Real Property Tax Administration
Office of Tax and Revenue
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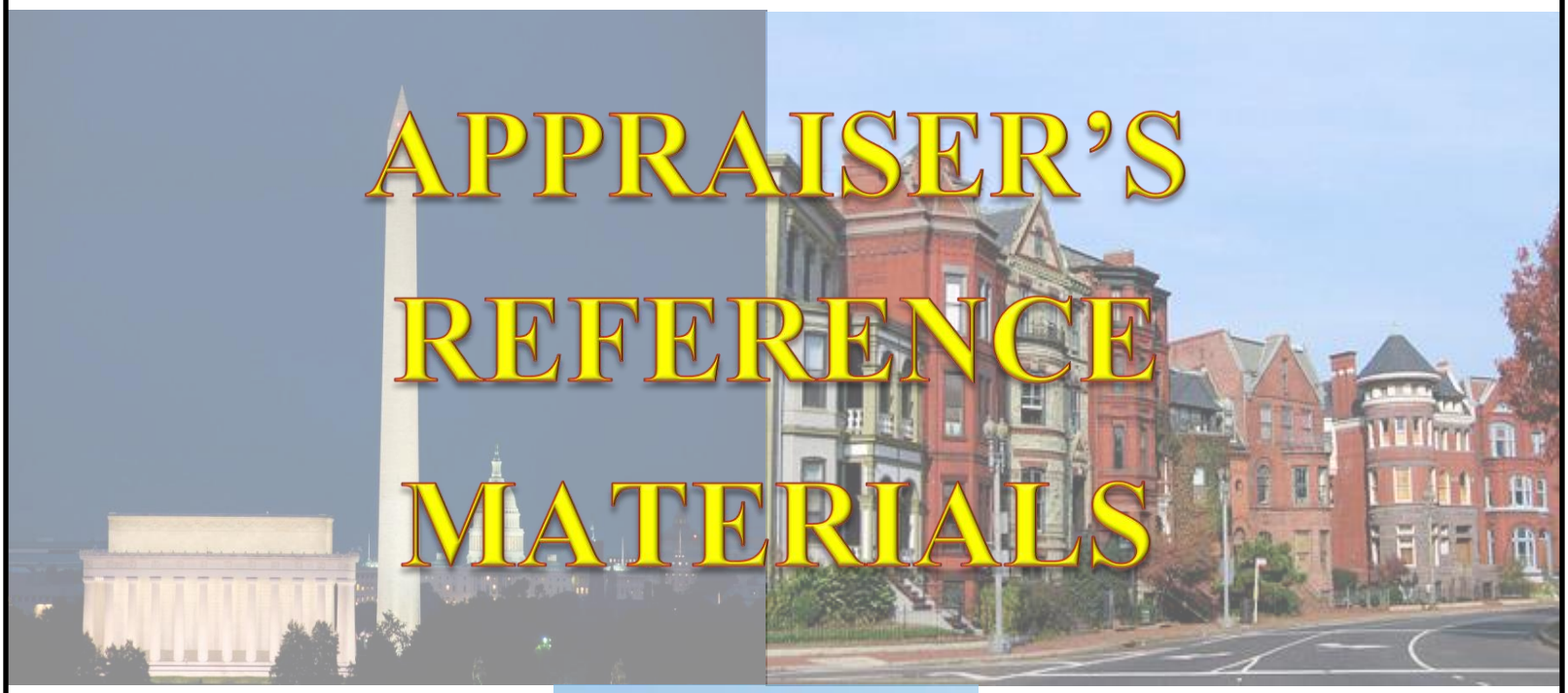
Office of the Chief Financial Officer
Office of Tax and Revenue
Real Property Tax Administration

Real Property Assessment Division

# 2017 General Reassessment Program



# APPRAISER'S REFERENCE MATERIALS

*March 2016*

## *Disclaimer:*

This publication represents a selected compilation of materials developed and used by the Real Property Assessment Division of the Office of Tax and Revenue during the 2017 revaluation of 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 primary purpose is designed to be a quick reference guide for the real property assessor in his/her day-today work activities.
Please feel free to call or fax your comments or suggestions to the contact numbers below. Thank you.

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# *2017 ARM*

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**OFFICE OF TAX AND REVENUE**
**REAL PROPERTY TAX ADMINISTRATION**
**INTER-OFFICE MEMORANDUM**

**TO:** Real Property Assessment Division

**FROM:** Steve Cappello, Chief Appraiser

**SUBJECT:** Tax Year 2017 Reassessment

**DATE:** 3/1/2016

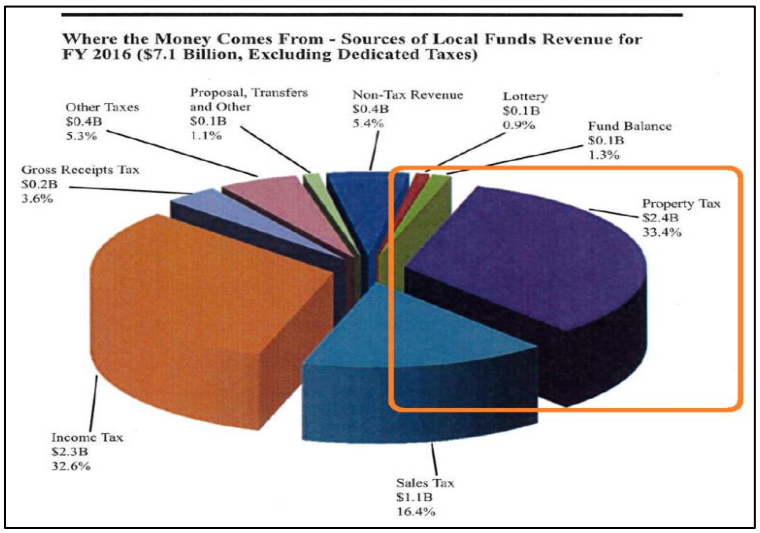
I would like to take this opportunity to thank you and congratulate you for your contribution to the successful completion of the Tax Year 2017 Revaluation and Supplemental Assessment. As a result of your efforts, we reassessed over 200,000 properties in the District of Columbia and also added over $1.14 billion in supplemental value to the Tax Year 2016 roll.

Let's look at the numbers to see the results:

| Property Type | 2016 Value | 2017 Value | Base Increase | % Change |
|---|---|---|---|---|
| Class 1 | $106,555,797,127 | $113,593,125,005 | $7,037,327,878 | 6.60 |
| Class 2 | $93,005,106,754 | $97,759,840,591 | $4,754,731,837 | 5.11 |
| *Total Taxable* | *$199,560,905,881* | *$211,352,965,596* | *$11,792,059,715* | *5.91* |
| | | | | |
| Exempt | $25,414,444,632 | $26,178,530,874 | $764,086,242 | 3.01 |
| All Properties | $224,975,350,513 | $237,531,496,470 | $12,556,145,957 | 5.58 |

As you can see, these results indicate that the market is returning to more moderate growth than has been in the past. These results are similar to what has been seen in the surrounding jurisdictions. For example, in Prince George's County, combined residential and commercial values increased, on average, 8.23 percent and Montgomery County saw a combined increase of 3.7 percent. Fairfax County's combined residential and commercial values increased 2.9 percent. Falls Church reported a 3.8 percent increase in their base values over last year.

These TY 2017 values represent the culmination of your good work over the last year as you conducted property inspections, sales verifications, model specifications and calibrations, supplemental assessments and appeals. Between the reassessment and the second-half supplemental, we added nearly $12 billion dollars of value to the tax rolls for the District of Columbia. The tax revenue generated by real property assessments accounts for about 33 percent of the overall revenue to the District's budget as evidenced by the chart below:




This represents the single largest category of revenue. Your contribution continues to ensure that funding is available to the District's leadership and to all of its residents.

Turning to appeals, the notices for TY 2017 mailed recently and we will soon begin our Administrative Appeal season. Year in and year out this division excels as we conduct first level appeals and I am always proud of the courtesy and professionalism we demonstrate to the taxpayers of the District. We have also begun receiving results from RPTAC's second level appeal season on the TY 2016 values and again the majority of decisions confirm our assessments. This is another important testament to the quality of our assessments.

In our continuing effort to provide stellar customer service, I would ask that over the next several weeks leading up to the hearings you familiarize yourselves with the contents of our Web site. Here you'll find all manner of resources to include electronic appeals filing, electronic I&E filing, property searches and various forms and publications. Please fully navigate the site so you will be able to assist taxpayers with their questions and concerns. We will also be scheduling community outreach soon, so be sure to volunteer early and often!

As you are aware, our CFO, Mr. DeWitt, spent some time meeting with us over the last year in an effort to ensure that we have the tools and resources necessary to become the "best assessment office in the country." I am happy to report that through yours and his efforts, our Division is scheduled for a variety of enhancements in the near future to include the following:

- More Frequent Meetings Among Staff and Management
- Expansion of Appraiser Workspace
- Education and Certification Program for Appraisers
- Revised Income Property Assessment Calendar
- Six New Full-time Staff Positions
- More Access to Vehicles
- Implementation of an Employee-led CAMA Improvement Team
- New Technology for Field Work and RPTAC Hearings
- Appeals Tracking System and Electronic Records Retention
- Updates to Oblique Aerial Photography

I fully expect to see many of these items to be rolled out in the months ahead. These enhancements are in addition to those provided by the Performance Audit conducted by the OIG back in September 2012. If you have any suggestions to make our Division better, I encourage you to reach out to me or your supervisor. I am grateful to Mr. DeWitt for all the support and leadership he continues to provide to our Division.

In closing, I want to thank all of you - supervisors, appraisers and support staff for your hard work and dedication. Pause, reflect and take pride in your work knowing the results go to improving the lives of the citizens of the District of Columbia. There is no higher goal!

# Explanation of Residential Market-oriented Cost Method

**Note:** The market-oriented cost approach to valuation is further explained and illustrated in the document, *Vision Residential Valuation Process*.

The market-oriented cost approach involved the following:

1. Extracting the CAMA data from approximately 10,780 qualified sales and importing it into SPSS.
2. Building a preliminary regression model that reflects the variables of the CAMA cost approach.
3. Reviewing the results of the preliminary regression to identify candidate market areas where the data was such to allow for successful regression analysis.
4. Eliminating outliers in the candidate areas to better ensure accuracy of the regression results.
5. Establishing time adjustment factors in order to analyze sale prices as of a specific point in time. The city was divided into 4 major market areas for time adjusting sale prices. Market data indicated monthly time adjustment factors over 33+ months (1/1/2013 through 10/7/2015) as follows:

| | 1/1/13 – 12/31/13 | 1/1/14 – 12/31/14 | 1/1/15 – 9/30/15 |
|---|---|---|---|
| "Southeast" Neighborhoods (2, 3, 16, 18, 22, 28, 32, 33, 43) | 1.10% /mo | 0.70% /mo | 1.00% /mo |
| "Northeast" Neighborhoods (5, 6, 7, 12, 14, 15, 17, 19, 31, 35, 36, 42, 47, 48, 49, 51, 52, 56, 66) | 1.30% /mo | 0.60% /mo | 0.80% /mo |
| "Northwest" Neighborhoods (1, 4, 8, 11, 13, 21, 23, 24, 25, 26, 27, 29, 30, 34, 37, 38, 41, 50, 53, 54, 55) | 0.80% /mo | 0.40% /mo | 0.30% /mo |
| "Downtown" Neighborhoods (9, 10, 20, 39, 40, 46) | 1.20% /mo | 0.70% /mo | 0.60% /mo |

6. Building a final regression model, using the time-adjusted sale price as the dependant variable.
7. Calibrating that model using non-linear multiple regression. Variables were included to extract land values from the market.
8. Reviewing the regression predicted values and removing extreme outliers.
9. Examining the predicted-values-to-time-adjusted-sale-price ratios for equitability with respect to lot size, building area, age, use, grade, and location.
10. Entering the coefficients indicated by the regression analysis back into the CAMA program's cost model.
11. Applying the cost model in CAMA and reviewing the resulting values to ensure they agreed with the predicted values produced by the regression.
12. Performing sales analysis to determine if acceptable levels of assessment were achieved and adjusting rates as necessary.
13. Applying model to inventory and producing old-to-new (outlier) reports and percent change detail analysis reports for appraiser review.
14. Incorporating oversight of the computer aided procedure by our professional staff cited in the *2017 Valuation Review Process*. All projected market value changes are submitted to the staff for their review, refinement, and adjustments.

# Explanation of Residential Condominium Valuation Methods

## Regression:

The sales comparison approach using multiple regression analysis involved the following:

1. Extracting the CAMA data of qualified sales and importing it into SPSS.
2. Reviewing data to determine what regimes were candidates for regression analysis. As a rule, regimes could be valued using regression where the physical data attributes were complete and adequate sales data existed. Regimes without adequate sales, but with complete data, could be clustered with regimes having similar profiles to allow regression to be used.
3. Exploring the data to determine what variables would likely contribute to the model.
4. Building a base model.
5. Reviewing the results of the base model and eliminating outliers in the candidate regimes to better ensure the accuracy of the regression results.
6. Establishing time adjustment factors in order to analyze sale prices as of a specific point in time.
7. Building a final regression model, using the time-adjusted sale price as the dependant variable.
8. Calibrating that model using multiple regression analysis.
9. Applying the model to the sales, reviewing the predicted values and removing extreme outliers.
10. Performing sales analysis to determine if acceptable levels of assessment were achieved and adjusting rates as necessary.
11. Extracting condominium inventory data and importing into SPSS.
12. Applying model to inventory, and exporting the values back to CAMA, allocating 30% of predicted value to land and 70% of predicted values to improvements.
13. Producing percent change reports for appraiser review.
14. Identifying necessary corrections to data and location adjustments.
15. Repeating process of extracting data, applying model, and exporting back to CAMA to include corrections.

## Final Appraiser Review:

At the conclusion of the valuation, several reports are produced showing the results of the reassessment. These reports, reflecting proposed market value changes, are submitted to the assessment staff for their review, refinement and adjustment in accordance with the processes outlined in the *2017 Valuation Review Process* document.

## ***The Condominium Regression Model:***

ESP= (358.23 * 800 * SIZE_ADJ * EFFIC_ADJ * COND_ADJ * VIEW_ADJ * BATH_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 (358.23) – base size rate (constant)

Base Size (800) – base unit size (constant)

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:
Unit size up to 2000 sf: $(SIZE/800)^{.67515}$
Unit size larger than 2000 sf: $(2000/800)^{.67515} * (SIZE/2000)^{.89423}$
See graph titled *Condominium Size Curve*.

Efficiency Adj. – if the unit is an efficiency unit, a 0.93 adjustment is applied.

Condition – adjustment for the unit's physical condition

| | |
|---|---|
| (1) Poor | .75 |
| (2) Fair | .90 |
| (3) Average | 1.00 |
| (4) Good | 1.08 |
| (5) Very Good | 1.16 |
| (6) Excellent | 1.27 |

View – adjustment for the unit's view

| | |
|---|---|
| (1) Poor | .85 |
| (2) Fair | .94 |
| (3) Average | 1.00 |
| (4) Good | 1.05 |
| (5) Very Good | 1.09 |
| (6) Excellent | 1.15 |

Bath Adj. – adjustment for the unit's number of baths more than one.

BATH_ADJ = 1 + (((FULLBATH - 1) + (.5 * HALFBATH)) * .08)

*Example:* *2 ½ baths: 1 + (((2 – 1) + (.5 * 1)) * .08) = 1.112*
*3 baths: 1 + (((3 – 1) + (.5 * 0)) * .08) = 1.16*

Parking – adjustment for Limited Common Element parking

| Outdoor | Covered | Indoor | |
|---|---|---|---|
| 12,900 | 17,200 | 22,900 | subject to location adjustment |

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.

## Explanation of Cooperative Valuation Method

Cooperatives are a type of residential property. In a cooperative, a corporation owns the property and the shareholders can use the unit or units represented by their shares. In Washington, DC, cooperatives are assessed according to statue by one of three methods. The first method is by calculating the cumulative value of the leasehold interests (by sales). The second method is to treat the project as if it was a condominium project and reduce the value by 30%. After arriving at either of these values, we further reduce the value an additional 35% according to the statue. The third method is available only to Limited Equity Cooperatives.

Limited-equity cooperatives (LEC) are defined in the DC official Code in § 47-802 (11) as, "one required by a government agency or non-profit to limit the resale price of membership shares to keep the housing affordable for low and moderate income buyers." The assessed value of the improved real property owned by an LEC is the lesser previously described approaches or the annual amount residents pay in carrying charges (excluding subsidies), divided by an appropriate capitalization rate as determined by the Office of Tax and Revenue (OTR).

For tax year 2017 as in 2016, we reviewed all the complexes with sales information and calculated the sales prices per square foot taking into consideration remodeling and renovations from building permits and information from listings. Sale information is collected from the Recorder of Deeds (Transfer of Economic Interest Tax Return Cooperative Only forms and the Multiple Listing Service). Only minor time adjustments were deemed necessary for this period. For previous years matched pairs sales were used to calculate the typical percentage increase per month. Multiplying the square footage of the units by the adjusted rates (occasionally they were adjusted for view or parking as sales indicated) would result in the aggregate values which were further reduced for personal property and the result multiplied by 65% to arrive at the assessment.

In complexes where there were no sales, we treated them as if they were condominiums. To do this we would find a condominium as similar as possible to the subject and use the square foot rate that seemed to be appropriate to the square foot of the units or the estimated square footage. We would adjust the square foot rate if the complexes weren't in similar condition or location. We would multiply the rate times the square footage and reduce the result by 30% and then by 35%. The complexes without sales were typically limited equity coops or very small complexes.

## 2017 Valuation Review Process

As part of the valuation process, initial assessments for all properties will be estimated and preliminary reports will be generated summarizing the results of the valuation effort. Your review, modification and approval of the proposed assessments indicate that they are representative of the estimated market value.

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 all assessments with particular attention given to the outliers in a relatively short period of time. As such, the appraiser is primarily concerned with arriving at a reasonable final value estimate for all accounts by focusing attention to the properties on the outlier list, known as the Old-to-New Report. Briefly, the process involves the appraiser 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 such as sales price, percent change reports, etc. When this review indicates correct values, no records are changed; however, if the value requires modification, the appraiser will make changes in the CAMA record and on the PRC to correct the situation. If he/she discovers minor discrepancies in the data, it should be noted and corrected or revisited during another inspection program at the discretion of the appraiser. The purpose of this program is not to engage in a detailed analysis of accounts but rather to expeditiously review outlier accounts to improve our estimate of market value.

**NOTE**: It is advisable that the appraiser has a solid knowledge of CAMA valuation before proceeding with the review process. Please refer to the most current version of the "*CAMA Residential Construction Valuation Guideline."* Along with the report entitled "VISION CAMA Valuation," the guideline will serve 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 where the proposed value increased 10 percentage points or more above the median percent change for the (sub)

neighborhood or decreased 10 percentage points or more below the median percent change. The second report, Percent Change Detail Analysis, contains more specific detail about all of the accounts in the selected (sub) neighborhood.

2. The appraiser 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 appraiser 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 calendar year 2015. These sales will give a better picture of the most recent assessment/sales ratio reflective of the current market conditions. Where the assessed values are not close to the sales prices, fully examine the record, and consider making appropriate changes. The "VC" flag can be used to indicate that a sale has been previously disqualified, possibly rendering an unusual ratio less meaningful. Additionally the review of the "VC" code with an unusual ratio may indicate that a previously qualified sale needs to be now disqualified.

