residential Apartment-Walk-Up	94	021	AP1	1	S90	10000	8	0.02	-1
C	022	Residential-Apartment-Elevator	94	022	AP2	1	S90	50000	8	0.015	-1
C	025	Res-Coverions 5 Units	94	025	AP1	1	S90	10000	8	0.02	-1
C	026	Res-Cooperative-Horizo	94	026	AP2	1	S90	10000	8	0.015	-1
C	027	Res-Cooperative-Verical	94	027	AP2	1	S90	50000	8	0.015	-1
C	028	Res-Conversions-mr than 5	94	028	AP1	1	S90	20000	8	0.015	-1
C	029	Res-Multi-family Misc	94	029	AP1	1	S90	10000	8	0.015	-1
C	031	Hotel-Small	94	031	HT1	1	S90	20000	9	0.01	-1
C	032	Hotel-Large	94	032	HT2	1	S90	135000	9	0.01	-1
C	033	Motel	94	033	HT1	0.8	S90	20000	9	0.01	-1
C	034	Private Club	94	034	GS1	1	S90	4000	14	0.015	-1
C	035	Tourist Homes	94	035	RH1	1	S90	8000	10	0.015	-1
C	036	Dormitory	94	036	RH2	1	S90	8000	8	0.015	-1
C	037	Inn	94	037	HT1	0.8	S90	12000	10	0.01	-1
C	038	Fraternity/Sorority House	94	038	RH2	1	S90	8000	10	0.015	-1
C	039	Res-Transient Misc	94	039	RH1	1	S90	5000	8	0.015	-1
C	041	Store-Small 1 Story	94	041	RT1	1	S90	10000	14	0.01	-1
C	042	Store-Misc	94	042	RT1	1	S90	4000	14	0.01	-1
C	043	Store-Department	94	043	RT3	1	S90	40000	14	0.01	-1
C	044	Store-Shopping Center/Mall	94	044	RT2	1	S90	60000	18	0.01	-1
C	045	Store-Restaurant	94	045	RS1	1	S90	5000	12	0.01	-1
C	046	Store-Barber/Beauty Shop	94	046	RT4	1	S90	4000	14	0.01	-1
C	047	Store-Super Market	94	047	RT2	0.88	S90	22000	14	0.01	-1
C	048	Commer-Retail-Condo	94	048	RT1	1	S90	3000	14	0.01	-1
C	049	Commer-Retail-Misc	94	049	RT1	1	S90	4000	14	0.01	-1
C	051	Commercial-Office-Small	94	051	OF1	1	S90	6000	10	0.015	-1
C	052	Commercial-Office-Large	94	052	OF3	1	S90	60000	10	0.015	-1
C	053	Commercial-Planned-Development	94	053	OF3	1	S90	300000	10	0.015	-1
C	056	Office-Condo-Horizontal	94	056	OF1	1	S90	3000	10	0.015	-1

C	057	Office-Condo-Vertical	94	057	OF1	1	S90	3000	10	0.015	-1
C	058	Commercial-Office-Condo	94	058	OF3	1	S90	6000	10	0.015	-1
C	059	Commercial-Office-Misc	94	059	OF2	1	S90	6000	10	0.015	-1
C	061	Commercial-Banks_Financial Svc	94	061	BN1	1	S90	3000	14	0.015	-1
C	062	Commercial-Garage_Vehicle Sal	94	062	PK1	1	S90	5000	8	0.015	-1
C	063	Commercial-Parking Garage	94	063	PK2	1	S90	55000	8	0.015	-1
C	064	Parking Lot Special Purpose	00	064		1	S90	25000	0	0	-1
C	065	Vehicle Svc Station_Vintage	94	065	SV1	1	S90	5000	12	0.01	-1
C	066	Theaters_Entertainment	94	066	GS2	1	S90	20000	22	0.01	-1
C	067	Commercial-Restaurant	94	067	RS1	1	S90	5000	12	0.01	-1
C	068	Commercial-Restaurant-Fast Foo	94	068	RS2	1.1	S90	3000	12	0.01	-1
C	069	Commercial-Specific Purpose	94	069	RT1	1	S90	10000	14	0.01	-1
C	071	Industrial-Raw Material	94	071	MN1	1	S90	15000	14	0.015	-1
C	072	Industrial-Heavy Manufacturing	94	072	MN2	1	S90	30000	12	0.015	-1
C	073	Industrial-Light	94	073	MN1	1	S90	22000	12	0.015	-1
C	074	Industrial-Warehouse-1-story	94	074	WH2	1	S90	25000	16	0.01	-1
C	075	Industrial-Warehouse-Multistor	94	075	WH1	1	S90	20000	16	0.01	-1
C	076	Industrial-Truck Teminal	94	076	WH3	1	S90	20000	16	0.01	-1
C	078	Warehouse-Condo	94	078	WH2	1	S90	5000	16	0.01	-1
C	079	Industrial -Misc	94	079	MN1	1	S90	22000	12	0.015	-1
C	081	Religious	94	081	PS1	1	S90	15000	24	0.01	-1
C	082	Medical	94	082	MC1	1	S90	15000	10	0.01	-1
C	083	Educational	94	083	ED1	1	S90	80000	12	0.01	-1
C	084	Public Service	94	084	PS1	1	S90	12000	12	0.01	-1
C	085	Embassy_Chancery	94	085	PS2	1	S90	12000	12	0.01	-1
C	086	Museum_Library_Gallery	94	086	GS3	1	S90	14000	14	0.01	-1
C	087	Recreational	94	087	RB1	1	S90	20000	24	0.01	-1
C	088	Healthcare Faciltity	94	088	MC2	1	S90	8000	12	0.01	-1
C	089	Special Purpose	94	089	GS2	1	S90	2000	8	0.01	-1
C	126	Coop-Horizontal-Mixed Use	94	126	AP2	1	S90	10000	8	0.015	-1
C	127	Coop-Vertical-Mixed Use	94	127	AP2	1	S90	10000	8	0.015	-1
C	165	Vehicle Svc Station_Kiosk	94	165	SS1	1	S90	5000	14	0.01	-1
C	189	Special Pupose-Memorial	94	189	GS1	1	S90	10000	8	0.01	-1
C	191	Vacant	00	191		1					-1
C	192	Vacant-with permit	00	192		1					-1
C	193	Vacant-zoning limits	00	193		1					-1
C	194	Vacant-false abutting	00	194		1					-1

Base Cost Rates

Cost Group	Class	Base Rate	Depr. Table	Econ. Life	Max. Depr.	Max. Age
AP1	0	47.3	5	60	80	99
AP1	A	65	5	70	80	99
AP1	B	56	5	70	80	99
AP1	C	47.3	5	60	80	99
AP1	D	46.66	5	50	80	99
AP2	0	94.31	5	60	80	99
AP2	A	122.98	5	70	80	99
AP2	B	118.12	5	70	80	99
AP2	C	94.31	5	60	80	99
AP2	D	92.2	5	50	80	99
BN1	0	107.59	5	60	80	99
BN1	A	138.48	5	70	80	99
BN1	B	134.23	5	70	80	99
BN1	C	107.59	5	60	80	99
BN1	D	102.09	5	50	80	99
BN1	S	97.57	5	50	80	99
BS1	0	112	5	60	80	99
BS1	A	146	5	70	80	99
BS1	B	130	5	70	80	99
BS1	C	112	5	60	80	99
BS1	D	102	5	50	80	99
BS1	S	40	5	50	80	99
CD	R	75	5	99	80	99
CND	R	100	5	50	0	99
CW1	0	92	5	60	80	99
CW1	A	109	5	70	80	99
CW1	B	104	5	70	80	99
CW1	C	92	5	60	80	99
CW1	D	82	5	50	80	99
CW1	S	82	5	50	80	99
ED1	0	80.38	5	60	80	99
ED1	A	103.19	5	70	80	99
ED1	B	99.14	5	70	80	99
ED1	C	80.38	5	60	80	99
ED1	D	77.29	5	50	80	99
ED1	S	75.14	5	50	80	99
GEN	0	88	5	60	80	99
GEN	A	122	5	70	80	99
GEN	B	112	5	70	80	99
GEN	C	88	5	60	80	99
GEN	D	75	5	50	80	99
GEN	S	75	5	50	80	99
GS1	0	88	5	60	80	99
GS1	A	112	5	70	80	99
GS1	B	104	5	70	80	99
GS1	C	88	5	60	80	99
GS1	D	83	5	50	80	99
GS1	S	40	5	50	80	99
GS2	0	64.55	5	60	80	99
GS2	A	104.36	5	70	80	99

Base Cost Rates

GS2	B	101.82	5	70	80	99
GS2	C	64.55	5	60	80	99
GS2	D	61.12	5	50	80	99
GS2	S	59.7	5	50	80	99
GS3	0	83.32	5	60	80	99
GS3	A	115.77	5	70	80	99
GS3	B	112.25	5	70	80	99
GS3	C	83.32	5	60	80	99
GS3	D	79.96	5	50	80	99
GS3	S	74.77	5	50	80	99
HT1	0	60.64	5	60	80	99
HT1	A	75.39	5	70	80	99
HT1	B	73.44	5	70	80	99
HT1	C	60.64	5	60	80	99
HT1	D	57.68	5	50	80	99
HT1	S	57.08	5	50	80	99
HT2	0	83.4	5	60	80	99
HT2	A	96.84	5	70	80	99
HT2	B	94.49	5	70	80	99
HT2	C	83.4	5	60	80	99
HT2	D	78.99	5	50	80	99
HT2	S	78.99	5	50	80	99
MC1	0	85.35	5	60	80	99
MC1	A	108.92	5	70	80	99
MC1	B	104.76	5	70	80	99
MC1	C	85.35	5	60	80	99
MC1	D	82.32	5	50	80	99
MC1	S	75.58	5	50	80	99
MC2	0	64.85	5	60	80	99
MC2	A	83.53	5	70	80	99
MC2	B	83.53	5	70	80	99
MC2	C	64.85	5	60	80	99
MC2	D	61.78	5	50	80	99
MC2	S	58.09	5	50	80	99
MLT	R	42	5	70	80	70
MN1	0	31.32	5	60	80	99
MN1	A	50.03	5	70	80	99
MN1	B	48.25	5	70	80	99
MN1	C	31.32	5	60	80	99
MN1	D	28.36	5	50	80	99
MN1	S	27.29	5	50	80	99
MN2	0	69.07	5	60	80	99
MN2	A	90.27	5	70	80	99
MN2	B	87.52	5	70	80	99
MN2	C	69.07	5	60	80	99
MN2	D	61.85	5	50	80	99
MN2	S	61.52	5	50	80	99
MN4	0	106	5	60	80	99
MN4	A	135	5	70	80	99
MN4	B	116	5	70	80	99
MN4	C	106	5	60	80	99
MN4	D	98	5	50	80	99