   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 appraiser 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 (residential only) is as follows:

1. The appraiser will examine each record that appears on the "Old to New" report. Each record has been selected for inclusion because the proposed value decreased 3 percentage points or more below the median percent change for the (sub) neighborhood or increased 10 percentage points or more above the median percent change for the (sub) neighborhood. However, PRCs were printed for records where the proposed value decreased 10 percentage points or more below the median percent change for the (sub) neighborhood or increased 10 percentage points or more above the median percent change for the (sub) neighborhood. As a result, there will probably be more accounts listed on the "Old to New" report than printed PRCs. 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 appraiser, exercising his or her professional skill and judgment, 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.

   F. Make use of the Pictometry tool available in the Mobile Video Viewer or the Mapping Apps folder.

3. Several 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 appraiser makes the correction in the CAMA record, notes the changes made on the PRC in red, notes on the Old-to-New 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 appraiser begins the review by locating the account on the Percent Change Detail Analysis report. After finding the account, the appraiser notices that the properties close to the account have only increased by approximately 20%, 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 appraiser 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 appraiser notes on the Old-to-New report, “OK”, his/her initials and the date.

Scenario “B”, the second situation, may find the appraiser reviewing an account that also appears to be over-assessed based on the large increase from old to new value. The appraiser again locates the account on the Percent Change Detail Analysis report and reviews the account in context to other (sub)neighborhood properties. The appraiser 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 appraiser 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 appraiser 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 appraiser 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 appraiser and his/her supervisor.

Records Retention , Old-to-New Reports (residential only) and Percent Change Detail Analysis Reports (residential, residential condominium, commercial) are to be retained for two years, so that the current and proposed years are readily available for review. The retained reports will reflect all necessary dates and initials, indicating the required review and approval. The supervisor for each unit will be responsible for ensuring compliance with the review process within their unit, and for the retention of their unit's reports for the appropriate period of time. Reports may be discarded when they are no longer the current or proposed year. For example, upon the completion of the tax year (TY) 2017 revaluation, the TY 2015 reports may be discarded, and the reports from TY 2015 (current) and TY 2017 (proposed) must be on file.

## Assessment Roll and Property Owner Notification

Upon completion of the annual reassessment and following the detailed final edit by appraisers, the CAMA manager runs a series of edit programs that makes final edits and consistency checks of all accounts. Any problems are returned to appraisers for review or correction. Following corrections, the CAMA Manager completes a final edit and uploads the required information via CAMA extract to the Integrated Tax System.

Annual Assessment Notices to notify property owners may be printed from ITS in batch mode or an extract may be produced for an outside vendor to produce assessment notices.

## 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 four size curves for land area. The four size curves indicate that as lot sizes increase, values also increase. However, with land size curve "3" values increase more rapidly with size as compared to land size curve "2". Land size curve "1" increases at the smallest rate. In all three 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 three 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.

Sold for $ 400,000
(no lot)

Sold for $600,000
w/ 2,000 SF Lot
(Land = $200,000)

Next, let us assume another house sells. On this occasion, 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.

Sold for $600,000
w/ 2,000 SF Lot
(Land = $200,000)

Sold for $700,000 w/ 4,000 SF Lot
(Land = $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:

**Appraised land value = Area * (Base Rate * Size Adj)**

<u>or</u>

**$300,000 = 4000sf * ($100 * .75)**

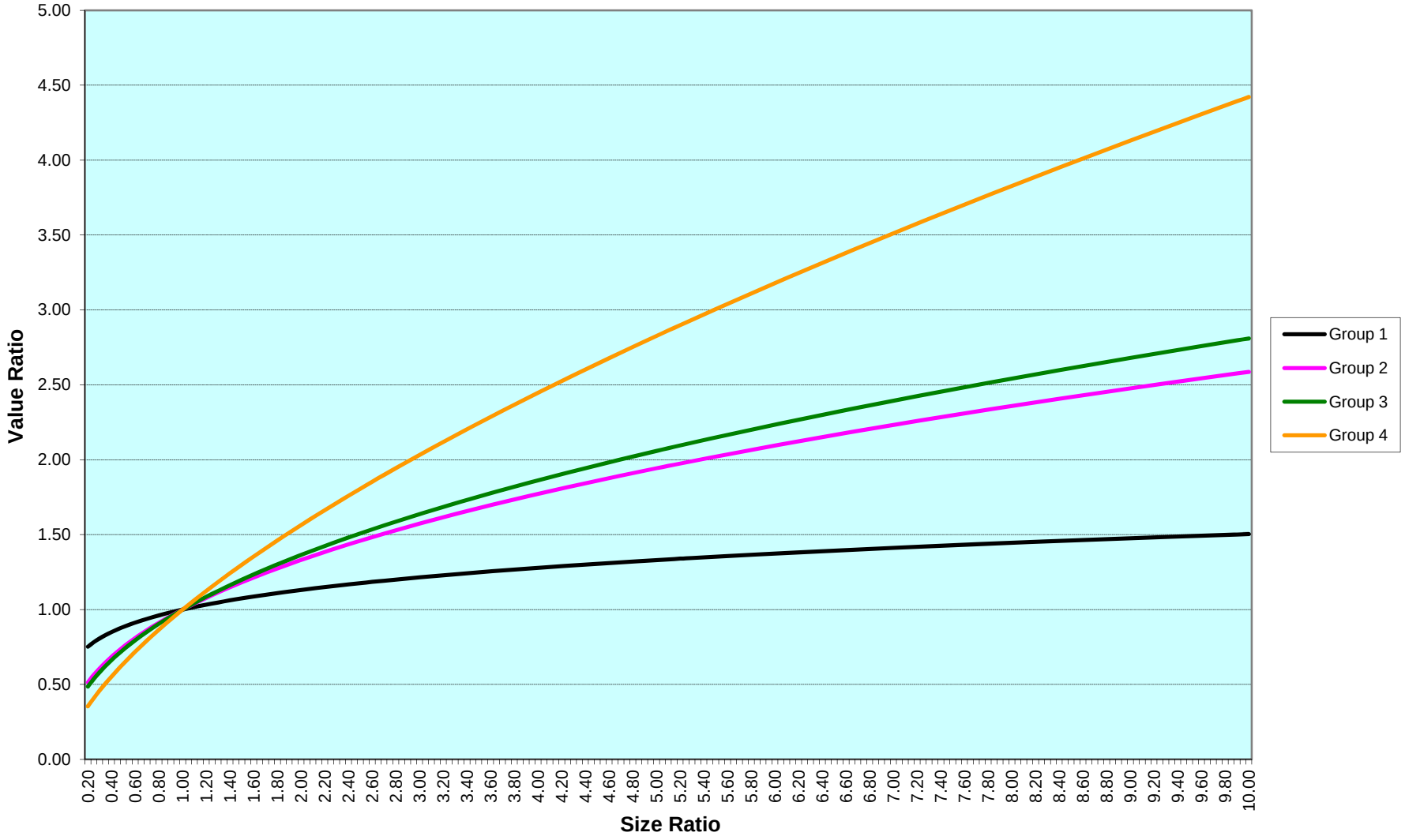
# Residential Base Land Rates By Neighborhood

| NBHD | Base Lot Size | Base Rate | Base Lot Value | Size Curve |
|---|---|---|---|---|
| 1A | 4000 sf | $115.65 | $462,600 | LG1 |
| 1B | 5000 sf | $95.92 | $479,600 | LG1 |
| 1C | 5000 sf | $97.95 | $489,750 | LG1 |
| 2A | 2000 sf | $58.69 | $117,380 | LG1 |
| 2B | 2000 sf | $61.36 | $122,720 | LG1 |
| 3 | 2000 sf | $52.81 | $105,620 | LG1 |
| 4A | 6700 sf | $96.91 | $649,300 | LG3 |
| 4B | 10000 sf | $92.81 | $928,100 | LG4 |
| 4C | 8000 sf | $98.04 | $784,320 | LG4 |
| 5A | 1700 sf | $109.17 | $185,590 | LG1 |
| 5B | 1700 sf | $107.18 | $182,210 | LG1 |
| 6A | 4000 sf | $70.67 | $282,680 | LG1 |
| 6B | 4000 sf | $67.31 | $269,240 | LG1 |
| 6C | 2000 sf | $119.42 | $238,840 | LG1 |
| 6D | 4000 sf | $68.27 | $273,080 | LG1 |
| 6E | 3000 sf | $81.48 | $244,440 | LG1 |
| 7A | 2000 sf | $104.96 | $209,920 | LG1 |
| 7B | 3000 sf | $73.28 | $219,840 | LG1 |
| 7C | 3000 sf | $84.08 | $252,240 | LG1 |
| 7D | 5000 sf | $53.51 | $267,550 | LG1 |
| 7E | 2000 sf | $130.00 | $260,000 | LG1 |
| 8A | 2000 sf | $236.03 | $472,060 | LG1 |
| 8B | 2000 sf | $239.02 | $478,040 | LG1 |
| 9A | 1400 sf | $351.99 | $492,790 | LG2 |
| 9B | 1400 sf | $362.70 | $507,780 | LG2 |
| 9C | 1400 sf | $364.44 | $510,220 | LG2 |
| 10 | 1400 sf | $442.56 | $619,580 | LG1 |
| 11A | 5000 sf | $96.91 | $484,550 | LG1 |
| 11B | 5000 sf | $96.84 | $484,200 | LG1 |
| 11C | 5000 sf | $94.72 | $473,600 | LG1 |
| 11D | 5000 sf | $86.30 | $431,500 | LG1 |
| 11E | 5000 sf | $83.88 | $419,400 | LG1 |
| 12 | 4000 sf | $60.11 | $240,440 | LG1 |
| 13 | 5000 sf | $156.29 | $781,450 | LG4 |
| 14 | 9000 sf | $44.93 | $404,370 | LG1 |
| 15A | 1800 sf | $219.06 | $394,310 | LG1 |
| 15B | 1800 sf | $200.03 | $360,050 | LG1 |
| 15C | 1800 sf | $190.51 | $342,920 | LG1 |
| 15D | 1800 sf | $214.05 | $385,290 | LG1 |
| 15E | 1800 sf | $228.43 | $411,170 | LG3 |
| 16A | 2400 sf | $43.26 | $103,820 | LG1 |
| 16B | 2400 sf | $45.48 | $109,150 | LG1 |
| 16C | 2400 sf | $42.84 | $102,820 | LG1 |
| 17 | 6000 sf | $68.40 | $410,400 | LG1 |
| 18A | 3000 sf | $40.76 | $122,280 | LG1 |
| 18B | 3000 sf | $38.97 | $116,910 | LG1 |
| 18C | 3000 sf | $37.34 | $112,020 | LG1 |
| 18D | 3000 sf | $37.01 | $111,030 | LG1 |

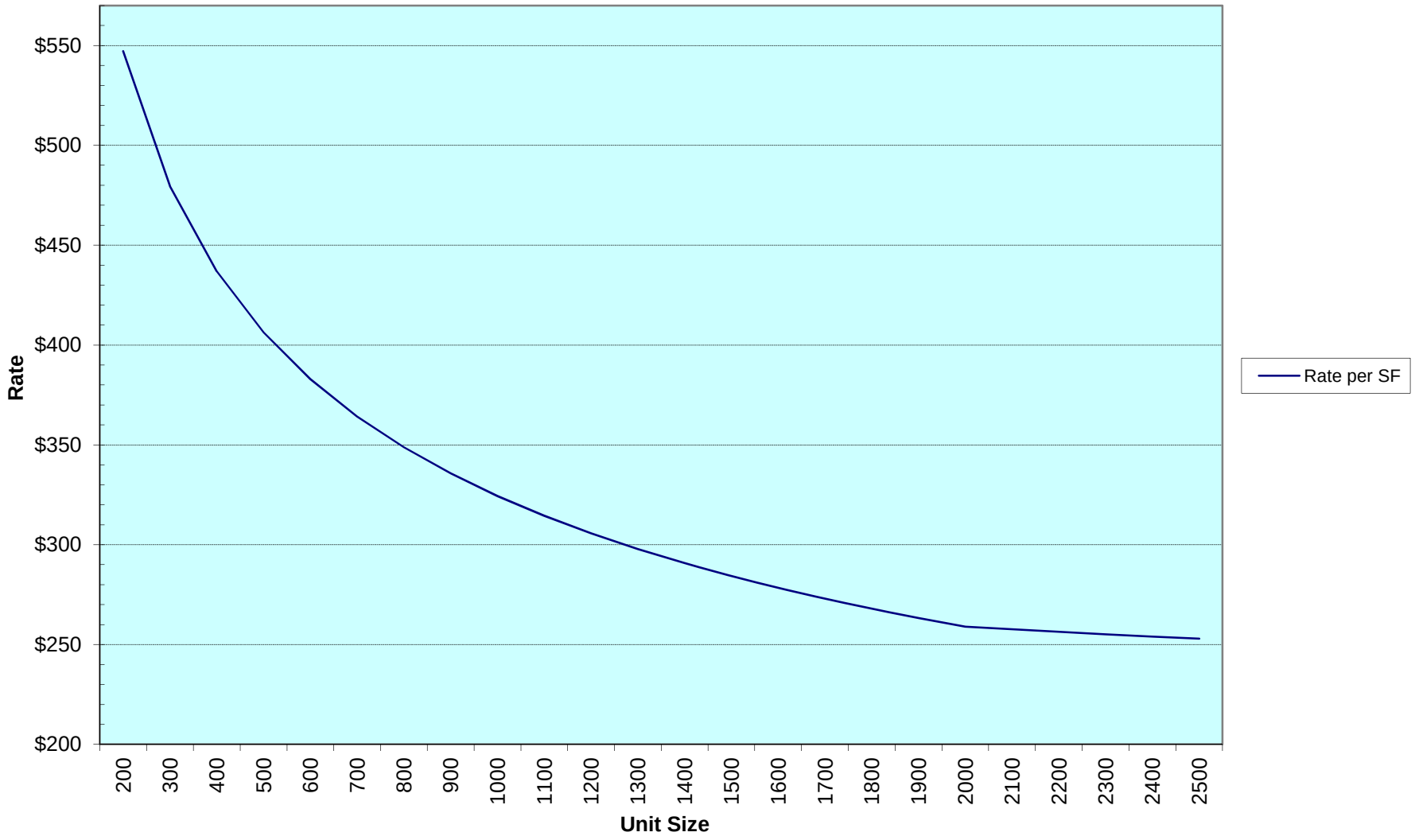
| NBHD | Base Lot Size | Base Rate | Base Lot Value | Size Curve |
|---|---|---|---|---|
| 18E | 3000 sf | $39.22 | $117,660 | LG1 |
| 19A | 1800 sf | $213.55 | $384,390 | LG1 |
| 19B | 1800 sf | $175.22 | $315,400 | LG1 |
| 20 | 1000 sf | $509.70 | $509,700 | LG1 |
| 21 | 9000 sf | $76.18 | $685,620 | LG3 |
| 22A | 3000 sf | $36.31 | $108,930 | LG1 |
| 22B | 2400 sf | $46.11 | $110,660 | LG1 |
| 22C | 3000 sf | $36.27 | $108,810 | LG1 |
| 22D | 2400 sf | $49.53 | $118,870 | LG1 |
| 23 | 2500 sf | $179.32 | $448,300 | LG1 |
| 24 | 2400 sf | $225.58 | $541,390 | LG1 |
| 25A | 1800 sf | $292.56 | $526,610 | LG3 |
| 25B | 1800 sf | $354.33 | $637,790 | LG3 |
| 25C | 1800 sf | $319.09 | $574,360 | LG3 |
| 25D | 1800 sf | $315.02 | $567,040 | LG3 |
| 25E | 1800 sf | $367.83 | $662,090 | LG4 |
| 25F | 2000 sf | $343.32 | $686,640 | LG4 |
| 25G | 2000 sf | $337.78 | $675,560 | LG3 |
| 25H | 2000 sf | $332.72 | $665,440 | LG4 |
| 25I | 800 sf | $544.88 | $435,900 | LG3 |
| 25J | 1200 sf | $420.09 | $504,110 | LG4 |
| 26 | 1700 sf | $276.08 | $469,340 | LG1 |
| 27 | 9000 sf | $47.59 | $428,310 | LG1 |
| 28A | 2400 sf | $48.42 | $116,210 | LG2 |
| 28B | 5000 sf | $29.08 | $145,400 | LG1 |
| 28C | 5000 sf | $30.49 | $152,450 | LG1 |
| 29A | 2000 sf | $265.69 | $531,380 | LG4 |
| 29B | 2000 sf | $281.56 | $563,120 | LG4 |
| 29C | 2000 sf | $296.78 | $593,560 | LG3 |
| 30A | 5000 sf | $117.27 | $586,350 | LG4 |
| 30B | 5000 sf | $114.63 | $573,150 | LG4 |
| 30C | 7000 sf | $98.50 | $689,500 | LG4 |
| 31A | 1800 sf | $229.50 | $413,100 | LG1 |
| 31B | 1800 sf | $224.11 | $403,400 | LG1 |
| 32A | 5000 sf | $26.67 | $133,350 | LG1 |
| 32B | 2000 sf | $52.67 | $105,340 | LG1 |
| 33A | 2000 sf | $51.48 | $102,960 | LG1 |
| 33B | 2000 sf | $53.79 | $107,580 | LG1 |
| 34 | 9000 sf | $115.02 | $1,035,180 | LG4 |
| 35 | 5000 sf | $49.79 | $248,950 | LG1 |
| 36A | 2000 sf | $233.94 | $467,880 | LG1 |
| 36B | 2000 sf | $245.98 | $491,960 | LG3 |
| 36C | 1600 sf | $254.16 | $406,660 | LG1 |
| 37 | 3000 sf | $169.22 | $507,660 | LG3 |
| 38 | 5000 sf | $149.09 | $745,450 | LG4 |
| 39A | 1500 sf | $241.51 | $362,270 | LG1 |
| 39B | 1500 sf | $264.82 | $397,230 | LG1 |
| 39C | 1500 sf | $293.22 | $439,830 | LG1 |

| NBHD | Base Lot Size | Base Rate | Base Lot Value | Size Curve |
|---|---|---|---|---|
| 39D | 1500 sf | $228.31 | $342,470 | LG1 |
| 39E | 1200 sf | $285.06 | $342,070 | LG1 |
| 39F | 1200 sf | $302.54 | $363,050 | LG1 |
| 39G | 1500 sf | $201.68 | $302,520 | LG1 |
| 39H | 1500 sf | $170.88 | $256,320 | LG1 |
| 39J | 1500 sf | $274.52 | $411,780 | LG1 |
| 39K | 1500 sf | $299.94 | $449,910 | LG1 |
| 39L | 1200 sf | $306.24 | $367,490 | LG1 |
| 39M | 1500 sf | $307.24 | $460,860 | LG1 |
| 40A | 1400 sf | $258.42 | $361,790 | LG1 |
| 40B | 1400 sf | $322.73 | $451,820 | LG1 |
| 40C | 1600 sf | $346.54 | $554,460 | LG2 |
| 40D | 1600 sf | $373.05 | $596,880 | LG2 |
| 40E | 1600 sf | $378.59 | $605,740 | LG2 |
| 40F | 1200 sf | $376.94 | $452,330 | LG2 |
| 40G | 1600 sf | $282.12 | $451,390 | LG1 |
| 41 | 5000 sf | $109.21 | $546,050 | LG2 |
| 42A | 1800 sf | $176.53 | $317,750 | LG1 |
| 42B | 1800 sf | $153.60 | $276,480 | LG1 |
| 42C | 1800 sf | $148.39 | $267,100 | LG1 |
| 43A | 2000 sf | $58.35 | $116,700 | LG1 |
| 43B | 2000 sf | $53.83 | $107,660 | LG1 |
| 43C | 2000 sf | $56.01 | $112,020 | LG1 |
| 43D | 2000 sf | $56.32 | $112,640 | LG1 |
| 46 | 1200 sf | $324.41 | $389,290 | LG1 |
| 47 | 3000 sf | $75.35 | $226,050 | LG1 |
| 48 | 5000 sf | $66.29 | $331,450 | LG1 |
| 49A | 3000 sf | $110.47 | $331,410 | LG1 |
| 49B | 3000 sf | $101.07 | $303,210 | LG1 |
| 49C | 3000 sf | $100.51 | $301,530 | LG1 |
| 50A | 10000 sf | $75.21 | $752,100 | LG3 |
| 50B | 6000 sf | $98.66 | $591,960 | LG2 |
| 50C | 14000 sf | $63.39 | $887,460 | LG3 |
| 50D | 15000 sf | $81.28 | $1,219,200 | LG3 |
| 51 | 3000 sf | $81.67 | $245,010 | LG3 |
| 52A | 1800 sf | $139.69 | $251,440 | LG1 |
| 52B | 1600 sf | $163.18 | $261,090 | LG1 |
| 52C | 1600 sf | $130.37 | $208,590 | LG1 |
| 53 | 5000 sf | $107.05 | $535,250 | LG1 |
| 54A | 6000 sf | $131.05 | $786,300 | LG4 |
| 54B | 1000 sf | $368.15 | $368,150 | LG1 |
| 55 | 6000 sf | $114.19 | $685,140 | LG2 |
| 56A | 5000 sf | $51.49 | $257,450 | LG1 |
| 56B | 5000 sf | $43.94 | $219,700 | LG1 |
| 56C | 5000 sf | $46.64 | $233,200 | LG1 |
| 56D | 5000 sf | $41.85 | $209,250 | LG1 |
| 66 | 5000 sf | $48.88 | $244,400 | LG1 |

## Residential Land Size Curves



## Condominium Size Curve



## 2017 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 section will illustrate the development of the Replacement Cost New of a typical residence, the second will show the steps involved in determining the amount of depreciation that has accrued to the residence, and the last section will illustrate land or lot valuation.