Base Cost Rates

MN4	S	98	5	50	80	99
OF1	0	70.89	5	60	80	99
OF1	A	101.47	5	70	80	99
OF1	B	98.57	5	70	80	99
OF1	C	70.89	5	60	80	99
OF1	D	67.77	5	50	80	99
OF1	S	62.48	5	50	80	99
OF2	0	85.2	5	60	80	99
OF2	A	120.8	5	70	80	99
OF2	B	116.24	5	70	80	99
OF2	C	85.2	5	60	80	99
OF2	D	81.41	5	50	80	99
OF2	S	91.25	5	50	80	99
OF3	0	101	5	60	80	99
OF3	A	119	5	70	80	99
OF3	B	112	5	70	80	99
OF3	C	101	5	60	80	99
OF3	D	90	5	50	80	99
OF3	S	90	5	50	80	99
OFF	0	70	5	60	80	99
OFF	A	92	5	70	80	99
OFF	B	86	5	70	80	99
OFF	C	70	5	60	80	99
OFF	D	64	5	50	80	99
OFF	S	64	5	50	80	99
PK1	0	33.84	5	60	80	99
PK1	A	48.81	5	70	80	99
PK1	B	48.81	5	70	80	99
PK1	C	33.84	5	60	80	99
PK1	D	30.38	5	50	80	99
PK1	S	28.41	5	50	80	99
PK2	0	30.76	5	60	80	99
PK2	A	31.78	5	70	80	99
PK2	B	30.76	5	70	80	99
PK2	C	30.76	5	60	80	99
PK2	D	22.86	5	50	80	99
PK2	S	22.86	5	50	80	90
PS1	0	81.13	5	60	80	99
PS1	A	109.66	5	70	80	99
PS1	B	106.17	5	70	80	99
PS1	C	81.13	5	60	80	99
PS1	D	77.55	5	50	80	99
PS1	S	72.66	5	50	80	99
PS2	0	107	5	60	80	99
PS2	A	121	5	70	80	99
PS2	B	117	5	70	80	99
PS2	C	107	5	60	80	99
PS2	D	97	5	50	80	99
PS2	S	97	5	50	80	99
R11	R	112.79	6	75	80	75
R12	R	126.79	6	75	80	75
R13	R	112.79	6	75	80	75

Base Cost Rates

R15	R	112.79	6	75	80	75
R19	R	112.79	6	75	80	75
R23	R	68.09	6	75	80	75
R24	R	119.22	6	75	80	75
R97	R	112.79	6	75	80	75
RB1	0	71.33	5	60	80	99
RB1	A	100.71	5	70	80	99
RB1	B	97.59	5	70	80	99
RB1	C	71.33	5	60	80	99
RB1	D	67.53	5	50	80	99
RB1	S	65.41	5	50	80	99
RES	R	52	5	70	80	70
RH1	0	112.79	5	70	80	99
RH1	A	112.79	5	70	80	99
RH1	B	112.79	5	70	80	99
RH1	C	112.79	5	70	80	99
RH1	D	112.79	5	70	80	99
RH1	S	112.79	5	70	80	99
RH2	0	74.99	5	60	80	99
RH2	A	104.52	5	70	80	99
RH2	B	101.22	5	70	80	99
RH2	C	74.99	5	60	80	99
RH2	D	71.18	5	50	80	99
RH2	S	69.59	5	50	80	99
RS1	0	73.9	5	60	80	99
RS1	A	91.18	5	70	80	99
RS1	B	91.18	5	70	80	99
RS1	C	73.9	5	60	80	99
RS1	D	69.87	5	50	80	99
RS1	S	66.94	5	50	80	99
RS2	0	82.75	5	60	80	99
RS2	A	105.69	5	70	80	99
RS2	B	105.69	5	70	80	99
RS2	C	82.75	5	60	80	99
RS2	D	78.15	5	50	80	99
RS2	S	75.57	5	50	80	99
RT1	0	51.15	5	60	80	99
RT1	A	65.55	5	70	80	99
RT1	B	64.43	5	70	80	99
RT1	C	51.15	5	60	80	99
RT1	D	49.21	5	50	80	99
RT1	S	47.4	5	50	80	99
RT2	0	53.33	5	60	80	99
RT2	A	53.33	5	70	80	99
RT2	B	53.33	5	70	80	99
RT2	C	53.33	5	60	80	99
RT2	D	53.33	5	50	80	99
RT2	S	50.61	5	50	80	99
RT3	0	64.35	5	60	80	99
RT3	A	77.27	5	70	80	99
RT3	B	75.25	5	70	80	99
RT3	C	74.06	5	60	80	99

Base Cost Rates

RT3	D	74.03	5	50	80	99
RT3	S	74.03	5	50	80	99
RT4	0	49.04	5	60	80	99
RT4	A	65.58	5	70	80	99
RT4	B	65.58	5	70	80	99
RT4	C	49.04	5	60	80	99
RT4	D	46.2	5	50	80	99
RT4	S	44.2	5	50	80	99
SIN	R	59.8	5	70	80	70
SS1	0	123.04	5	70	80	99
SS1	A	123.04	5	70	80	99
SS1	B	123.04	5	70	80	99
SS1	C	123.04	5	70	80	99
SS1	D	123.04	5	70	80	99
SS1	S	123.04	5	70	80	99
SS2	0	54.69	5	60	80	99
SS2	A	66.07	5	70	80	99
SS2	B	66.07	5	70	80	99
SS2	C	54.69	5	60	80	99
SS2	D	52.51	5	50	80	99
SS2	S	50.7	5	50	80	99
SV1	0	74.06	5	60	80	99
SV1	A	74.06	5	70	80	99
SV1	B	74.06	5	70	80	99
SV1	C	74.06	5	60	80	99
SV1	D	61.35	5	50	80	99
SV1	S	74.06	5	50	80	99
TM1	0	20	5	60	80	99
TM1	A	64	5	70	80	99
TM1	B	58	5	70	80	99
TM1	C	52	5	60	80	99
TM1	D	48	5	50	80	99
TM1	S	48	5	50	80	99
UT1	0	91	5	60	80	99
UT1	A	103	5	70	80	99
UT1	B	96	5	70	80	99
UT1	C	91	5	60	80	99
UT1	D	78	5	50	80	99
UT1	S	78	5	50	80	99
WH1	0	25.95	5	60	80	99
WH1	A	39.27	5	70	80	99
WH1	B	37.1	5	70	80	99
WH1	C	25.95	5	60	80	99
WH1	D	23.55	5	50	80	99
WH1	S	23	5	50	80	99
WH2	0	28.19	5	60	80	99
WH2	A	37.82	5	70	80	99
WH2	B	37.82	5	70	80	99
WH2	C	28.19	5	60	80	99
WH2	D	34.1	5	50	80	99
WH2	S	33.6	5	50	80	99
WH3	0	40.64	5	60	80	99

Base Cost Rates

WH3	A	40.64	5	70	80	99
WH3	B	40.64	5	70	80	99
WH3	C	36.88	5	50	80	99
WH3	D	36.88	5	50	80	99
WH3	S	35.98	5	50	80	99

Introduction to the Base Change Report and Sales Ratio Studies

The following several documents include reports and maps that illustrate the changes in values and assessment to sales ratios based on the 2004 revaluation effort in context to the 2003 assessment level.

Base Change Report - This report shows the total value of the real property in the city by neighborhood. It also shows the percent change in the total value from 2003 to 2004.

Preliminary 2004 Performance Report - This report shows summary sales/ratio statistics citywide for residential and commercial properties. For the purposes of this report, residential condominiums are included in the residential statistics, and multi-family buildings (5 or more units) are included in the commercial figures. Histograms present the residential ratios graphically and generally indicate a normal distribution.

Triennial Reassessment Groups Map - This map shows each neighborhood in the city, and is color-coded to indicate in which "tri-group" each neighborhood is located. Reassessment for Tax Year 2004 represents the final year of a three-year transition to annual assessment. Previously, under the triennial system, valuations were conducted by tri-groups, so those parcels within a tri-group were valued once every three years. Going forward, all parcels in the city will be valued every year.

Preliminary and Final Sales Ratio Studies - These ratio studies serve as a "before-and-after" analysis of the reassessment process. There is a one-page ratio summary listed by neighborhood for each of four property types. The property types are "residential," "condominium," "multi-family," and "commercial." The preliminary report looks at current 2003 values versus sales data from the most recent 12-month period. The final report looks at the proposed 2004 values versus the sales data from the 12-month period preceding the valuation date, January 1, 2003.

Residential Ratios by Sub-neighborhood - This report shows the residential assessment-to-sale ratios summarized by sub-neighborhood.

Ward Map - This map shows the city's neighborhood boundaries overlaid by the District's political ward boundaries.

**Real Property Tax Assessment Administration
2004 Base Changes**

Neighborhood	Name	TOTAL BASE			
		2003	2004	Difference	% Change
1	American University Park	\$1,036,690,272	\$1,610,278,320	\$573,588,048	55.3%
2	Anacostia	\$222,593,736	\$260,994,140	\$38,400,404	17.3%
3	Barry Farms	\$91,594,741	\$116,808,530	\$25,213,789	27.5%
4	Berkley	\$574,082,969	\$680,629,890	\$106,546,921	18.6%
5	Brentwood	\$241,820,072	\$267,646,300	\$25,826,228	10.7%
6	Brightwood	\$686,846,889	\$962,252,850	\$275,405,961	40.1%
7	Brookland	\$797,610,931	\$1,118,090,310	\$320,479,379	40.2%
8	Burleith	\$411,177,490	\$483,597,890	\$72,420,400	17.6%
9	Capitol Hill	\$1,601,804,099	\$2,022,619,510	\$420,815,411	26.3%
10	Central	\$19,635,028,165	\$23,460,402,420	\$3,825,374,255	19.5%
11	Chevy Chase	\$2,241,742,757	\$3,311,136,390	\$1,069,393,633	47.7%
12	Chillum	\$152,688,501	\$210,574,610	\$57,886,109	37.9%
13	Cleveland Park	\$1,404,844,693	\$1,568,535,750	\$163,691,057	11.7%
14	Colonial Village	\$219,998,109	\$305,524,440	\$85,526,331	38.9%
15	Columbia Heights	\$1,175,411,321	\$1,494,515,700	\$319,104,379	27.1%
16	Congress Heights	\$477,775,534	\$528,879,240	\$51,103,706	10.7%
17	Crestwood	\$368,197,455	\$418,971,470	\$50,774,015	13.8%
18	Deanwood	\$557,716,292	\$647,361,770	\$89,645,478	16.1%
19	Eckington	\$400,793,178	\$471,711,590	\$70,918,412	17.7%
20	Foggy Bottom	\$1,823,010,037	\$2,116,989,910	\$293,979,873	16.1%
21	Forest Hills	\$1,408,078,815	\$1,646,292,670	\$238,213,855	16.9%
22	Fort Dupont Park	\$345,601,667	\$397,676,230	\$52,074,563	15.1%
23	Foxhall	\$152,483,364	\$194,061,460	\$41,578,096	27.3%
24	Garfield	\$749,809,586	\$869,502,120	\$119,692,534	16.0%
25	Georgetown	\$3,600,227,908	\$4,403,688,830	\$803,460,922	22.3%
26	Glover Park	\$615,664,772	\$723,853,280	\$108,188,508	17.6%
27	Hawthorne	\$104,909,663	\$163,788,360	\$58,878,697	56.1%
28	Hillcrest	\$543,622,414	\$608,490,890	\$64,868,476	11.9%
29	Kalorama	\$1,872,250,587	\$2,214,776,690	\$342,526,103	18.3%
30	Kent	\$577,431,752	\$677,952,080	\$100,520,328	17.4%
31	LeDroit Park	\$239,996,966	\$317,791,730	\$77,794,764	32.4%
32	Lily Ponds	\$163,794,356	\$194,300,040	\$30,505,684	18.6%
33	Marshall Heights	\$121,583,439	\$131,239,490	\$9,656,051	7.9%
34	Massachusetts Av Heights	\$468,277,536	\$530,308,300	\$62,030,764	13.2%
35	Michigan Park	\$138,887,859	\$194,098,270	\$55,210,411	39.8%
36	Mount Pleasant	\$1,281,259,949	\$1,646,931,760	\$365,671,811	28.5%
37	North Cleveland Park	\$412,405,513	\$602,075,780	\$189,670,267	46.0%
38	Observatory Circle	\$883,592,177	\$1,066,776,780	\$183,184,603	20.7%
39	Old City I	\$2,945,022,946	\$3,975,862,200	\$1,030,839,254	35.0%
40	Old City II	\$3,940,165,127	\$5,288,583,520	\$1,348,418,393	34.2%
41	Palisades	\$468,567,682	\$528,522,900	\$59,955,218	12.8%
42	Petworth	\$678,563,470	\$954,147,150	\$275,583,680	40.6%
43	Randle Heights	\$370,086,822	\$423,754,290	\$53,667,468	14.5%
44	R.L.A. NE	\$548,957,914	\$716,358,090	\$167,400,176	30.5%
45	R.L.A. NW	\$171,698,920	\$228,073,060	\$56,374,140	32.8%
46	R.L.A. SW	\$2,487,376,441	\$3,135,238,620	\$647,862,179	26.0%
47	Riggs Park	\$344,677,869	\$406,582,910	\$61,905,041	18.0%
48	Shepherd Park	\$266,672,947	\$406,380,490	\$139,707,543	52.4%
49	Sixteenth Street Heights	\$369,794,068	\$624,123,000	\$254,328,932	68.8%
50	Spring Valley	\$866,538,279	\$992,074,580	\$125,536,301	14.5%
51	Takoma	\$118,906,467	\$173,060,310	\$54,153,843	45.5%
52	Trinidad	\$287,367,554	\$336,673,370	\$49,305,816	17.2%
53	Wakefield	\$250,739,832	\$395,650,350	\$144,910,518	57.8%
54	Wesley Heights	\$891,749,978	\$1,100,262,870	\$208,512,892	23.4%
55	Woodley	\$155,125,584	\$179,809,920	\$24,684,336	15.9%
56	Woodridge	\$505,672,030	\$665,546,800	\$159,874,770	31.6%
59	Rail Road Tracks	\$1,626,372	\$1,626,370	-\$2	0.0%
63	North Anacostia Park	\$284,310	\$1,114,860	\$830,550	292.1%
66	Fort Lincoln	\$11,822,147	\$13,910,200	\$2,088,053	17.7%
68	Bolling AFB & Naval Research	\$17,370,174	\$22,707,390	\$5,337,216	30.7%
69	D.C. Village	\$106,000	\$150,400	\$44,400	41.9%
	Total	\$63,500,200,500	\$79,211,341,444	\$15,711,140,943	24.7%