### 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:

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

**Where:**
RCN = Replacement Cost New
Base Rate = $ rate based on use code
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 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 home’s Property Record Card (PRC)
- Cost.dat printout of the sample home
- 2007 CAMA Residential Construction Valuation Guideline

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

**Building RCN = [(Base Rate + $\sum$ $ABRV_n$) * Effective Area * Size Adjustment + $\sum$ $AFRV_n$ ] * ($MV_0$ * $MV_2$ * … * $MV_n$)**

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

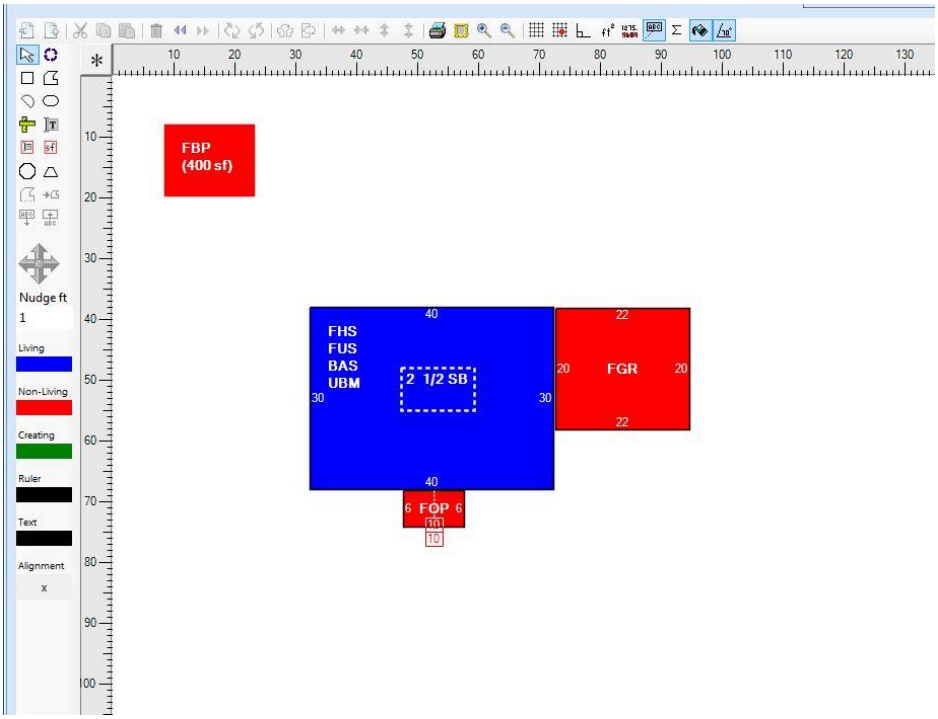


Illustration 1

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

Section Summary

| | | | |
|---|---|---|---|
| Group | R11 | Effective Area | 3498 |
| Base Rate | 133.84 | RCN | $1,881,638 |
| Eff Base Rate | $474.10 | Bldg % Good | 91 |
| Net Other Adj | $223,227.29 | RCNLD | $500 |
| Living Area/GBA | 3000 | | |

| Code | Description | Gross | Living | Eff Area |
|---|---|---|---|---|
| FHS | | 1200 | 600 | 600 |
| FUS | | 1200 | 1200 | 1200 |
| BAS | | 1200 | 1200 | 1200 |
| UBM | | 1200 | 0 | 300 |
| FGR | | 440 | 0 | 198 |
| FBP | | 400 | 0 | 0 |

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 1200 SF), the adjusted area of the garage (Garage, Attached @ 45% of 440 SF), and the adjusted area of the unfinished basement (Basement, Unfinished @ 25% of 1,200 SF).
The adjustments to the finished half story, garage and unfinished basement 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 $45/SF. The RCN value of the garage would be calculated as follows:

**RCN of Garage = $19,800 or (440 SF * $45)**

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:

**RCN of Garage = $19,800 or [(440 * .45) * $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.

Let's take a moment to examine the treatment of the basement in this house. The house has a full-sized basement comprised of 1,200 SF. In addition, the basement contains a finished area (400 SF), and the balance as unfinished. Illustration 3 shows the contribution of the unfinished portion to the effective area calculation. However, notice that the finished portion of the basement is not included in the effective area calculations. The value attributed to this finished area is accounted for as an Additive Flat Rate Variable later in the valuation model. The reason for this methodology is to ensure that the effective area is not erroneously overstated by the amount of any finished area in the basement.

| Code | Description | Gross | Living | Eff Area |
|---|---|---|---|---|
| FHS | | 1200 | 600 | 600 |
| FUS | | 1200 | 1200 | 1200 |
| BAS | | 1200 | 1200 | 1200 |
| UBM | | 1200 | 0 | 300 |
| FGR | | 440 | 0 | 198 |
| FBP | | 400 | 0 | 0 |
| FOP | | 60 | 0 | 0 |

Illustration 3

Finally, the Gross Area shown in Illustration 3 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.

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

**Building RCN = [(Base Rate + $\sum$ ABRV$_n$) * *3,498* * Size Adjustment**
**Effective Area**
**+ $\sum$ AFRV$_n$ ] * (MV$_0$ * MV$_2$ * … * MV$_n$)**

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

**Building RCN = [(Base Rate + $\sum$ ABRV$_n$) * Effective Area * Size Adjustment + $\sum$ AFRV$_n$ ] * (MV$_0$ * MV$_2$ * … * 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 Use Code of the building. Our sample home is a "Use Code 012 - Detached", corresponding to a Residential-Detached–Single Family residence. The Base Rate is automatically selected by the CAMA system and the appropriate base rate for the sample home is $ 149.27. Now the cost model looks like this:

**Building RCN = [( *$157.85* + $\sum$ ABRV$_n$) * *3,498* * Size Adjustment**
**Base Rate** **Effective Area**
**+ $\sum$ AFRV$_n$ ] * (MV$_0$ * MV$_2$ * … * MV$_n$)**

**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).

**Building RCN = [(Base Rate + $\sum$ ABRV$_n$) * Effective Area * Size Adjustment + $\sum$ AFRV$_n$ ] * (MV$_0$ * MV$_2$ * … * 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 square foot rate. So therefore, the **$\sum$ 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 CAMA screen that can modify the selected Base Rate as ABRVs.

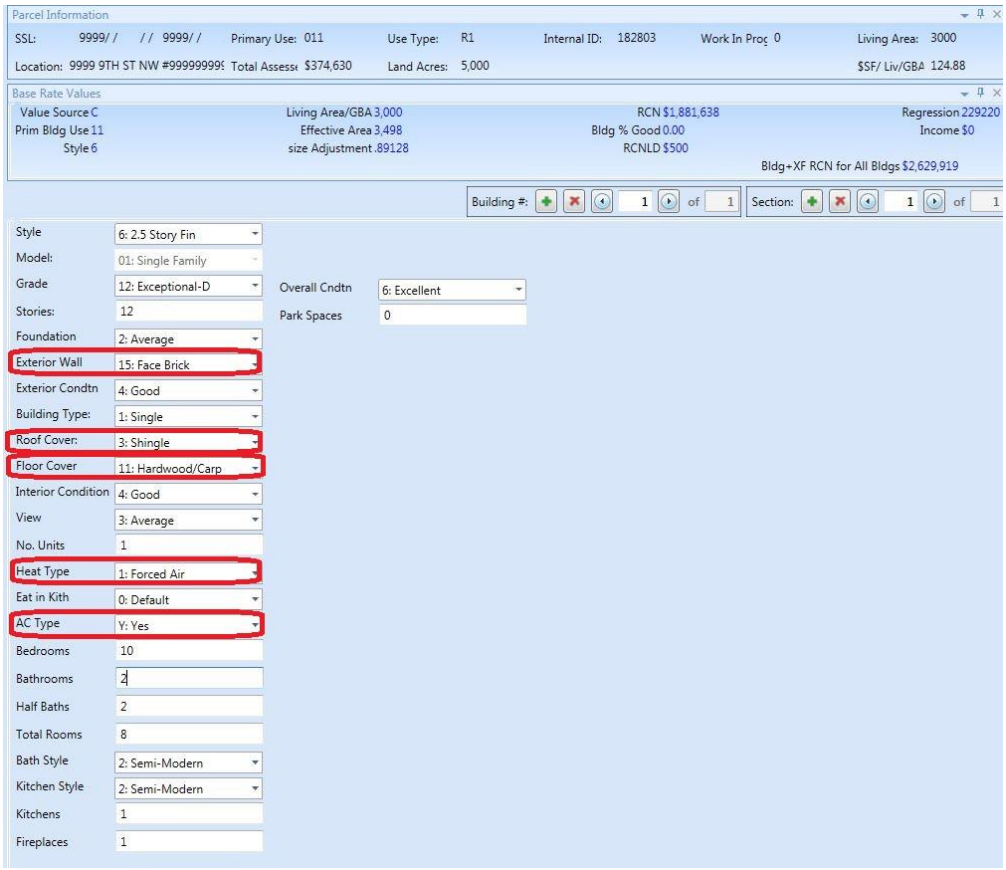


Illustration 4

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, $\sum$, is $11.10 (1.80+3.95+4.67+0.68). This will be added to the Base Rate of $157.85 to give a modified Base Rate of $168.95.

Our model now looks like this:

$$\text{Building RCN} = [\,(\underbrace{\$157.85}_{\text{Base Rate}} + \underbrace{\$11.10}_{\sum \text{ABRV}_n}) * \underbrace{3{,}498}_{\text{Effective Area}} * \text{Size Adjustment} + \sum \text{AFRV}_n\,] * (\text{MV}_0 * \text{MV}_2 * \ldots * \text{MV}_n)$$

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

**Building RCN = [(Base Rate + $\sum$ ABRV$_n$) * Effective Area * Size Adjustment + $\sum$ AFRV$_n$ ] * (MV$_0$ * MV$_2$ * … * 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 0.89128 as listed on the Cost.dat sheet. Now our Base Rate is calculated to be $150.58 ((157.85+11.10) * 0.89128).

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 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:

**Building RCN = [ ( *$157.85* + *$11.10*) * *3,498* * *0.89128***
Base Rate $\sum$ ABRV$_n$ Effective Area Size Adjustment
**+ $\sum$ AFRV$_n$ ] * (MV$_0$ * MV$_2$ * … * MV$_n$)**

**5.** We are finished establishing the Base Rate for our sample home and now turn to the Additive Flat Rate Variables (AFRV). 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.

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

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

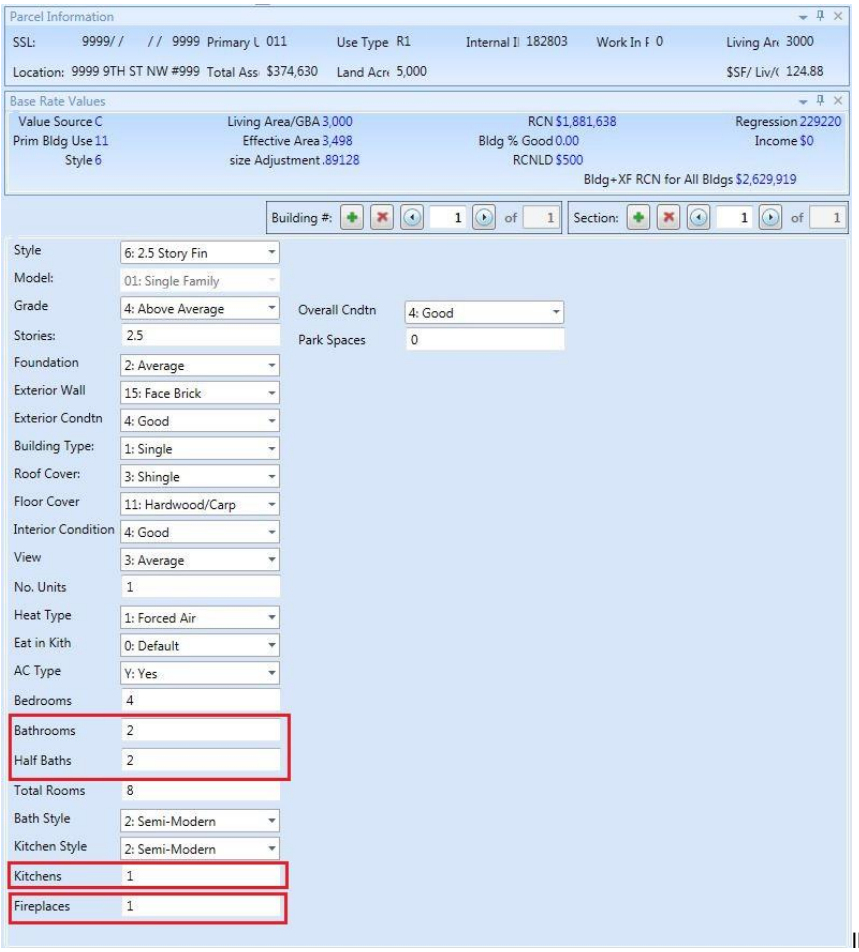


Illustration 5

Unlike the Additive Base Rate Variables (ABRV) described earlier, most of these features are not an integral portion of the whole house, but stand alone, so to speak. Examples include such items as fireplaces, extra bathrooms, and extra kitchens. Again, as with 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 additional bathrooms and a fireplace. The cost for one full bath and one kitchen is always included in the original base rate. Any bathrooms or kitchens over and above the first are accounted for as AFRVs.

The value of an additive flat rate variable is calculated by multiplying the number of "units" by the dollar rate per unit. For example, illustration 5 shows our sample home also has two half baths. The AFRV for the half baths is $16,250 (2 "units" X $8,125 per unit) as shown in a portion of the Cost.dat file below.

Also included in the AFRVs are the partitioned finished basement and the small open porch on the front of the house. Recall that in illustration 3, neither of these

areas was included in the calculation of the effective area of the house, therefore, their valuations are included here, as AFRVs.

The partitioned finished basement is calculated to be $22,000. In this case, "units", the gross square footage of 400 SF (shown in the sketch area of the record), are multiplied by the rate of $55 per SF. The open porch is calculated in a similar manner.

**********Flat Value Additions**********

FULL BATHS OVER 1 = 12500 + RCN
HALF BATHS = 16250 + RCN
FIREPLACES = 8000 + RCN
PARTITIONED FINISHED BASEMENT = 22000 + RCN
OPEN PORCH = 1320 + RCN

The sum, **∑,** is $60,070 (16,000+22,000+7,100+18,000+801) that will be added to the product of the previous portions of the cost formula.

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

$$\text{Building RCN} = [\ (\underbrace{\$157.85}_{\text{Base Rate}} + \underbrace{\$11.10}_{\sum \text{ABRV}_n})\ *\ \underbrace{3{,}498}_{\text{Effective Area}}\ *\ \underbrace{0.89128}_{\text{Size Adjustment}} + \underbrace{\$60{,}070}_{\sum \text{AFRV}_n}\ ] * (MV_0 * MV_2 * \ldots * MV_n)$$

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

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

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, building condition, remodeling, and location factors have their impact.

The sample home is graded “Above Average - 4”, and consequently has a 1.091 multiplicative factor. This one variable, grade, is going to increase the RCN value of the sample home by 10%. Grade can have a sizable impact on the final value of the building. For example, a "Superior - 8" increases the final rate by 48% over that of an "Average Quality - 3" house.

The condition of the building is also accounted for by the multiplicative variables. The interior, exterior and overall conditions of our sample home are each "Good" and the corresponding multiplicative variable for each is 4.8%. The level of condition may be different for each of the three variables and therefore the coefficients may be different. Please refer to the *2007 CAMA Residential Construction Valuation Guideline --RPAD* for these and all other coefficients used in the valuation model.

Just as construction grade has a significant impact on the final value of a house, so does condition. For example, a house in overall "Poor" condition throughout will have its value reduced by 20.6%, whereas a house in excellent condition throughout will have its value increased by 10.5%. That's a range of over 31%.