Preliminary 2004 Performance Report

2002 SALES RATIOS BY PROPERTY TYPE: CITY-WIDE

PROPERTY TYPE	SALES	AVE PRICE	MED PRICE	MEDIAN RATIO	COD
Residential	7,411	325,960	233,000	95.7 %	14
Commercial	552	3,196,642	300,000	100.0 %	10

2002 SALES RATIOS BY TRIGROUP: RESIDENTIAL

TRIGROUP	SALES	AVE PRICE	MED PRICE	MEDIAN RATIO	COD
1	2,644	275,883	185,000	95.5 %	14
2	3,016	396,925	309,000	95.5 %	15
3	1,751	279,344	200,000	96.6 %	15

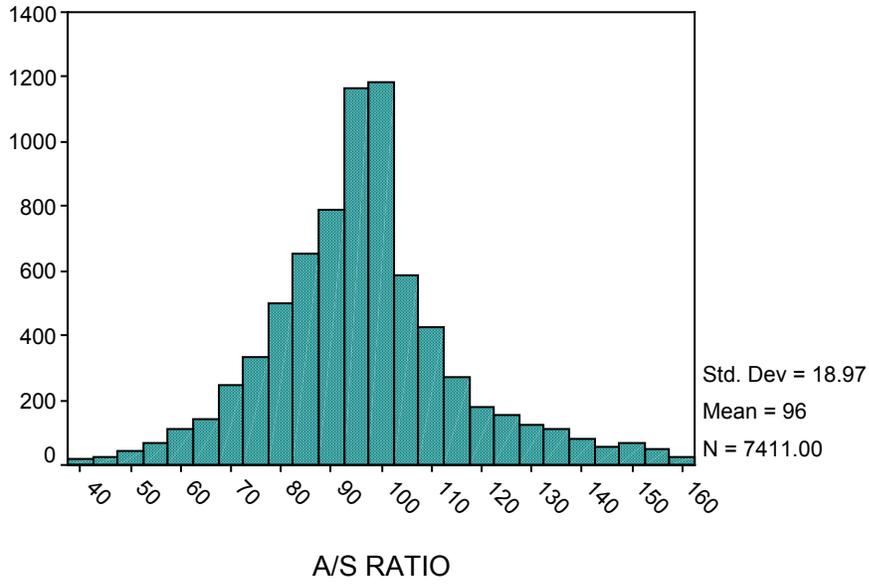
2002 SALES RATIOS BY TRIGROUP: COMMERCIAL

TRIGROUP	SALES	AVE PRICE	MED PRICE	MEDIAN RATIO	COD
1	219	3,163,037	276,500	100.0 %	9
2	192	1,427,720	347,500	100.0 %	13
3	141	5,657,582	325,000	99.2 %	10