Illustration "6" shows a portion of the features that constitute the multiplicative variables in the cost model:

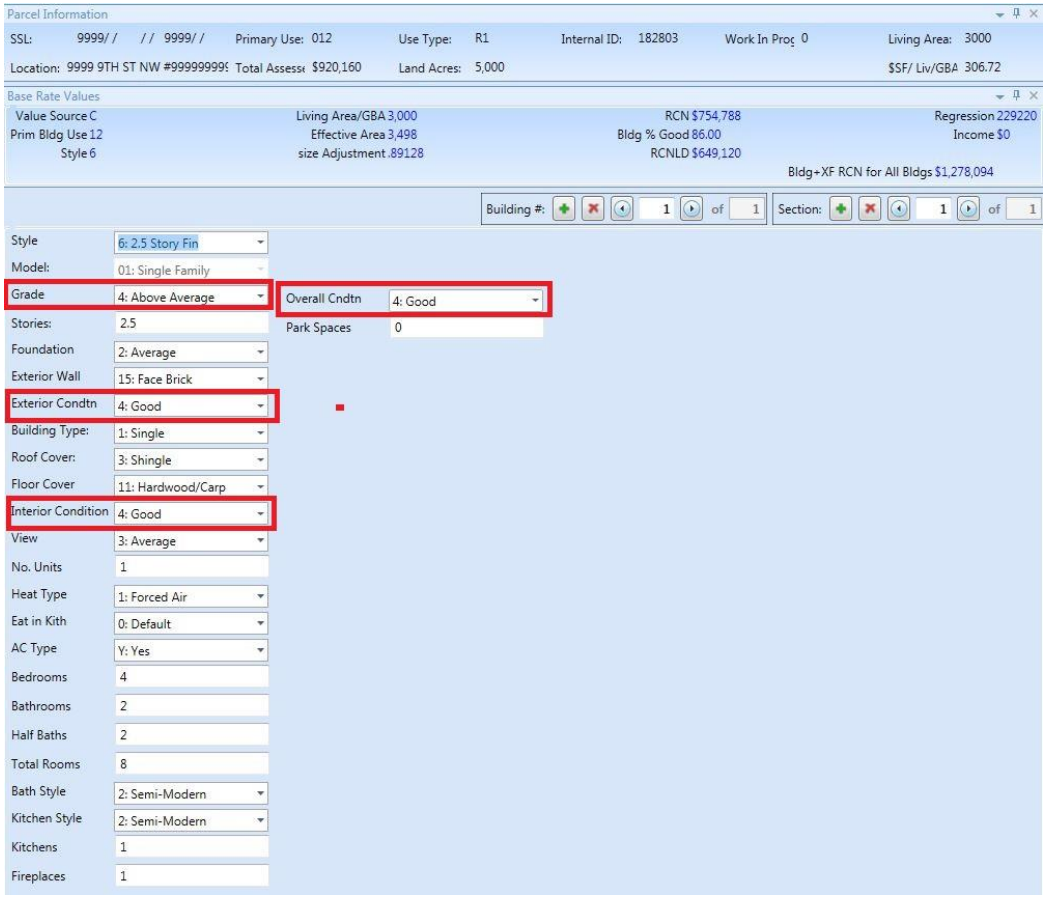


Illustration 6

Another important multiplicative variable, Remodel Type, takes into account whether or not the house has been remodeled and to what extent. In addition, the age of the remodel factors into the amount of adjustment applied by this multiplicative variable.

Our sample home was remodeled in 2001. The portion of the CAMA record that captures this information is shown in Illustration 7 below.

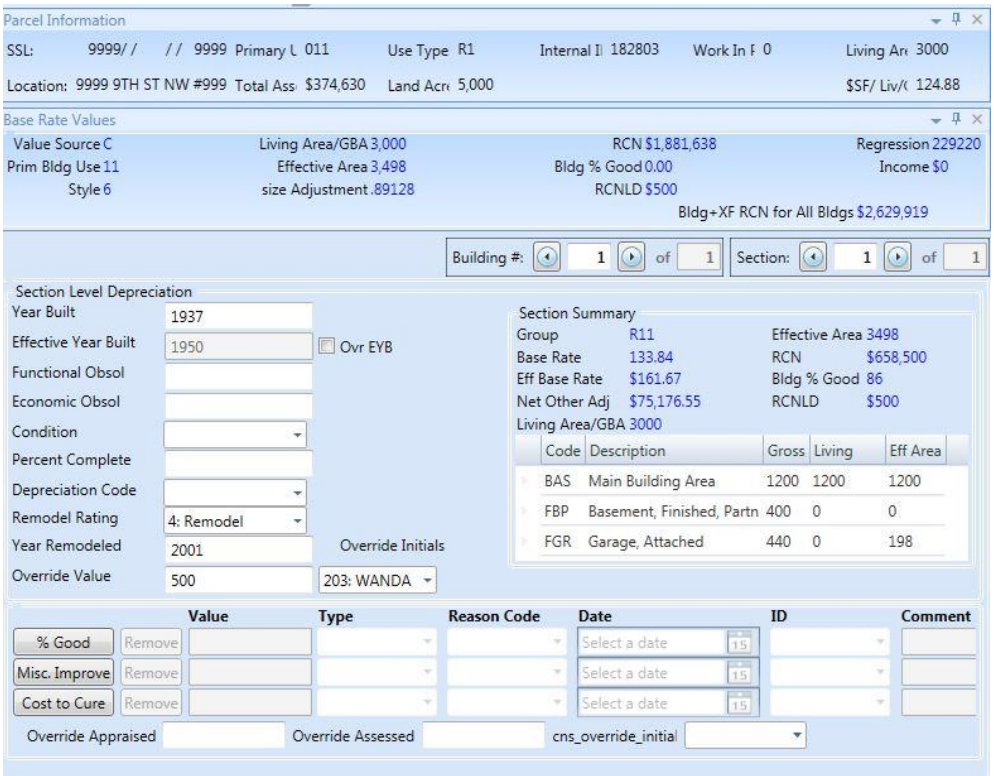


Illustration 7

Obviously, a "Gut Rehab" would increase the value of property more than "Cosmetic" changes, and the coefficients listed in the above illustration demonstrate this. Our sample home was remodeled in 2001, indicating that the MV should be five percent. Five percent would be the correct amount if the remodel occurred in 2005, but it actually occurred in 2001, four years earlier. The CAMA model takes into consideration how long ago a remodel occurred and reduces its impact, as it becomes older. The rate of reduction of the MV is five percent per year. After twenty years, a remodel has no affect on value. In this example, our sample home's remodel occurred four years ago and thus the MV is reduced by twenty percent to 4.0% (5%*.80).

The last multiplicative variable, “Sub-Neighborhood Adj A", is the local neighborhood multiplier established within the particular neighborhood where the sample home is located. This variable is going to lower the RCN value of the sample home by 6.3%. 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.

The variables for our sample home are summarized in the Cost.dat file as follows:

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

OVERALL CONDITION 4 (GOOD) = 1.091 x RCN
EXTERIOR CONDITION 4 (GOOD) = 1.091 x RCN
GRADE 40 (Above Average) = 1.090 x RCN
INTERIOR CONDITION 4 (GOOD) = 1.091 x RCN

REMODEL FACTOR 4 = 1.03500 x RCN
SUB-NEIGHBORHOOD ADJ A = .878 x RCN

Each MV is multiplied together to determine the combined, or overall, MV. The sample home's MV is 1.2338132 (1.091*1.091*1.090*1.091*1.035*.878).

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

**Building RCN = [(Base Rate + $\sum$ ABRV$_n$) * Effective Area * Size**
***$ 754,788 = [( $157.85 + $11.10 ) * 3,498 * .89128***
**Adjustment + $\sum$ AFRV$_n$ ] * (MV$_0$ * MV$_2$ * … * MV$_n$)**
***+ $60,070 ] * ( 1.2862809 )***

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: R16

Section #1
Base Rate: 157.85
Size Adjustment: 0.89128
Effective Area: 3498
Adjusted Base Rate = (157.85 + 11.1) * 0.89128
Adjusted Base Rate: 150.58
RCN = ((150.58 * 3498) + 60070) * 1.2862802915416647
RCN: 754788

The replacement cost new for our sample home is $754,188. There is still one thing left to address before we turn our attention to depreciation. Our sample home has a built-in sauna in the basement. 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 $ 13,250. 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.

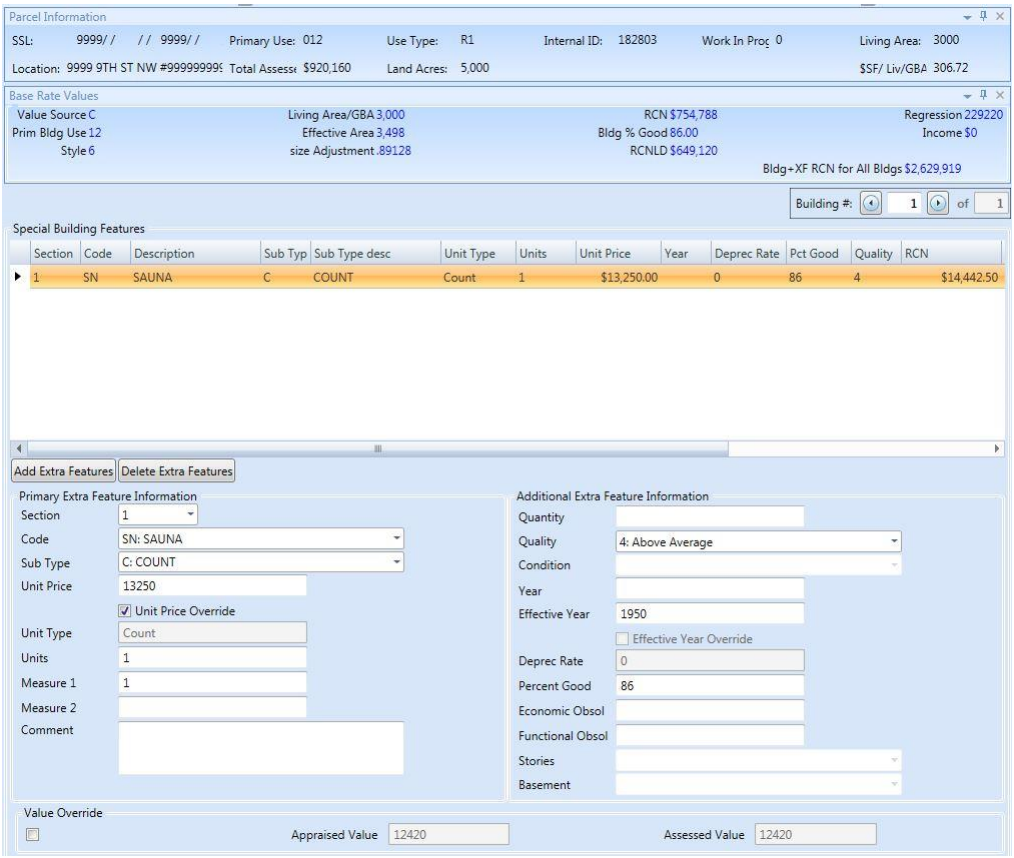


Illustration 8

We now know the total replacement cost new (RCN) of our sample home, including the sauna, is $ 768,038 ($754,788 + $13,250).

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

Next, 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 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.

- 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% - depreciation %) = percent good

The RCN model used above indicated that our sample home has an RNC of $768,038. As stated earlier, the home was built in 1937 so there should be some depreciation to deduct from the RCN. We'll uses 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 2007; therefore, the valuation date is January 1, 2006. 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 69 years (2006-1937).

**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 75-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 78 years as indicated on the Depreciation Table below:

**Depreciation Table**

Base Year

2015

| Effective Age of Building | % Depr. | % Good | Effective Year Built | | | | |
|---|---|---|---|---|---|---|---|
| 0 | 0 | 100 | 2015 | 54 | 13 | 87 | 1961 |
| 1 | 1 | 99 | 2014 | 55 | 13 | 87 | 1960 |
| 2 | 2 | 98 | 2013 | 56 | 13 | 87 | 1959 |
| 3 | 2 | 98 | 2012 | 57 | 13 | 87 | 1958 |
| 4 | 3 | 97 | 2011 | 58 | 13 | 87 | 1957 |
| 5 | 3 | 97 | 2010 | 59 | 13 | 87 | 1956 |
| 6 | 4 | 96 | 2009 | 60 | 14 | 86 | 1955 |
| 7 | 4 | 96 | 2008 | 61 | 14 | 86 | 1954 |
| 8 | 4 | 96 | 2007 | 62 | 14 | 86 | 1953 |
| 9 | 4 | 96 | 2006 | 63 | 14 | 86 | 1952 |
| 10 | 5 | 95 | 2005 | 64 | 14 | 86 | 1951 |
| 11 | 5 | 95 | 2004 | 65 | 14 | 86 | 1950 |
| 12 | 5 | 95 | 2003 | 70 | 15 | 85 | 1945 |
| 13 | 5 | 95 | 2002 | 75 | 16 | 84 | 1940 |
| 14 | 6 | 94 | 2001 | 78 | 16 | 84 | 1937 |

Illustration 1

The Actual Year Built (1937) and the Effective Year Built (1937) would be the same and consequently the Effective Age is 70 years. Moving across the table, we see that a home with an EYB of 1937 has 15 percent depreciation and therefore is 85 Percent Good (100%-15%). If the RCN of our sample home is $ 754,788, the depreciated value, RCNLD, is only $ 641,570 (754,788* 0.85).

*Note*: The depreciation table moves in 5-year periods towards its end; this explains the apparent inconsistencies in 70 years v. 69 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.

Along with the actual age of the sample home, the illustration below shows which variables within CAMA affect the calculation of effective year built.

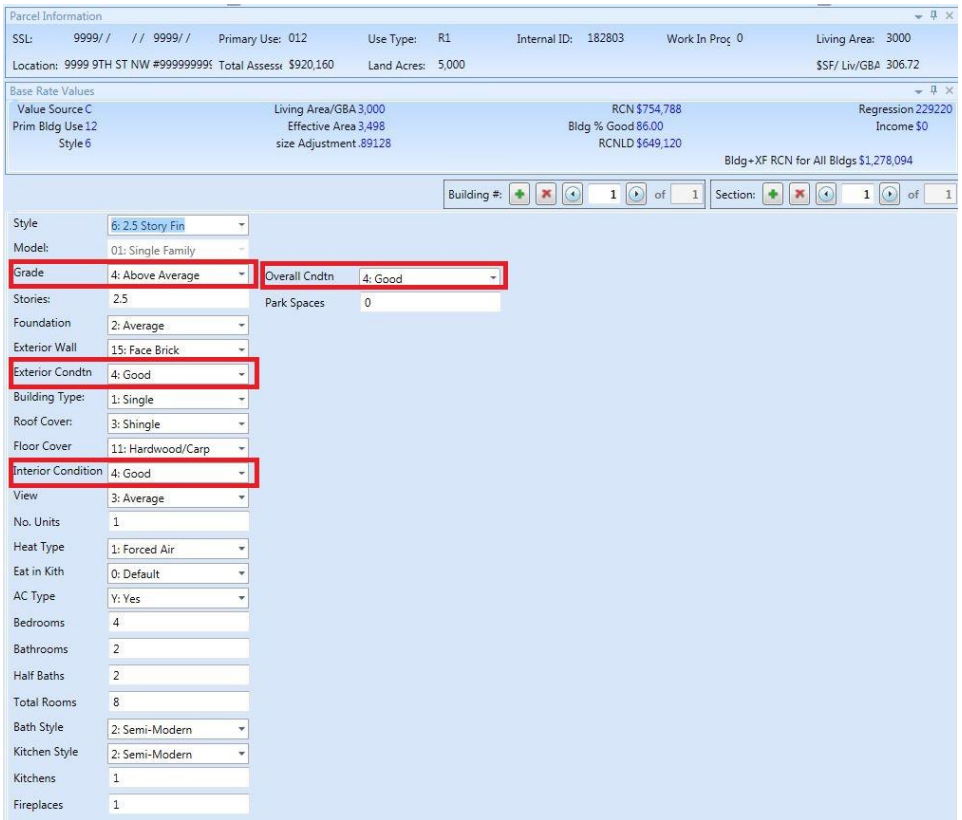


Illustration 2

All of the features or variables dealing with depreciation, highlighted in Illustration 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
      EFF AGE GRADE 40 (Good Quality) = .95 * Age
      KITCHEN STYLE 2 (Semi-Modern) = .9 * Age
```

The product of each of these MV adjustments is calculated to be 0.81225 (0.95 * * 0.95 * 0.9). This product is then multiplied by the Actual Age to calculate the Effective Age. Recall our sample home's Actual Age is 78 years. The Effective Age is calculated to be 61 years (75 max * 0.81225). Instead of CAMA using 78 chronological years to calculated depreciation, it will use 61 years. Below is a portion of the Cost.dat file that shows these calculations.

```
*****************************************************
      Actual Year Built:  1937
      Effective Age = 75 * .81225
      Effective Age:  61
      Percent Good = 86
      RCNLD: 649120
```

**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 1950 (2006 – 56).

**4.** Having established the Effective Year Built, we look up 1950 on the *75-Year Economic Life Depreciation Table* and find that the Percent Good is 87% for that year. See Illustration 3 below.

**Depreciation Table**

| Base Year | | | |
|---|---|---|---|
| 2015 | | | |
| *Effective Age of Building* | *% Depr.* | *% Good* | *Effective Year Built* |
| 0 | 0 | 100 | 2015 |
| 1 | 1 | 99 | 2014 |
| 2 | 2 | 98 | 2013 |
| 3 | 2 | 98 | 2012 |
| 4 | 3 | 97 | 2011 |
| 5 | 3 | 97 | 2010 |
| 6 | 4 | 96 | 2009 |
| 7 | 4 | 96 | 2008 |
| 8 | 4 | 96 | 2007 |
| 9 | 4 | 96 | 2006 |
| 10 | 5 | 95 | 2005 |
| 11 | 5 | 95 | 2004 |
| 12 | 5 | 95 | 2003 |
| 13 | 5 | 95 | 2002 |
| 14 | 6 | 94 | 2001 |
| 15 | 6 | 94 | 2000 |
| 16 | 6 | 94 | 1999 |
| 17 | 6 | 94 | 1998 |
| 18 | 6 | 94 | 1997 |

| | | | |
|---|---|---|---|
| 46 | 11 | 89 | 1969 |
| 47 | 12 | 88 | 1968 |
| 48 | 12 | 88 | 1967 |
| 49 | 12 | 88 | 1966 |
| 50 | 12 | 88 | 1965 |
| 51 | 12 | 88 | 1964 |
| 52 | 12 | 88 | 1963 |
| 53 | 12 | 88 | 1962 |
| 54 | 13 | 87 | 1961 |
| 55 | 13 | 87 | 1960 |
| 56 | 13 | 87 | 1959 |
| 57 | 13 | 87 | 1958 |
| 58 | 13 | 87 | 1957 |
| 59 | 13 | 87 | 1956 |
| 60 | 14 | 86 | 1955 |
| 61 | 14 | 86 | 1954 |
| 62 | 14 | 86 | 1953 |
| 63 | 14 | 86 | 1952 |

Illustration 3

**5.** The last step in the process is to simply multiple the RCN by 0.87 and we have RCN LD. The depreciated, market-derived cost approach value of the sample home used in this demonstration is $ 641,570.

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.

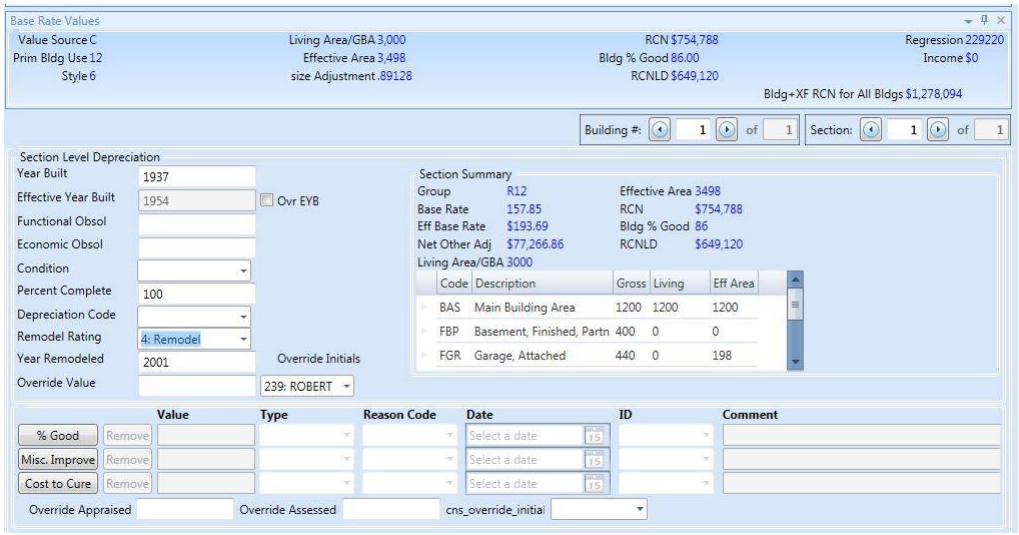


Illustration 4

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 5 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. The "Status" and "Percent Complete" fields are the only two fields that are utilized to account for additional depreciation.

Illustration 5

The "Condition" field's pick-list is similar to Illustration 6 shows items that have a direct affect on depreciation and the nature of the affect. Notice that a reduced number of Condition 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 6

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 77% (87-10).

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 more quickly than the average home.

## Lot Valuation

Now that we've calculated RCN in the first section and the amount of depreciation in the second section, we know the value of our improvements from the formula RCN-LD to be $639,030.

Next let's turn our attention to the final portion of the process – land or lot valuation. There are several aspects or characteristics to land that affect its value. Needless to say the old adage "Location, Location, Location!" is certainly true, but beyond that there are considerations for such things as lot size, shape, frontage, topography, view, restrictions and the like that influence the final value of land.

Let's once again return to our sample home and examine the details on the PRC to get our first look at the lot valuation.

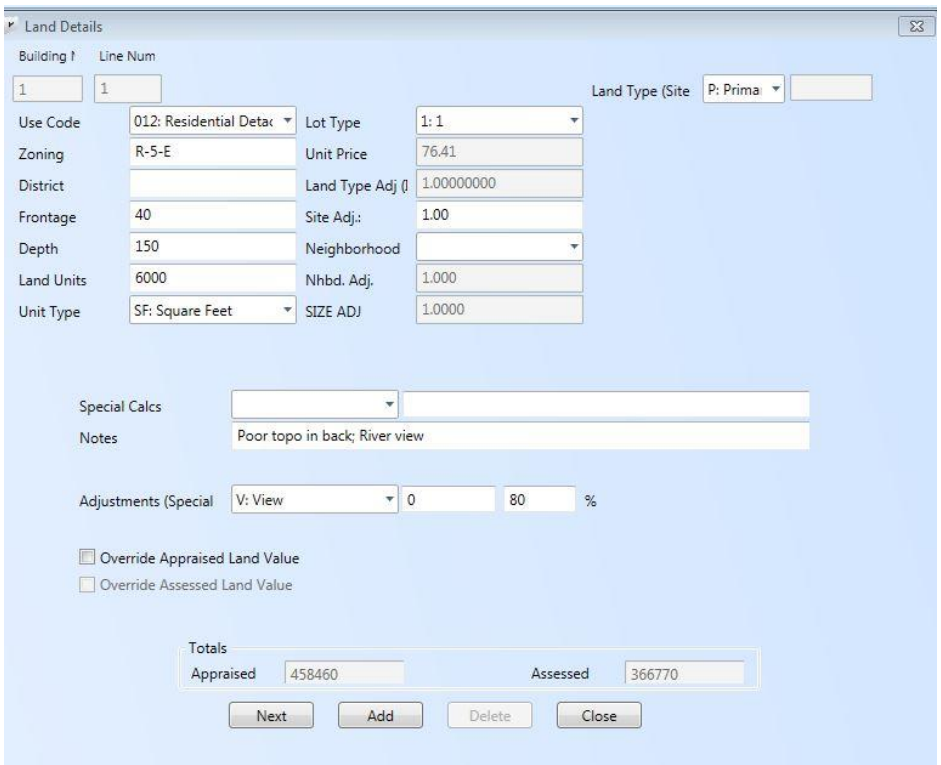


Illustration 1

Notice that the detail tells us the lot size, the price per unit, and any adjustments that affect the lot. The model used to calculate the value of lots in CAMA is as follows:

| |
|---|
| Lot Value = [Lot Size *((Base Rate * Size Adjustment) + ∑ Dollar Adjustments) * ∑ Percent Adjustments] |

The formula represents the following steps:

1. *Determine the base rate for the particular neighborhood where the lot is located and multiply that rate by the 'size adjustment factor';*
2. *Next, add the adjusted rate in step one to the sum of all dollar amount adjustments;*
3. *Next, multiply the results by the lot size;*
4. *Lastly, multiply that result by the product of all percentage adjustments.*

Most of this activity can be seen in the Land.Dat file in Appendix A of this document. You may wish to refer to it as we go through this exercise.

Let's expand the discussion and follow the steps of the process to explain the lot valuation of our sample home in more detail.

1. "*Determine the base rate for the particular neighborhood where the lot is located and multiply that rate by the 'size adjustment factor'."*

The residential base land rates are different for each (sub)neighborhood in the District. Each year, the current base rates are updated in CAMA and published in the *Assessor Reference Materials*. In addition to the base rates, the base lot sizes and size curves are included. Our property is located in Chevy Chase, and below shows the portion of the land rate table for that neighborhood:

| NBHD | Base Lot Size | Base Rate | Base Lot Value | Size Curve |
|---|---|---|---|---|
| 11 A | 5,000 sf | $89.00 | $445,000 | LG 1 |
| | | | | |

Illustration 2

The base rate for our property is $ 89.00 per sf.

The size adjustment factors are also incorporated in CAMA. These factors make allowances for lots whose sizes differ from the standard "base" size for the lots in that particular (sub)neighborhood. Recall that as the size or area of a building or lot increases, the dollar rate per unit typically goes down from the base rate, and conversely, the dollar rate typically increases over the base rate when the area or size is smaller than the standard base rate.

Recall that our lot is 6,000 sf in size. The table states that the Base Lot Size is 5,000, so a size adjustment will be necessary. Intuitively, one would expect that the size adjustment would be less than 100% because the actual lot is larger than the base size lot. CAMA contains the algorithms to calculate the proper size adjustment. Essentially, it determines which "land size curve" is to be used as the basis for determining the adjustment, then it mathematically interpolates and extrapolates the factor from the particular size table associated with the curve based on the amount of difference between the standard size and the actual size.

In the case of our sample home, the size curve is LG 1. This curve is one of the four curves existing in CAMA and it is effect on rates is the lowest of the curves.

Based on the difference between the base size and the actual size of the lot, CAMA has selected a factor of 0.8585 as the adjustment. If the lot were smaller, say 4,000, sf the selected factor would have been 1.198.

So, to finish step 1, we multiply the (sub)neighborhood base land rate by the calculated size adjustment factor to arrive at a size adjusted rate of $ 76.41 ($89.00 * 0.8585).

2. "*Next, add the adjusted rate in step one to the sum of all dollar amount adjustments.*"

If there are any dollar-amount adjustments to the rate, this is the time to make the them. For example, you may choose to lower the rate by $10 per sf on a particular lot in a neighborhood because it is on a busy street corner. In our example, the rate is increased by $15 per sf because the property has an excellent view of the river not enjoyed by the other lots in the neighborhood. This adjustment increases the rate to $91.41 ($76.41 + $15.00).

Use caution when making any adjustments to the calculated rates. If adjustments are warranted, seek guidance from your supervisor or CAMA manager.

3. *"Next, multiply the resulting rate by the lot size."*

This is an easy step. The land value at this point is $458,460 ( $76.41 * 6,000).

4. *"Lastly, multiply that result by the product of all percentage adjustments."*

As before, here's where we can reflect adjustment to the lot for such things as topography, view, shape irregularity, and the like. There may be an easement across the back of the lot that affects value. Again be certain that the adjustment is peculiar to just the subject or a few lots in the (sub)neighborhood, otherwise the condition would have been already accounted for in the calculations done by the multiple regression analysis process that generated the original base rates, size curves and standard lot sizes.

Our sample lot had a steep drop-off across the back that the assessor accounted for by adjusting the final rate by 80 percent. This is the last calculation to determine the subject property's lot value. The final value of our lot is $ 366,768 (458,460 * 0.80).

The illustrations below summarize much of the information discussed in this land valuation exercise. Illustration 3 shows a portion of the data entry screen in Vision© CAMA and the second, illustration 4, is the Land.dat file with selected information highlighted.

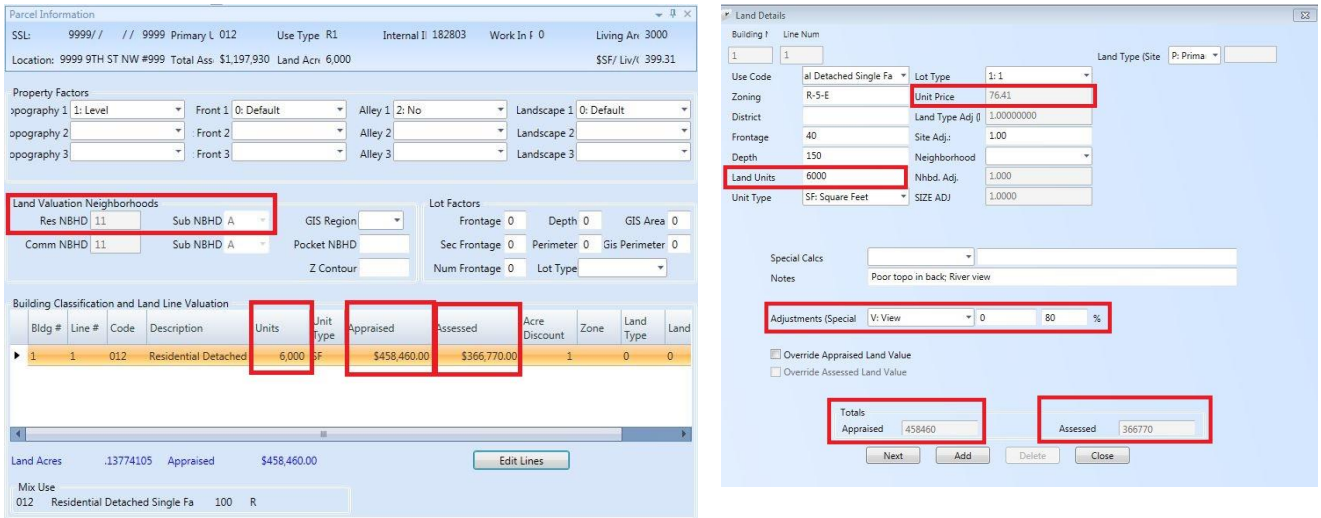



Illustration 3