Preliminary 2004 Performance Report

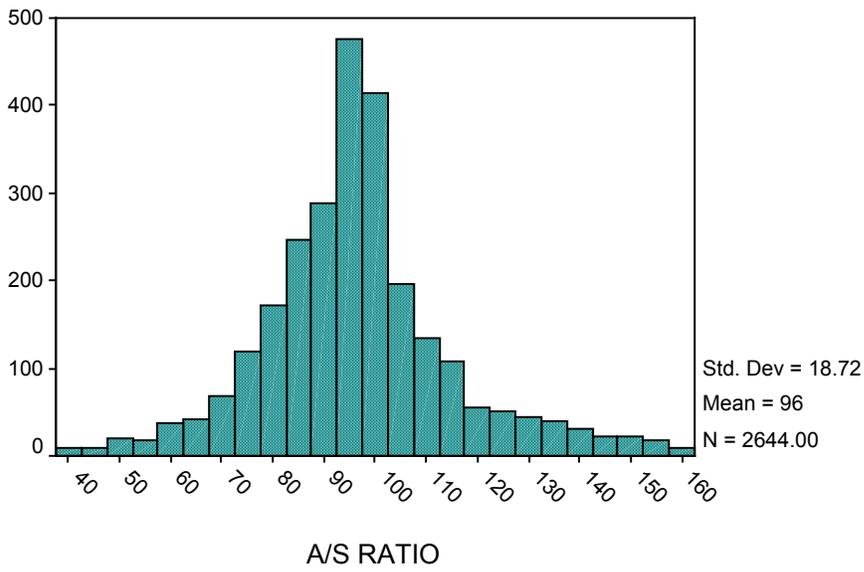
RESIDENTIAL SALES RATIOS

CITY-WIDE



RESIDENTIAL SALES RATIOS

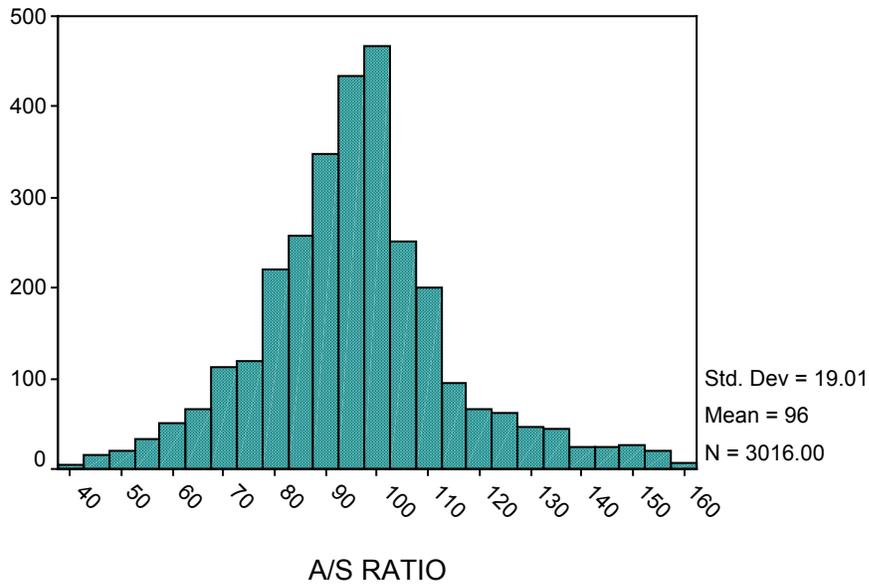
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Preliminary 2004 Performance Report