```
REPORT GENERATED ON 26-Feb-2015 AT 08:36
Account Number = 9999   9999
Use Code = 012
****************************************
Recalc Land for PID 182803
Recalc Land for Bldg Num 1 on land line 1
----------------------------------------
Check for any special use value overrides
Land Use Code = 012
Special Use Value = 0.00
Special Use Percent = 80.00
Base District = 11
****************************************
Find the region for a group and district
Land Group = R
Region = District, Region not defined
Base Sub District = A
Z Contour =
District Standard Size = 5000
District Base Price Size = 89.00
District Size Adjustment = LG1
Land group based Value Source = C
Size Ratio = 6000.000 / 5000 * 10000
Size Ratio = 12000.000
Interpolate/Extrapolate from size adj curve table
High Unit Size = 120.00
High Factor = 0.8585
District pricing based unit_type value = 76.41
Total ajustment a = 1 * 1.000 * 1.00 * 1 * 1
Total ajustment a = 1.00000
Land Value = 76.41 * 6000.000
Land Value Rounded = 458460
```

Neighborhood 11A

From Land Rate Table

Internal calculations to arrive at adjustments for non-standard base size

Base rate multiplied by size adjustment (89.00 *.8585)

Final adjusted rate * lot size = land Value

Illustration 4

## Some Final Thoughts

We have introduced you to some of the most elementary aspects of property valuation using the District's Vision® CAMA system. We have developed the RCN of a fictitious home, reduced its value by the accrued depreciation and finally added the land value component to complete the appraisal. This guideline is merely a small window, a first step, in the complex field of CAMA mass appraisal. A CAMA system robust enough to appraise 180,000 different properties will necessarily be comprehensive and complex. As you explore and utilize the program make certain that you fully understand the ramifications and results of your actions. Your supervisor and/or CAMA manager will always be available to assist you.

## Appendix A

1. Property Record Card, SSL 9999 9999
2. Cost.dat print-out, SSL 9999 9999
3. Land.dat print-out, SSL 9999 9999
4. 2007 CAMA Construction Valuation Guideline – Residential

Account # 9999 9999 | Property Location 9999 9TH ST NW #999999999 | Card # 1 of 1 | Use Code 012
Internal ID 182803 | WASHINGTON, DC | Bldg # 1 of 1 | Sec # 1 of 1 | Print Date 2/27/2015 8:31:11 AM

## CURRENT OWNER

JANEY TAXREP

9999 9TH ST

Washington DC 12345

## ACCOUNT INFORMATION

| Use Type | Use Code | Lot SF | Status Code |
|---|---|---|---|
| R1 | 012 | 6,000 | A |

## CURRENT ASSESSMENT

| Description | Code | Assessed Val |
|---|---|---|
| RES LAND | 012 | 366,770 |
| RESIDNTL | 012 | 661,540 |
| RESIDNTL | 012 | 169,620 |

Value Src: C Total: 1,197,930

| | Value Date | Value Status |
|---|---|---|
| Reg | | |
| Cost | 02-27-2015 | C |

**RES**

**District of Columbia Real Property Assessment Division**

## VISIT / CHANGE HISTORY

| Date | ID | Type | Inf. Source | Code | Description |
|---|---|---|---|---|---|
| 11-13-2014 | 203 | C | O | R | Revaluation |
| 06-18-2014 | 203 | O | B | B | Sale Verification & Permit |
| 03-04-2013 | 203 | C | O | B | Sale Verification & Permit |
| 09-14-2012 | 203 | O | O | R | Revaluation |
| 01-01-2012 | 379 | P | N | R | Revaluation |
| 09-12-2006 | 203 | M | O | B | Sale Verification & Permit |

## OWNERSHIP HISTORY

| | INSTRUMENT # | SALE DATE | q/u | v/i | SALE PRICE | AC |
|---|---|---|---|---|---|---|
| JANEY TAXREP | 1111/2222 | 12-31-2011 | Q | I | 575,000 | 01 |
| JOSEPH TAXPAYER | 123456 | 02-29-2000 | Q | I | 654,321 | 01 |

## PREVIOUS ASSESSMENTS (HISTORY)

| Year | Use | Type | Val Source | Land Value | Building Value | Assess Value |
|---|---|---|---|---|---|---|
| 2016 | 012 | R1 | C | 366,770 | 831,160 | 1,197,930 |
| 2015 | 011 | | O | 82,120 | 2,296,630 | 2,378,750 |
| 2014 | 011 | R1 | C | 67,480 | 2,340,370 | 2,407,850 |
| 2013 | 024 | R3 | C | 287,330 | 1,632,500 | 1,919,830 |
| 2012 | 012 | R1 | C | 278,210 | 693,980 | 972,190 |

## APPEALS

| Appeal # | Decision | Amount | Revised AV |
|---|---|---|---|
| | | | |

## PROPERTY FACTORS

| TOPOGRAPHY | MLT FRONT | ALLEY ACCESS | LANDSCAPE |
|---|---|---|---|
| 1 Level | 0 Default | 2 No | 0 Default |

## COMMENTS

THIS IS A NOTE ABOUT THIS HOUSE

.

.

## TAX TYPE

| Year | Type | Description |
|---|---|---|
| 2007 | TX | TAXABLE |

## SUPPLEMENTAL DATA

| Type | Description |
|---|---|
| Neighborhood | CHEVY CHASE |
| Part Part | 0 |
| Mixed Use | 0 |
| Vcnt Lnd Use | 12 |
| Model Type | 0 |
| Restr Resale | |
| Abbutt Lot | 0 |
| Zone Overlay | |

## VALUE SUMMARY

| | Regress (L&B) | Cost (L&B) |
|---|---|---|
| | 0 | 1,289,620 |

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

## PARCEL LOCATION SUMMARY

| SSL | NBHD | SUB-NBHD | ZONING | WARD | GROUP | ARN |
|---|---|---|---|---|---|---|
| 9999 9999 | 11 | A | R-5-E | 6 | 1 | 260 |

## BUILDING PERMIT INFORMATION

| Permit ID | Issue Date | Type | Amount | Description | Insp Date |
|---|---|---|---|---|---|
| 999999 | 01-01-2011 | NW | 500,000 | | 12-31-2011 |
| 1234 | 05-21-2008 | AD | 50,000 | Renovations to Basement | 06-13-2008 |
| 121212 | | | | | |
| 000001 | | GR | 20,000 | | |

## DATA ENTRY

**Entry Date:** _____ **Entry ID:** _____

## LAND LINE VALUATION SECTION

| B # | Occ | Description | Zone | Frontage | Depth | Units | | SI | I. Factor | LT | Price | Size Adj | Site Rating | Adjustments/Special Use | | Notes | Land Value |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 012 | Residential Detached Single F | R-5-E | 40 | 150 | 6000.0 | SF | P | 1.000000 | 0 | 76.41 | 1.0000 | | V | 80.00 | Poor topo in back; River vi | 458,460 |
| | | | | | Total Land Units | 6,000 | SF | | | | | | | | | Total Land Value | 458,460 |

Account # 9999 9999 | Property Location 9999 9TH ST NW #999999999 | Card # 1 of 1 | Use Code 012
Internal ID 182803 | WASHINGTON, DC | Bldg # 1 of 1 | Sec # 1 of 1 | Print Date 2/27/2015 8:31:11 AM

## CONSTRUCTION DETAIL

| Element | Cd | Chng | Description |
|---|---|---|---|
| Prim Bldg Use | 012 | | Residential Detached |
| Model | 01 | | Single Family |
| Grade | 4 | | Above Average |
| Style | 6 | | 2.5 Story Fin |
| Stories: | 2.5 | | |
| Building Type: | 1 | | Single |
| Roof Cover: | 3 | | Shingle |
| Foundation | 2 | | Average |
| Exterior Wall | 15 | | Face Brick |
| Exterior Condt | 4 | | Good |
| Heat Type | 1 | | Forced Air |
| AC Type | Y | | Yes |
| Floor Cover | 11 | | Hardwood/Carp |
| Interior Conditi | 4 | | Good |
| Total Rooms | 8 | | |
| Fireplaces | 1 | | |
| Bedrooms | 4 | | |
| Bathrooms | 2 | | |
| Half Baths | 2 | | |
| Bath Style | 2 | | Semi-Modern |
| Kitchens | 1 | | |
| Kitchen Style | 2 | | Semi-Modern |
| Eat in Kith | 0 | | Default |
| Overall Cndtn | 4 | | Good |
| View | 3 | | Average |
| Park Spaces | 0 | | |
| No. Units | 1 | | |

## BUILDING SUMMARY SECTION

| Code | Description | Gross | Eff Area | Living |
|---|---|---|---|---|
| BAS | Main Building Ar | 1,200 | 1,200 | 1,200 |
| FBP | Basement, Finis | 400 | 0 | 0 |
| FGR | Garage, Attache | 440 | 198 | 0 |
| FHS | Half Story, Finis | 1,200 | 600 | 600 |
| FOP | Porch, Open | 60 | 0 | 0 |
| FUS | Upper Story, Fin | 1,200 | 1,200 | 1,200 |
| UBM | Basement, Unfin | 1,200 | 300 | 0 |
| | Total: | 5,700 | 3,498 | 3,000 |

## BUILDING COST

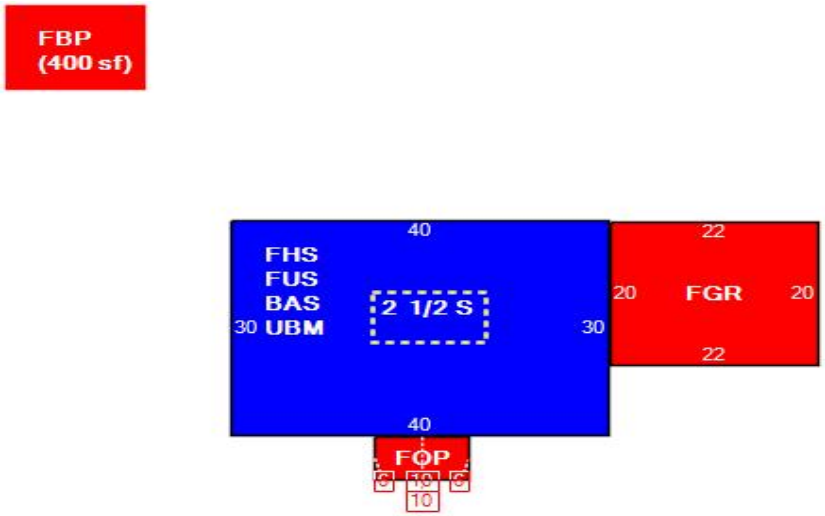
| | |
|---|---|
| Effective Area | 3,498 |
| Building RCN | 754,788 |
| Spec. Feature RCN | 14,443 |
| Total RCN | 769,231 |
| % Good | 86 |
| Building Cost | 661,538 |

## DEPRECIATION

| | Current | Change |
|---|---|---|
| Primary OCC | 012 | |
| | | |
| Actual Year Built | 1937 | |
| Year Remodeled | 2001 | |
| Effective Year Built | 1954 | |
| | | |
| Status | | |
| % Complete | | |

%GD Override (Cost)
Type
Reason Code
Date
ID
Comment

## SKETCH



## SPECIAL FEATURES/AMENITIES

| Code | Description | Units | SF | Unit Price | Quality | RCN |
|---|---|---|---|---|---|---|
| SN | SAUNA | 1 | Count | 13250.0 | 4 | 14,443 |

## DETACHED STRUCTURES

| Code | Description | Units | Unit Type | Unit Price | Grade | Cndtn | RCN | % Gd | Ass. Val |
|---|---|---|---|---|---|---|---|---|---|
| DG | Detached Garage | 200 | SF | 63.50 | 5 | 5 | 16,791 | 85 | 14,270 |
| PH | POOL HOUSE | 1,500 | SF | 150.07 | 6 | 4 | 194,19 | 80 | 155,350 |

OUTPUT FROM NEW COST MODELING ENGINE
REPORT GENERATED ON 27-Feb-2015 AT 08:28

**********Building #1 Calc Start**********
Cost Calculation for pid, bid = 182803, 173587
Account Number = 9999  9999
Use Code = 012
Cost Rate Group = R12
Model ID:  = R16

Section #1
Section Use: Residential Detached Single Fa
Base Rate: 157.85
Size Adjustment: 0.89128
Effective Area: 3498
Adjusted Base Rate = (157.85 + 11.100000) * 0.89128
Adjusted Base Rate: 150.58
RCN =  ((150.58 * 3498 + 60070.000000000) * 1.2862802915416647000000000000) + 0
RCN: 754788

**********Base Rate Adjustments**********
EXTERIOR WALL 15 = 3.950  + BaseRate
ROOF COVER 3 = 0.680000  + BaseRate
FLOOR COVER 11 = 4.670  + BaseRate
AIR CONDITIONING Y = 1.800  + BaseRate

**********Units Value Additions**********
FULL BATHS OVER 1 = 12500.000  + RCN
HALF BATHS = 16250.000  + RCN
FIREPLACES = 8000.000  + RCN
PARTITIONED FINISHED BASEMENT = 22000.000  + RCN
OPEN PORCH = 1320.000  + RCN

**********Factor Adjustments**********
GRADE 4 = 1.090 x RCN
INTERIOR CONDITION 4 = 1.091 x RCN
EXTERIOR CONDITION 4 = 1.091 x RCN
OVERALL CONDITION 4 = 1.091 x RCN
REMODEL FACTOR 4 = 1.035000000000 x RCN
SUB-NEIGHBORHOOD ADJ A = 0.878000 x RCN

**********Effective Age Adjustments**********
EFF AGE GRADE 4 = 0.950 x Age
BATH STYLE 2 = 0.950 x Age
KITCHEN STYLE 2 = 0.900 x Age

Actual Year Built: 1937
Effective Age = 61

Percent Good = 86
RCNLD: 649120
**********

REPORT GENERATED ON 27-Feb-2015 AT 08:29
Account Number = 9999  9999
Use Code = 012
**********
Recalc Land for PID 182803
Recalc Land for Bldg Num 1 on land line 1
**********

Check for any special use value overrides
Land Use Code = 012
Special Use Value = 0.00
Special Use Percent = 80.00
Base District = 11
**********
Find the region for a group and district
Land Group = R
Region = District, Region not defined
Base Sub District = A
Z Contour =
District Standard Size = 5000
District Base Price Size = 89.00
District Size Adjustment = LG1
Land group based Value Source = C
Size Ratio = 6000.000 / 5000 * 10000
Size Ratio = 12000.000
Interpolate/Extrapolate from size adj curve table
High Unit Size = 120.00
High Factor = 0.8585
District pricing based unit_type value = 76.41
Total ajustment a = 1 * 1.000 * 1.00 * 1 * 1
Total ajustment a = 1.00000
Land Value = 76.41 * 6000.000
Land Value Rounded = 458460

# 2017 CAMA Residential Construction Valuation Guideline -- RPAD

## USECODE

**(Selects Base Rate)**

| No. | Description | Value |
|---|---|---|
| 011 | Row | $134.18 |
| 012 | Detached | $156.49 |
| 013 | Semi-Detached | $133.26 |
| 015 | Mixed Use | $134.18 |
| 019 | Miscellaneous | $134.18 |
| 023 | Small Apt. Bldg. | $104.63 |
| 024 | Conversion | $139.73 |

## 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 | |
| 15 | Split Foyer | |
| **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 (Descriptive)** | | |
| 0 | Default | |
| 1 | Single | |
| 2 | Multi | |
| 6 | Row End | $3.00 |
| 7 | Row Inside | |
| 8 | Semi-Detached | |
| **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 |
| 13 | Neoprene | $0.00 |
| 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 | |
| 10 | Air Exchng | |
| 11 | Gravity Furnace | |
| 12 | Ind Unit | |
| 13 | Hot Water Rad | |

**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 |

**Per Unit Adjustment (Flat Rate Add)**

| | |
|---|---|
| Full Bath (over 1) | $12,500 |
| Half Bath | $ 7,750 |
| Fireplace | $ 8,000 |
| Kitchen | $11,500 |
| Finished Basement (Basic) | $20.00/sf |
| Finished Basement (Partition) | $57.00/sf |
| Basement Garage | $50.00/sf |
| Carport | $36.00/sf |
| Stoop | $24.00/sf |
| Open Porch | $24.00/sf |
| Covered Open Porch | $42.00/sf |
| Screen Enclosed Porch | $45.00/sf |
| Glass Enclosed Porch | $54.00/sf |
| Fully Enclosed Porch | $60.00/sf |
| Deck | $30.00/sf |
| Patio | $ 9.00/sf |

**Grade (Multiplies Base, Add & Flat)**

| | | |
|---|---|---|
| 0 | Default | |
| 1 | Low Quality | 0.50 |
| 2 | Fair Quality | 0.75 |
| 3 | Average Quality | 1.00 |
| 4 | Above Average Quality | 1.07 |
| 5 | Good Quality | 1.18 |
| 6 | Very Good Quality | 1.29 |
| 7 | Excellent Quality | 1.43 |
| 8 | Superior Quality | 1.66 |
| 9 | Extraordinary – A | 1.92 |
| 10 | Extraordinary – B | 2.15 |
| 11 | Extraordinary – C | 2.55 |
| 12 | Extraordinary – D | 2.90 |

**Interior Condition (Multiplies Base, Add & Flat)**

| | | |
|---|---|---|
| 0 | Typical | |
| 1 | Poor | .766 |
| 2 | Fair | .819 |
| 3 | Average | 1.000 |
| 4 | Good | 1.089 |
| 5 | Very Good | 1.182 |
| 6 | Excellent | 1.239 |

**Exterior Condition (Multiplies Base, Add & Flat)**

| | | |
|---|---|---|
| 0 | Default | |
| 1 | Poor | .766 |
| 2 | Fair | .819 |
| 3 | Average | 1.000 |
| 4 | Good | 1.089 |
| 5 | Very Good | 1.182 |
| 6 | Excellent | 1.239 |

**Overall Condition (Multiplies Base, Add & Flat)**

| | | |
|---|---|---|
| 0 | Default | |
| 1 | Poor | .766 |
| 2 | Fair | .819 |
| 3 | Average | 1.000 |
| 4 | Good | 1.089 |
| 5 | Very Good | 1.182 |
| 6 | Excellent | 1.239 |

**Remodel Type (Multiplies Base, Add & Flat)**

| | | |
|---|---|---|
| 0 | Default | |
| 1 | Unknown | |
| 2 | Gut Rehab | 1.43 |
| 3 | Major Renov | 1.26 |
| 4 | Remodel | 1.09 |
| 5 | Addition | |
| 6 | Cosmetic | 1.02 |

The effect of this multiplier diminishes at a rate of 5% per year based on the ***Remodel Year***.

**DEPRECIATION DETAIL**

| No. | Description | Value |
|---|---|---|
| **Grade** | **(Adjust EYB)** | |
| 0 | Default | |
| 1 | Low Quality | 20% |
| 2 | Fair Quality | 10% |
| 3 | Average Quality | -- |
| 4 | Above Average | -05% |
| 5 | Good Quality | -10% |
| 6 | Very Good Quality | -15% |
| 7 | Excellent Quality | -25% |
| 8 | Superior Quality | -35% |
| 9 | Extraordinary – A | -45% |
| 10 | Extraordinary – B | -50% |
| 11 | Extraordinary – C | -50% |
| 12 | Extraordinary – D | -50% |
| **Bath Style (Adjust EYB)** | | |
| 0 | Default | |
| 1 | No Remodeling | |
| 2 | Semi-Modern | - 05% |
| 3 | Modern | - 10% |
| 4 | Luxury | - 20% |
| **Kitchen Style (Adjust EYB)** | | |
| 0 | Default | |
| 1 | No Remodeling | |
| 2 | Semi-Modern | - 10% |
| 3 | Modern | - 20% |
| 4 | Luxury | - 40% |

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

**Depreciation Table**

**Base Year 2016**

| *Effective Age of Building* | *% Depr.* | *% Good* | *Effective Year Built* |
|---|---|---|---|
| 0 | 0 | 100 | 2016 |
| 1 | 1 | 99 | 2015 |
| 2 | 2 | 98 | 2014 |
| 3 | 2 | 98 | 2013 |
| 4 | 3 | 97 | 2012 |
| 5 | 3 | 97 | 2011 |
| 6 | 4 | 96 | 2010 |
| 7 | 4 | 96 | 2009 |
| 8 | 4 | 96 | 2008 |
| 9 | 4 | 96 | 2007 |
| 10 | 5 | 95 | 2006 |
| 11 | 5 | 95 | 2005 |
| 12 | 5 | 95 | 2004 |
| 13 | 5 | 95 | 2003 |
| 14 | 6 | 94 | 2002 |
| 15 | 6 | 94 | 2001 |
| 16 | 6 | 94 | 2000 |
| 17 | 6 | 94 | 1999 |
| 18 | 6 | 94 | 1998 |
| 19 | 7 | 93 | 1997 |
| 20 | 7 | 93 | 1996 |
| 21 | 7 | 93 | 1995 |
| 22 | 7 | 93 | 1994 |
| 23 | 7 | 93 | 1993 |
| 24 | 8 | 92 | 1992 |
| 25 | 8 | 92 | 1991 |
| 26 | 8 | 92 | 1990 |
| 27 | 8 | 92 | 1989 |
| 28 | 8 | 92 | 1988 |
| 29 | 9 | 91 | 1987 |
| 30 | 9 | 91 | 1986 |
| 31 | 9 | 91 | 1985 |
| 32 | 9 | 91 | 1984 |
| 33 | 9 | 91 | 1983 |
| 34 | 9 | 91 | 1982 |
| 35 | 10 | 90 | 1981 |
| 36 | 10 | 90 | 1980 |
| 37 | 10 | 90 | 1979 |
| 38 | 10 | 90 | 1978 |
| 39 | 10 | 90 | 1977 |
| 40 | 10 | 90 | 1976 |
| 41 | 11 | 89 | 1975 |
| 42 | 11 | 89 | 1974 |
| 43 | 11 | 89 | 1973 |
| 44 | 11 | 89 | 1972 |
| 45 | 11 | 89 | 1971 |
| 46 | 11 | 89 | 1970 |
| 47 | 12 | 88 | 1969 |
| 48 | 12 | 88 | 1968 |
| 49 | 12 | 88 | 1967 |
| 50 | 12 | 88 | 1966 |
| 51 | 12 | 88 | 1965 |
| 52 | 12 | 88 | 1964 |
| 53 | 12 | 88 | 1963 |
| 54 | 13 | 87 | 1962 |
| 55 | 13 | 87 | 1961 |
| 56 | 13 | 87 | 1960 |
| 57 | 13 | 87 | 1959 |
| 58 | 13 | 87 | 1958 |
| 59 | 13 | 87 | 1957 |
| 60 | 14 | 86 | 1956 |
| 61 | 14 | 86 | 1955 |
| 62 | 14 | 86 | 1954 |
| 63 | 14 | 86 | 1953 |
| 64 | 14 | 86 | 1952 |
| 65 | 14 | 86 | 1951 |
| 70 | 15 | 85 | 1946 |
| 75 | 16 | 84 | 1941 |

## 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. The calibration of the model is primarily derived from information provided by the Marshall and Swift Valuation Service, a company that provides building cost data necessary for real estate cost valuations and is widely considered the authority on the cost approach to valuation. *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:

$$\textbf{Building RCN} = [\text{Section}_1\ (\text{Base Rate} * \text{Effective Area} * \text{Size Adjustment}) * (MV_1 * MV_2 * \ldots * MV_n)] + [\text{Section}_n\ (\text{Base Rate} * \text{Effective Area} * \text{Size Adjustment}) * (MV_1 * MV_2 * \ldots * MV_n)] + [\sum \text{Special Building Features}]$$

**Where:**
RCN = Replacement Cost New
Base Rate = $ rate based on occupancy (use) code and construction class
$\text{Section}_n$ = 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
- 2016 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.

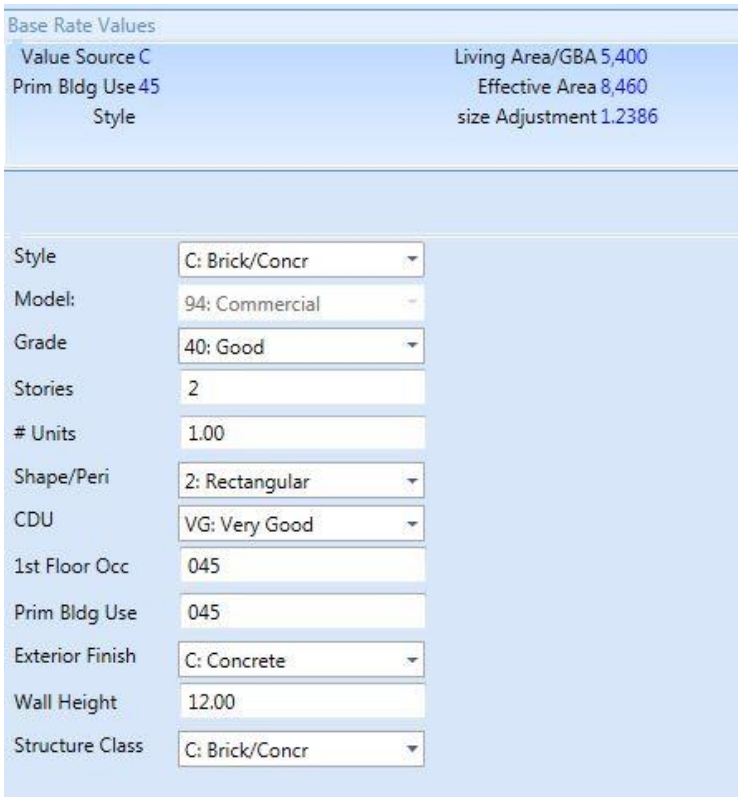


Illustration 1

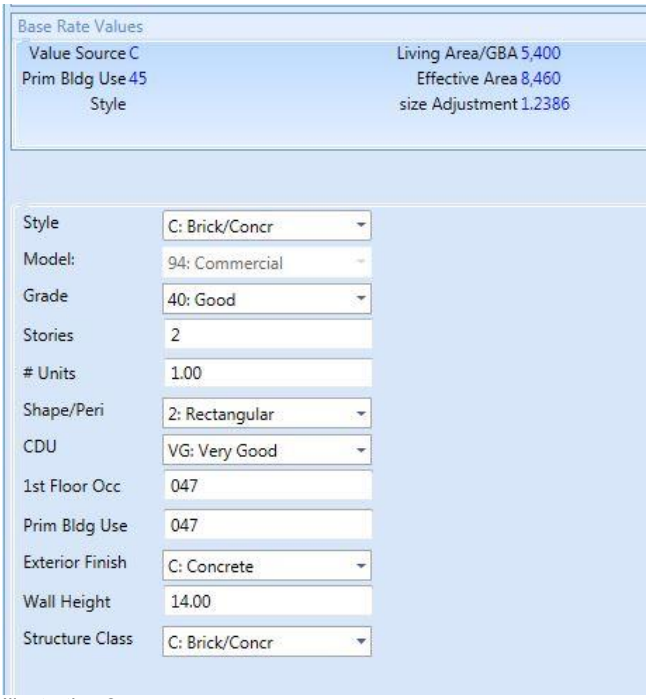


Illustration 2

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

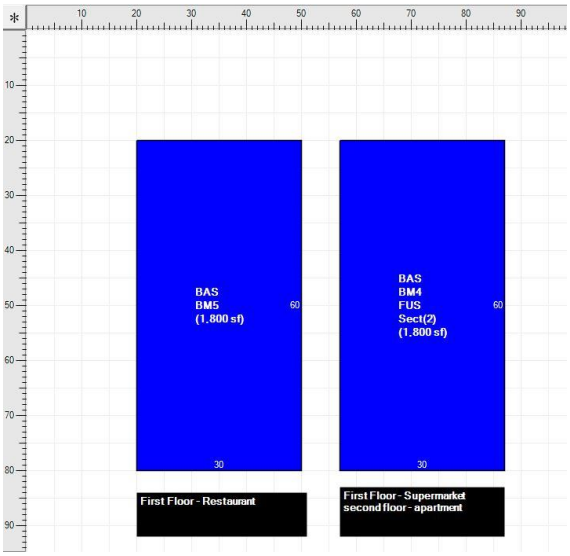


Illustration 3

.

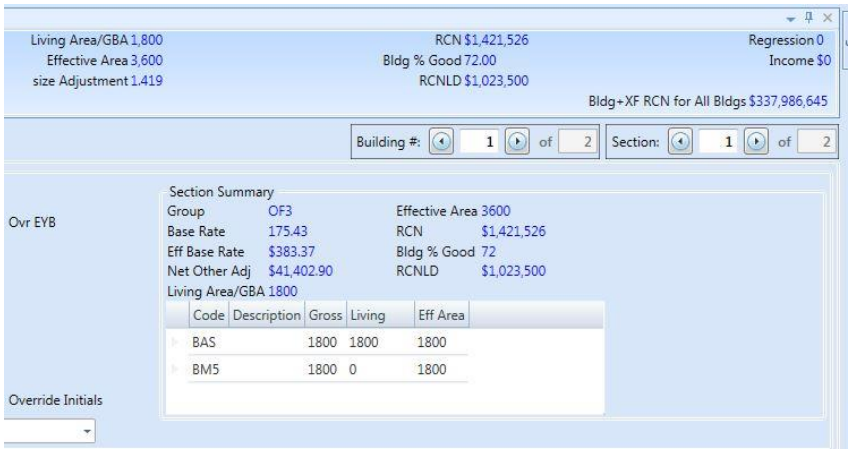


Illustration 4

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

**Building RCN = [Section$_1$ (Base Rate * Effective Area * Size Adjustment) * ($MV_0$ * $MV_2$ * … * $MV_n$)] +**
**[Section$_n$ (Base Rate * Effective Area * Size Adjustment) * ($MV_0$ * $MV_2$ * … * $MV_n$)] +**
**[ $\sum$ Special Building Features]**

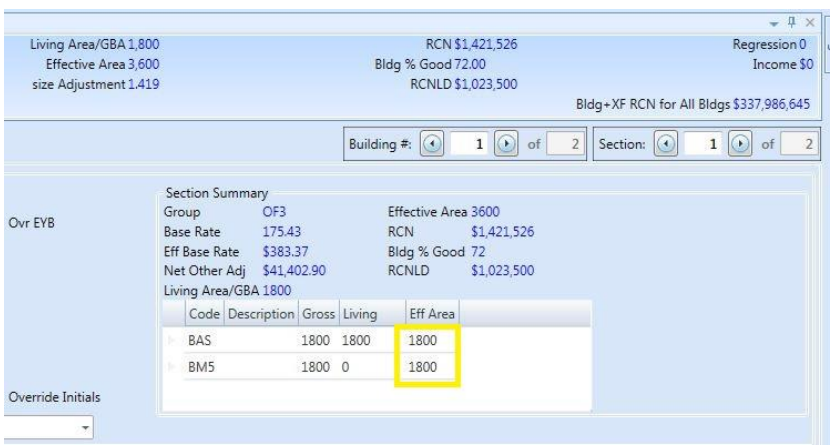


Illustration 5

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.

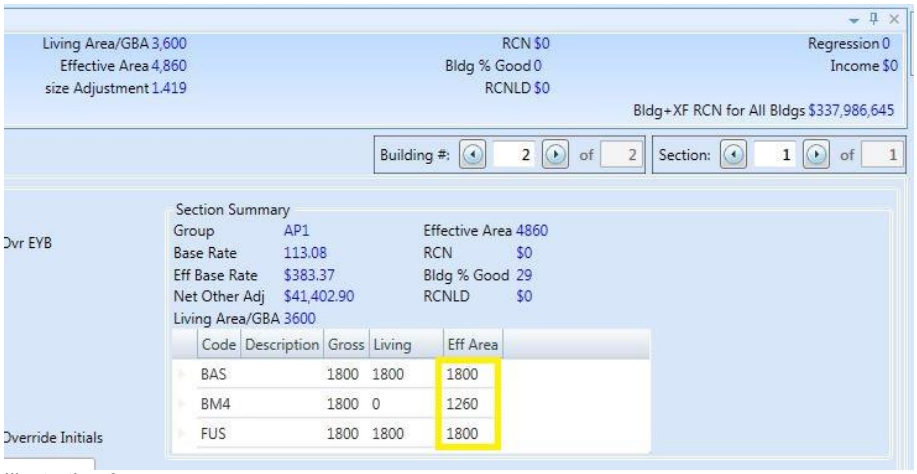


Illustration 6

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 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:

**RCN of Basement = $126,000 or (1800 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:

**RCN of Basement = $126,000 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:

**Building RCN = [Section$_1$ (Base Rate * 3600 * Size Adjustment) * (MV$_0$ * MV$_2$ * … * MV$_n$)] + [Section$_n$ (Base Rate * 4860 * Size Adjustment) * (MV$_0$ * MV$_2$ * … * MV$_n$)] + [ ∑ Special Building Features]**

Effective Area

Effective Area

**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.

**Building RCN = [Section$_1$ (Base Rate * Effective Area * Size Adjustment) * ($MV_0$ * $MV_2$ * … * $MV_n$)] +**
**[Section$_n$ (Base Rate * Effective Area * Size Adjustment) * ($MV_0$ * $MV_2$ * … * $MV_n$)] +**
**[ ∑ Special Building Features]**

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 $ 180.25 is automatically selected.
The second section, "47-Store-Super Market", also constructed as a Class "C", concrete block/brick building, has a Base Rate of $103.14.

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

**Building RCN = [Section$_1$ ( $180.25 * 3600 * Size Adjustment) ***
Base Rate Effective Area
**($MV_0$ * $MV_2$ * … * $MV_n$)] +**
**[Section$_n$ ( $103.14 * 4860 * Size Adjustment) ***
Base Rate Effective Area
**($MV_0$ * $MV_2$ * … * $MV_n$)] +**
**[ ∑ Special Building Features]**

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

**Building RCN = [Section$_1$ (Base Rate * Effective Area * Size Adjustment) * ($MV_0$ * $MV_2$ * … * $MV_n$)] +**
**[Section$_n$ (Base Rate * Effective Area * Size Adjustment) * ($MV_0$ * $MV_2$ * … * $MV_n$)] +**
**[ ∑ 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 1.16763. Now our Adjusted Base Rate is calculated to be $223.26 (180.25 *1.23860 ) for Section 1 and $ 127.75 (103.14 *1.23860 ) for Section 2 of our example.

Because the adjustment is larger than 1.00, it would be proper to conclude that our sample building is smaller 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:

**Building RCN = [Section$_1$ ( $180.25 * 3600 * 1.23860) ***
Base Rate Effective Area Size Adjustment
**($MV_0$ * $MV_2$ * … * $MV_n$)] +**
**[Section$_n$ ( $103.14 * 4860 * 1.23860) ***
Base Rate Effective Area Size Adjustment
**($MV_0$ * $MV_2$ * … * $MV_n$)] +**
**[ ∑ Special Building Features]**

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

**Building RCN = [Section$_1$ (Base Rate * Effective Area * Size Adjustment) ***
**($MV_0$ * $MV_2$ * … * $MV_n$)] +**
**[Section$_n$ (Base Rate * Effective Area * Size Adjustment) ***
**($MV_0$ * $MV_2$ * … * $MV_n$)] +**
**[ ∑ 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 CDU (condition, desirability, utility), building grade, local cost multipliers, Neighborhood and Sub Neighborhood location factors have their impact.

The CDU, or Condition Desirability Utility, is the first of our multiplicative variables. This variable is used to account for a property's general overall physical condition and to a lesser extent the desirability and the utility of the property. Our sample building has been listed as "Good" and the appropriate multiplicative variable is 1.15. Stated a different way, the "Good" CDU will increase the RCN of our building by 15%. This one variable, CDU, can have a profound impact on the RCN of a building. The range can increase the RCN for an "Excellent" building by 35% all the way down to a 90% reduction in RNC for an "Unsound" building.

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%. Another MV, "DC Local Multiplier C" modifies costs to account for the small additional costs incurred in construction of "C" class buildings in the 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 four variables are summarized in the Cost.dat file as follows:

**********Factor Adjustments**********
CONDITION DESIRABILITY UTILITY G = 1.150 X RCN
GRADE 40 (Good) = 1.120 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 1.4168 (1.15 * 1.12 * 1.1).

**5.** 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:

**Building RCN = [Section$_1$ ( $180.25 * 3600 * 1.23860) ***
**Base Rate Effective Area Size Adjustment**
**( 1.4168 )] +**
**Multiplicative Variables**
**[Section$_n$ ( $103.14 * 4860 * 1.23860) ***
**Base Rate Effective Area Size Adjustment**
**( 1.4168 )] +**
**Multiplicative Variables**
**[ $\sum$ Special Building Features]**

The RCN for Section 1, the restaurant is $ 1,138,733 ($180.25 * 3600 + 0) * 1.23860 * 1.41680). The package goods store's RCN is $879,642 ($103.14 * 4860 * 1.23860 * 1.41680).

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

**Section #1**
Base Rate: 180.25
Size Adjustment: 1.23860
Effective Area: 5400
Adjusted Base Rate = (180.25 + 0) * 1.23860
Adjusted Base Rate: 223.26
RCN = ((223.26 * (3600 + 0) + 0) * 1.4168
RCN: 1138733
**Section #2**
Base Rate: 103.14
Size Adjustment: 1.23860
Effective Area: 5400
Adjusted Base Rate = (103.14 + 0) * 1.23860
Adjusted Base Rate: 127.75
RCN = ((127.75 * 4860) + 0) * 1.41680
RCN: 879642

So far, the RCN of the building is $ 2,018,375 (1,138,733+879,642). 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.

**Building RCN = [Section$_1$ (Base Rate * Effective Area * Size Adjustment) * ($MV_0$ * $MV_2$ * … * $MV_n$)] + [Section$_n$ (Base Rate * Effective Area * Size Adjustment) * ($MV_0$ * $MV_2$ * … * $MV_n$)] + [ ∑Special Building Features]**

Take a look at illustration 7. Here we see that both sections are sprinklered and 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.

Building #: 1 of 1

Special Building Features

| Section | Code | Description | Sub Typ | Sub Type desc | Unit Type | Units | Unit Price | Year | Deprec Rate | Pct Good | Quality | RCN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | HVAC | (HVAC) Heating | 617 | Cmplt HVAC | SF | 1800 | $9.19 | 1978 | 0 | 72 | 3 | $16,542.00 |
| 1 | SPRK | Sprinklers | 683 | Wet | SF | 1800 | $4.90 | 1978 | 0 | 72 | 3 | $8,820.00 |
| 1 | HVAC | (HVAC) Heating | 617 | Cmplt HVAC | SF | 3600 | $9.19 | 1978 | 0 | 72 | 3 | $33,084.00 |
| 2 | SPRK | Sprinklers | 683 | Wet | SF | 1800 | $4.90 | 1978 | 0 | 100 | 3 | $8,820.00 |

Illustration 7

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

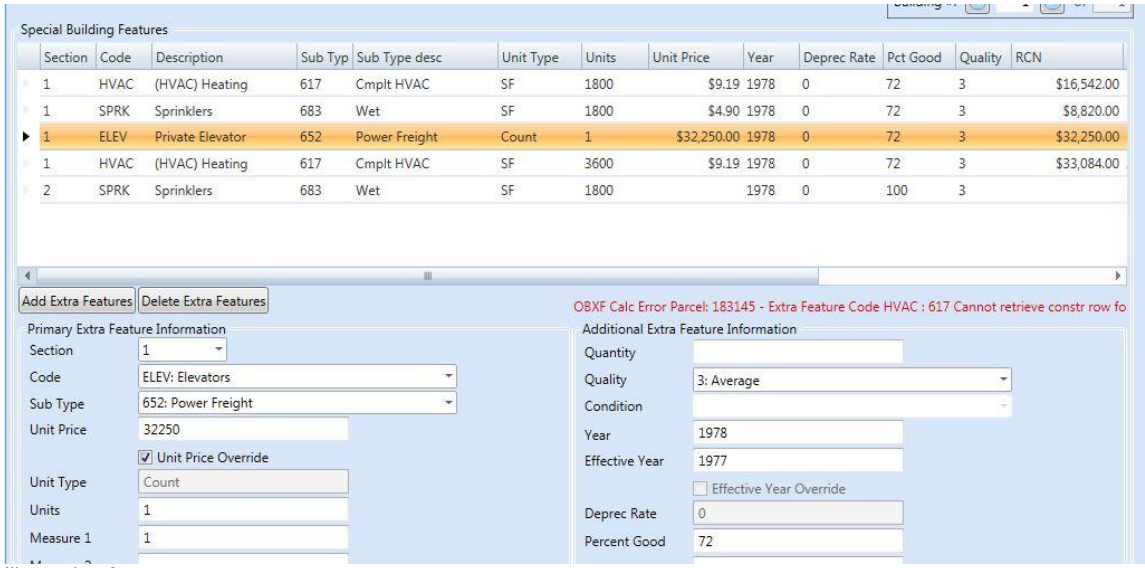


Illustration 8

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 $ 67,266 (∑Special Building Features =16,542 + 8,820 +33,084 + 8,820).

We now know the total replacement cost new (RCN) of our sample building, including Special Features, is $ 2,085,641 ($2,018,375 + $67,266).

**$2,778,884 = Building RCN**

**[Section$_1$ ( $180.25 * 3600 * 1.23860) * ( 1.4168 )] +**

Base Rate — Effective Area — Size Adjustment — Multiplicative Variables

**[Section$_n$ ( $103.14 * 4860 * 1.23860) * ( 1.4168 )] +**

Base Rate — Effective Area — Size Adjustment — Multiplicative Variables

**[ $67,266 ]**

**[ ∑ Special Building Features]**

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

Next, 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% - depreciation %) = percent good

The RCN model used above indicated that our sample building has an RNC of $2,778,884. 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, modify the depreciation by the amount given for obsolescence.
6. Apply final depreciation to RCN to determine RCN-LD.

**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 2016, therefore the valuation date is January 1, 2015. 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 Actual Age of the sample building is 62 years (2015-1953).

**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 1953 to the present. Their building would have an effective age of 62 years as indicated on the Depreciation Table below:

| Base Year 2015 | | 70 Year Economic Life | | 60 Year Economic Life | | 50 Year Economic Life | |
|---|---|---|---|---|---|---|---|
| Age of Building | Effective Year Built | Percent of Depreciation | Percent Good | Percent of Depreciation | Percent Good | Percent of Depreciation | Percent Good |
| 0 | 2015 | 0 | 100 | 0 | 100 | 0 | 100 |
| 1 | 2014 | 0 | 100 | 0 | 100 | 0 | 100 |
| 35 | 1980 | 16 | 84 | 23 | 77 | 36 | 64 |
| 36 | 1979 | 17 | 83 | 25 | 75 | 38 | 62 |
| 37 | 1978 | 18 | 82 | 26 | 74 | 42 | 58 |
| 38 | 1977 | 19 | 81 | 28 | 72 | 44 | 56 |
| 39 | 1976 | 20 | 80 | 31 | 69 | 48 | 52 |
| 40 | 1975 | 21 | 79 | 32 | 68 | 50 | 50 |
| 41 | 1974 | 23 | 77 | 34 | 66 | 52 | 48 |
| 42 | 1973 | 25 | 75 | 36 | 64 | 56 | 44 |
| 43 | 1972 | 26 | 74 | 38 | 62 | 57 | 43 |
| 44 | 1971 | 28 | 72 | 40 | 60 | 61 | 39 |
| 45 | 1970 | 29 | 71 | 44 | 56 | 63 | 37 |
| 46 | 1969 | 31 | 69 | 46 | 54 | 64 | 36 |
| 47 | 1968 | 32 | 68 | 48 | 52 | 66 | 34 |
| 48 | 1967 | 34 | 66 | 50 | 50 | 67 | 33 |
| 49 | 1966 | 36 | 64 | 52 | 48 | 70 | 30 |
| 50 | 1965 | 38 | 62 | 54 | 46 | 71 | 29 |
| 51 | 1964 | 40 | 60 | 57 | 43 | | |
| 52 | 1963 | 42 | 58 | 59 | 41 | | |
| 53 | 1962 | 44 | 56 | 61 | 39 | | |
| 54 | 1961 | 46 | 54 | 63 | 37 | | |
| 55 | 1960 | 48 | 52 | 64 | 36 | | |
| 56 | 1959 | 50 | 50 | 65 | 35 | | |
| 57 | 1958 | 52 | 48 | 67 | 33 | | |
| 58 | 1957 | 54 | 46 | 69 | 31 | | |
| 59 | 1956 | 56 | 44 | 70 | 30 | | |
| 60 | 1955 | 57 | 43 | 71 | 29 | | |
| 61 | 1954 | 59 | 41 | 72 | 28 | | |
| 62 | 1953 | 61 | 39 | 73 | 27 | | |