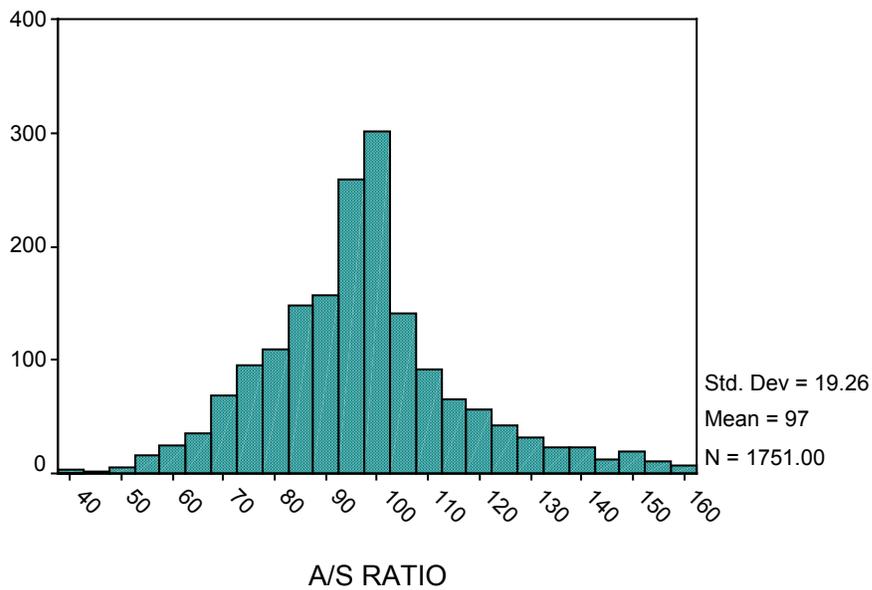
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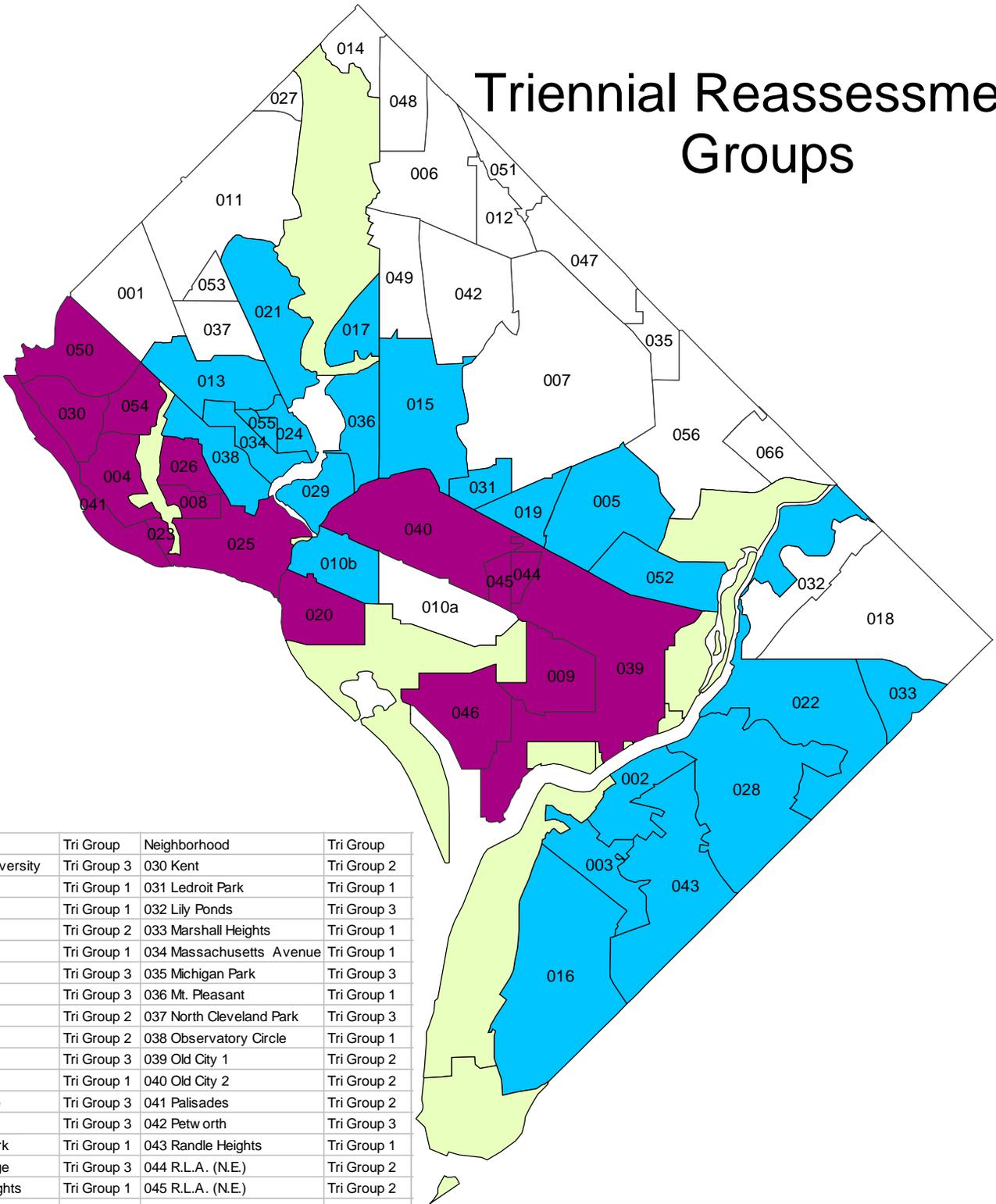


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Triennial Reassessment Groups



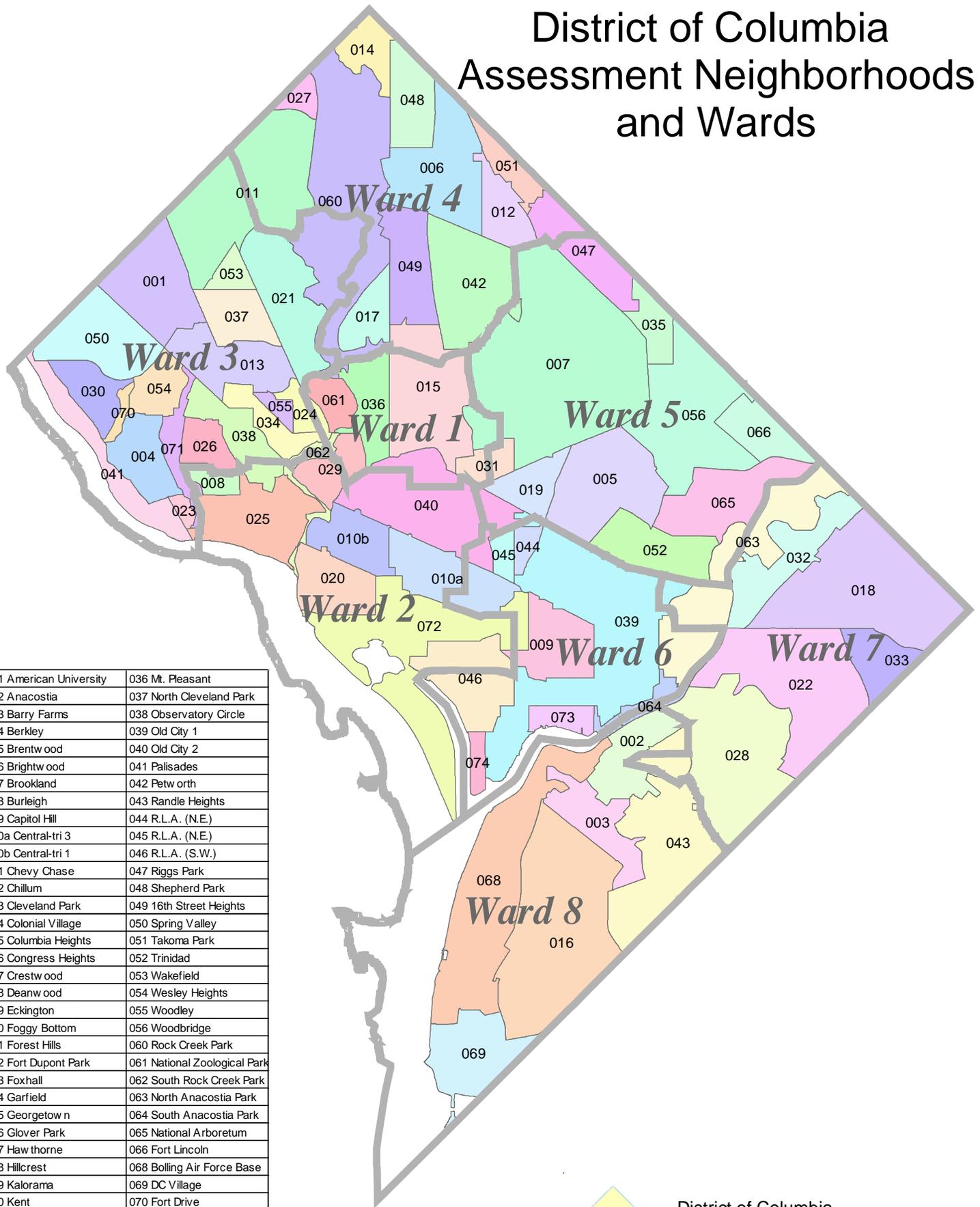
Neighborhood	Tri Group	Neighborhood	Tri Group
001 American University	Tri Group 3	030 Kent	Tri Group 2
002 Anacostia	Tri Group 1	031 Ledroit Park	Tri Group 1
003 Barry Farms	Tri Group 1	032 Lily Ponds	Tri Group 3
004 Berkley	Tri Group 2	033 Marshall Heights	Tri Group 1
005 Brentwood	Tri Group 1	034 Massachusetts Avenue	Tri Group 1
006 Brightwood	Tri Group 3	035 Michigan Park	Tri Group 3
007 Brookland	Tri Group 3	036 Mt. Pleasant	Tri Group 1
008 Burleigh	Tri Group 2	037 North Cleveland Park	Tri Group 3
009 Capitol Hill	Tri Group 2	038 Observatory Circle	Tri Group 1
010a Central-tri 3	Tri Group 3	039 Old City 1	Tri Group 2
010b Central-tri 1	Tri Group 1	040 Old City 2	Tri Group 2
011 Chevy Chase	Tri Group 3	041 Palisades	Tri Group 2
012 Chillum	Tri Group 3	042 Petworth	Tri Group 3
013 Cleveland Park	Tri Group 1	043 Randle Heights	Tri Group 1
014 Colonial Village	Tri Group 3	044 R.L.A. (N.E.)	Tri Group 2
015 Columbia Heights	Tri Group 1	045 R.L.A. (N.E.)	Tri Group 2
016 Congress Heights	Tri Group 1	046 R.L.A. (S.W.)	Tri Group 2
017 Crestwood	Tri Group 1	047 Riggs Park	Tri Group 3
018 Deanwood	Tri Group 3	048 Shepherd Park	Tri Group 3
019 Eckington	Tri Group 1	049 16th Street Heights	Tri Group 3
020 Foggy Bottom	Tri Group 2	050 Spring Valley	Tri Group 2
021 Forest Hills	Tri Group 1	051 Takoma Park	Tri Group 3
022 Fort Dupont Park	Tri Group 1	052 Trinidad	Tri Group 1
023 Foxhall	Tri Group 2	053 Wakefield	Tri Group 3
024 Garfield	Tri Group 1	054 Wesley Heights	Tri Group 2
025 Georgetown	Tri Group 2	055 Woodley	Tri Group 1
026 Glover Park	Tri Group 2	056 Woodbridge	Tri Group 3
027 Hawthorne	Tri Group 3	066 Fort Lincoln	Tri Group 3
028 Hillcrest	Tri Group 1		
029 Kalorama	Tri Group 1		

	Last Reassessment Tax Year	Proposed Reassessment Tax Year
Triennial Group 1	2003	2004
	Valuation Date 01/01/02	Valuation Date 01/01/03
Triennial Group 2	2003	2004
	Valuation Date 01/01/02	Valuation Date 01/01/03
Triennial Group 3	2001	2004
	Valuation Date 01/01/00	Valuation Date 01/01/03



District of Columbia
Real Property Assessment Division

District of Columbia Assessment Neighborhoods and Wards



001 American University	036 Mt. Pleasant
002 Anacostia	037 North Cleveland Park
003 Barry Farms	038 Observatory Circle
004 Berkley	039 Old City 1
005 Brentwood	040 Old City 2
006 Brightwood	041 Palisades
007 Brookland	042 Petworth
008 Burleigh	043 Randle Heights
009 Capitol Hill	044 R.L.A. (N.E.)
010a Central-tri 3	045 R.L.A. (N.E.)
010b Central-tri 1	046 R.L.A. (S.W.)
011 Chevy Chase	047 Riggs Park
012 Chillum	048 Shepherd Park
013 Cleveland Park	049 16th Street Heights
014 Colonial Village	050 Spring Valley
015 Columbia Heights	051 Takoma Park
016 Congress Heights	052 Trinidad
017 Crestwood	053 Wakefield
018 Deanwood	054 Wesley Heights
019 Eckington	055 Woodley
020 Foggy Bottom	056 Woodbridge
021 Forest Hills	060 Rock Creek Park
022 Fort Dupont Park	061 National Zoological Park
023 Foxhall	062 South Rock Creek Park
024 Garfield	063 North Anacostia Park
025 Georgetown	064 South Anacostia Park
026 Glover Park	065 National Arboretum
027 Hawthorne	066 Fort Lincoln
028 Hillcrest	068 Bolling Air Force Base
029 Kalorama	069 DC Village
030 Kent	070 Fort Drive
031 LeDroit Park	071 Glover-Archbold Park
032 Lily Ponds	072 Mall
033 Marshall Heights	073 Washington Navy Yard
034 Massachusetts Avenue	074 Ft. McNair
035 Michigan Park	



District of Columbia
Office of Tax and Revenue
Real Property Assessment Division