| 63 | 1952 | 63 | 37 | | | | |
| 64 | 1951 | 64 | 36 | | | | |
| 65 | 1950 | 65 | 35 | | | | |
| 70 | 1949 | 71 | 29 | | | | |

Illustration 9

The Actual Year Built (1953) and the Effective Year Built (1977) the Effective Age would be 38 years. Moving across the table, we see that a building with an EYB of 1977 has 28 percent depreciation and therefore is 72 Percent Good (100%-28%). If the RCN of our sample building is $2,085,641 the depreciated value, RCN-LD, is only $ 2,000,796 (2,778,884 * 0.72).

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.

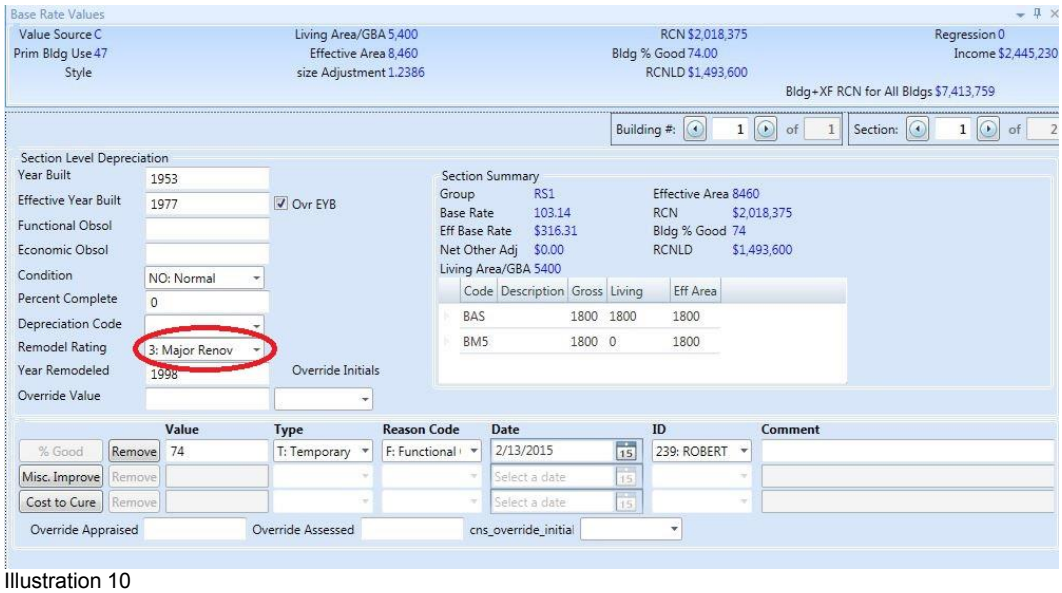


Illustration 10

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 = 1.5 * Age

The product of each of these MV adjustments is calculated to be 0.46575 (0.45 * 0.90 * 1.5). This product is then multiplied by the Actual Age to calculate the Effective Age. Recall our sample building's Actual Age is 62 years. The Effective Age is calculated to be 38 years (62 * 0.6075). Instead of CAMA using 62 chronological years to calculated depreciation, it will use 38 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 = 62 * .6075
Effective Age: 38
Percent Good = 72
RCNLD:819890

Back to our renovation, the 1998 major renovation done to the building reduced the effective age to 60.75% (Rehab Factor 3 = .45 * Rehab Year = 1.5) of the 62 years of actual age, resulting in an effective age of 38 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. 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 the values of those variables were with regard to the recent major renovation example. For the 1990 remodel the values are: Rehab Factor 4= 0.55 and Rehab Year = 1.5. This combination will reduce the effective age to 82.5% (0.55 * 1.5) of the 62 years of actual age, as a result, making the effective age now 31 years old.

The difference between the two scenarios is seven years. Without doing all math, the difference in the appraised value as a result an effective age of 38 years verses 31 years is about $200,000 on a building with a RCN of $2,085,641. 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 1977 (2015 – 38).

**4.** Having established the Effective Year Built, we look up 1977 on the *60 Year Economic Life Depreciation Table* and find that the Depreciation is 28% for that year. See Illustration 11.

| Base Year 2015 | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 70 Year Economic Life | | 60 Year Economic Life | | 50 Year Economic Life | |
| Age of Building | Effective Year Built | Percent of Depreciation | Percent Good | Percent of Depreciation | Percent Good | Percent of Depreciation | Percent Good |
| 0 | 2015 | 0 | 100 | 0 | 100 | 0 | 100 |
| 1 | 2014 | 0 | 100 | 0 | 100 | 0 | 100 |
| 20 | 1995 | 5 | 95 | 6 | 94 | 9 | 91 |
| 21 | 1994 | 5 | 95 | 7 | 93 | 10 | 90 |
| 22 | 1993 | 6 | 94 | 8 | 92 | 12 | 88 |
| 23 | 1992 | 6 | 94 | 9 | 91 | 13 | 87 |
| 24 | 1991 | 7 | 93 | 9 | 91 | 15 | 85 |
| 25 | 1990 | 7 | 93 | 10 | 90 | 16 | 84 |
| 26 | 1989 | 8 | 92 | 11 | 89 | 17 | 83 |
| 27 | 1988 | 9 | 91 | 13 | 87 | 19 | 81 |
| 28 | 1987 | 9 | 91 | 14 | 86 | 20 | 80 |
| 29 | 1986 | 10 | 90 | 15 | 85 | 23 | 77 |
| 30 | 1985 | 11 | 89 | 16 | 84 | 25 | 75 |
| 31 | 1984 | 12 | 88 | 17 | 83 | 26 | 74 |
| 32 | 1983 | 13 | 87 | 18 | 82 | 29 | 71 |

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 74, whereas the depreciation table says it's 83. The explanation is addressed in step 5, dealing with obsolescence and direct adjustments to depreciation, not effective year built calculations.

**5.** If the assessor notes any obsolesce, 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 31 years at 83%, by subtracting the 11% attributed to functional obsolescence, we are left with 72% (rounding error) as the percent good for our building. This matches the figure shown in the Cost.dat file.

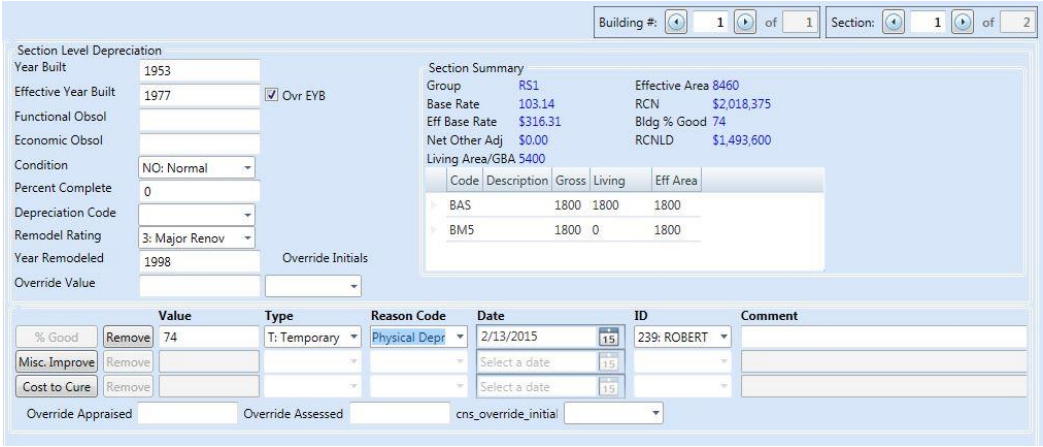


Illustration 12

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.

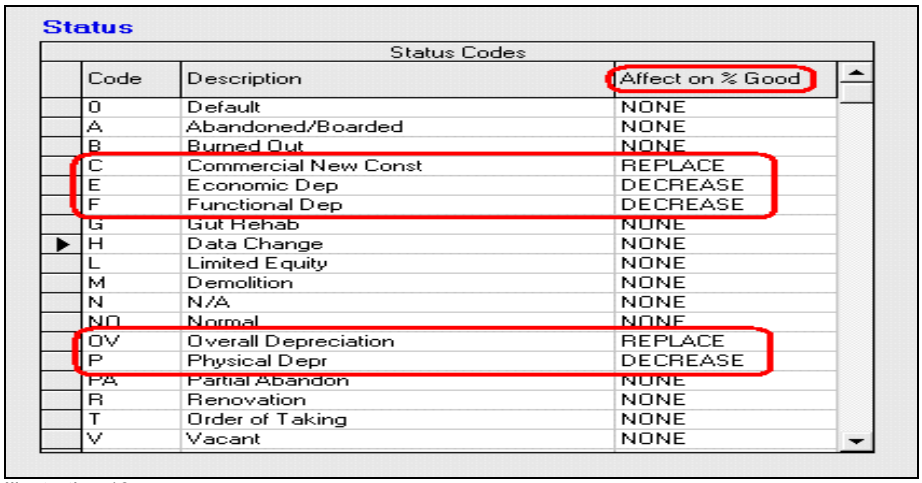


Illustration 13

**6.** The last step in the process is to simply multiple the RCN by 0.72 and we have RCN LD of the building. Knowing the total RCN of our sample building is $$ 2,085,641 , the RCN LD is $1,501,662 ($ 2,085,641 * 0.72).

## 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. Property Record Card, SSL 9999 8888
2. Cost.dat  print-out, SSL 9999 8888
3. Land.dat  print-out, SSL 9999 8888
4. 2007 CAMA Construction Valuation Guideline

Account # 9999 8888 | Property Location 9999 9TH ST NW | Card # 1 of 2 | Use Code 045
Internal ID 183145 | WASHINGTON, DC | Bldg # 1 of 1 | Sec # 1 of 2 | Print Date 2/27/2015 9:41:37 AM

## CURRENT OWNER

TEST OWNER

9999 9TH ST

Washington DC 20002

## ACCOUNT INFORMATION

| Use Type | Use Code | Lot SF | Status Code |
|---|---|---|---|
| C | 045 | 999,999 | A |

## VISIT / CHANGE HISTORY

| Date | ID | Type | Inf. Source | Code | Description |
|---|---|---|---|---|---|
| | | | | | |

## CURRENT ASSESSMENT

| Description | Code | Assessed Val |
|---|---|---|
| COM LAND | 045 | 2,364,000 |
| COMMERCL | 045 | 1,513,780 |

Value Src: C Total: 3,877,780

## DATA ENTRY

Entry ID: _____ Entry Date: / /

# COMM

## District of Columbia Real Property Assessment Division

## OWNERSHIP HISTORY

| | INSTRUMENT # | SALE DATE | q/u | v/i | SALE PRICE | AC |
|---|---|---|---|---|---|---|
| TEST OWNER | 123456 | 10-28-2013 | Q | I | 120,000,000 | 01 |

## PREVIOUS ASSESSMENTS (HISTORY)

| Year | Use | Type | Val Source | Land Value | Building Value | Assessed Value |
|---|---|---|---|---|---|---|
| 2016 | 045 | C | C | 2,364,000 | 1,513,780 | 3,877,780 |
| 2015 | 052 | C | C | 2,999,970 | 111,224,440 | 114,224,410 |
| 2014 | 021 | A | C | 13,995,970 | 1,433,000 | 15,428,970 |
| 2013 | 021 | A | I | 13,995,970 | 1,679,030 | 15,675,000 |
| 2012 | 021 | A | C | 13,995,970 | 1,328,140 | 15,324,110 |
| 2011 | 045 | C | C | 13,995,970 | 1,250,920 | 15,246,890 |
| 2010 | 045 | C | C | 13,995,970 | 1,274,640 | 15,270,610 |

## MIXED USE

| Code | Description | % |
|---|---|---|
| 045 | Store-Restaurant | 100 |
| | | 0 |
| | | 0 |

## APPEALS

| Appeal # | Decision | Amount | Revised AV |
|---|---|---|---|
| | | | |

## ASSOCIATED PARCELS

| Primary SSL | SSL | USE | Lot Size | % | Total Value |
|---|---|---|---|---|---|
| 9999 8888 | | | 999,999 | | 3,877,780 |

## TAX TYPE

| Year | Type | Description |
|---|---|---|
| 2006 | TX | TAXABLE |
| 2005 | TX | TAXABLE |
| 2004 | TX | TAXABLE |
| 2003 | TX | TAXABLE |
| 2002 | TX | TAXABLE |
| 2001 | TX | TAXABLE |
| 2000 | TX | TAXABLE |

## SUPPLEMENTAL DATA

| Type | Description |
|---|---|
| Part Part | 0 |
| Mixed Use | 0 |
| Vcnt Lnd Use | 045 |
| Model Type | 0 |
| Restr Resale | |
| Abbutt Lot | 0 |
| Zone Overlay | |
| PUD | |

## COMMENTS

## PARCEL LOCATION SUMMARY

| SSL | NBHD | SUB-NBHD | ZONING | WARD | GROUP | ARN |
|---|---|---|---|---|---|---|
| 9999 8888 | 9 | 0 | CR | 6 | 1 | 408 |

## BUILDING PERMIT RECORD

| Permit ID | Issue Date | Type | Amount | Description | Insp Date |
|---|---|---|---|---|---|
| | | | | | |

## LAND LINE VALUATION SECTION

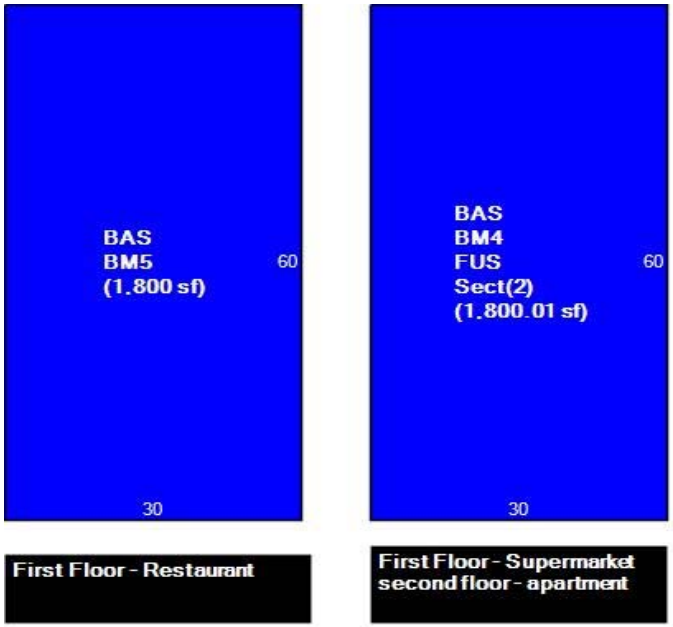
| B # | Occ | Description | Zone | Frontage | Depth | Units | | SI | I. Factor | LT | Price | Size Adj | Site Rating | Adjustments/Special Use | | Notes | Land Value |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 045 | Store-Restaurant | CR | 100 | 200 | 12000.000 | SF | 0 | 1.000000 | 1 | 197.00 | 0.0000 | | | 100.00 | | 2,364,000 |
| | | | | | Total Land Units | 12,000 | SF | | | | | | | | | Total Land Value | 2,364,000 |

| | | | | | |
|---|---|---|---|---|---|
| Account # 9999 8888 | Property Location 9999 9TH ST NW | | Card # 1 of 2 | Use Code 045 |
| Internal ID 183145 | WASHINGTON, DC | Bldg # 1 of 1 | Sec # 1 of 2 | Print Date 2/27/2015 9:41:37 AM |

## CONSTRUCTION DETAIL

| Element | Cd | Ch. | Description | Element | Cd | Ch. | Description |
|---|---|---|---|---|---|---|---|
| Style | C | | Brick/Concr | CDU | G | | Good |
| Model | 94 | | Commercial | | | | |
| Grade | 40 | | Good | | | | |
| Stories | 1 | | | | | | |
| # Units | 1.00 | | | | | | |
| Shape/Peri | 2 | | Rectangular | | | | |
| Structure Cla | C | | Brick/Concr | | | | |
| Wall Height | 12.00 | | | | | | |
| Occupancy | 045 | | Store-Restaurant | | | | |

## SKETCH




## BUILDING SUMMARY SECTION

| Sect # | Code | Description | GBA | Eff Area | SFLA |
|---|---|---|---|---|---|
| 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-finishe | 1,800 | 1,260 | 0 |
| 2 | FUS | Upper Story, Finished | 1,800 | 1,800 | 1,800 |
| | | Total: | 9,000 | 8,460 | 8,460 |

## BUILDING COST SUMMARY

| | |
|---|---|
| Effective Area | 8,460 |
| Building RCN | 1,138,733 |
| Spec. Feat RCN | 31,703 |
| Total RCN | 1,170,436 |
| % Good | 72 |
| Building Cost | 842,714 |

## BUILDING INFORMATION & DEPRECIATION

| | |
|---|---|
| Total Bldg Stories | 1 |
| Primary OCC | 045 |
| Structure Class | C |
| Actual Year Built | 1953 |
| Year Renovated | 1998 |
| Remodel Rating | 3 |
| Effective Year Built | 1977 |
| CDU | G |
| Status | NO |
| % Complete | 0 |
| *% Good Override* | |
| *Type* | |
| *Reason* | |
| *Comment* | |

## COST VALUE SUMMARY

| | | | |
|---|---|---|---|
| Land Value | 2,364,000 | Type | |
| Building Value | 1,453,230 | Reason | |
| Detached Structures | 0 | Date | |
| Misc. Improvements | | ID | |
| Cost to Cure (-) | | Comment | |
| Final Cost Value | 3,877,780 | | |

## BUILDING SPECIAL FEATURES/AMENITIES

| Code | Description | Units | UOM | Unit Price | Grade | RCN |
|---|---|---|---|---|---|---|
| HVAC | (HVAC) Heating | 1,800 | SF | 9.19 | 4 | 20,678 |
| SPRK | Sprinklers | 1,800 | SF | 4.90 | 4 | 11,025 |
| ELEV | Elevators | 0 | Coun | 67030.00 | 3 | 0 |

## DETACHED STRUCTURES

| Code | Description | Units | UOM | Unit Price | Grade | Cdntn | RCN | | Assessed Val |
|---|---|---|---|---|---|---|---|---|---|

Account # 9999 8888 | Property Location 9999 9TH ST NW | Card # 2 of 2 | Use Code 045
Internal ID 183145 | WASHINGTON, DC | Bldg # 1 of 1 | Sec # 2 of 2 | Print Date 2/27/2015 9:41:37 AM

## CURRENT OWNER

TEST OWNER

9999 9TH ST

Washington DC 20002

## ACCOUNT INFORMATION

| Use Type | Use Code | Lot SF | Status Code |
|---|---|---|---|
| C | 045 | 999,999 | A |

## VISIT / CHANGE HISTORY

| Date | ID | Type | Inf. Source | Code | Description |
|---|---|---|---|---|---|
| | | | | | |

## CURRENT ASSESSMENT

| Description | Code | Assessed Val |
|---|---|---|
| COM LAND | 045 | 2,364,000 |
| COMMERCL | 045 | 1,513,780 |

Value Src: C Total: 3,877,780

## DATA ENTRY

Entry ID: _____ Entry Date: / /

# COMM

## District of Columbia Real Property Assessment Division

## OWNERSHIP HISTORY

| | INSTRUMENT # | SALE DATE | q/u | v/i | SALE PRICE | AC |
|---|---|---|---|---|---|---|
| TEST OWNER | 123456 | 10-28-2013 | Q | I | 120,000,000 | 01 |

## PREVIOUS ASSESSMENTS (HISTORY)

| Year | Use | Type | Val Source | Land Value | Building Value | Assessed Value |
|---|---|---|---|---|---|---|
| 2016 | 045 | C | C | 2,364,000 | 1,513,780 | 3,877,780 |
| 2015 | 052 | C | C | 2,999,970 | 111,224,440 | 114,224,410 |
| 2014 | 021 | A | C | 13,995,970 | 1,433,000 | 15,428,970 |
| 2013 | 021 | A | I | 13,995,970 | 1,679,030 | 15,675,000 |
| 2012 | 021 | A | C | 13,995,970 | 1,328,140 | 15,324,110 |
| 2011 | 045 | C | C | 13,995,970 | 1,250,920 | 15,246,890 |
| 2010 | 045 | C | C | 13,995,970 | 1,274,640 | 15,270,610 |

## MIXED USE

| Code | Description | % |
|---|---|---|
| 045 | Store-Restaurant | 100 |
| | | 0 |
| | | 0 |

## APPEALS

| Appeal # | Decision | Amount | Revised AV |
|---|---|---|---|
| | | | |

## ASSOCIATED PARCELS

| Primary SSL | SSL | USE | Lot Size | % | Total Value |
|---|---|---|---|---|---|
| 9999 8888 | | | 999,999 | | 3,877,780 |

## TAX TYPE

| Year | Type | Description |
|---|---|---|
| 2006 | TX | TAXABLE |
| 2005 | TX | TAXABLE |
| 2004 | TX | TAXABLE |
| 2003 | TX | TAXABLE |
| 2002 | TX | TAXABLE |
| 2001 | TX | TAXABLE |
| 2000 | TX | TAXABLE |

## SUPPLEMENTAL DATA

| Type | Description |
|---|---|
| Part Part | 0 |
| Mixed Use | 0 |
| Vcnt Lnd Use | 045 |
| Model Type | 0 |
| Restr Resale | |
| Abbutt Lot | 0 |
| Zone Overlay | |
| PUD | |

## COMMENTS

## PARCEL LOCATION SUMMARY

| SSL | NBHD | SUB-NBHD | ZONING | WARD | GROUP | ARN |
|---|---|---|---|---|---|---|
| 9999 8888 | 9 | 0 | CR | 6 | 1 | 408 |

## BUILDING PERMIT RECORD

| Permit ID | Issue Date | Type | Amount | Description | Insp Date |
|---|---|---|---|---|---|
| | | | | | |

## LAND LINE VALUATION SECTION

| B # | Occ | Description | Zone | Frontage | Depth | Units | | SI | I. Factor | LT | Price | Size Adj | Site Rating | Adjustments/Special Use | | Notes | Land Value |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 045 | Store-Restaurant | CR | 100 | 200 | 12000.000 | SF | 0 | 1.000000 | 1 | 197.00 | 0.0000 | | | 100.00 | | 2,364,000 |
| | | | | | Total Land Units | 12,000 | SF | | | | | | | | | Total Land Value | 2,364,000 |

Account # 9999 8888 | Property Location 9999 9TH ST NW | Card # 2 of 2 | Use Code 045
Internal ID 183145 | WASHINGTON, DC | Bldg # 1 of 1 | Sec # 2 of 2 | Print Date 2/27/2015 9:41:38 AM

## CONSTRUCTION DETAIL

| Element | Cd | Ch. | Description | Element | Cd | Ch. | Description |
|---|---|---|---|---|---|---|---|
| Style | C | | Brick/Concr | CDU | G | | Good |
| Model | 94 | | Commercial | | | | |
| Grade | 40 | | Good | | | | |
| Stories | 2 | | | | | | |
| # Units | 2.00 | | | | | | |
| Shape/Peri | 2 | | Rectangular | | | | |
| Structure Cla | C | | Brick/Concr | | | | |
| Wall Height | 14.00 | | | | | | |
| Occupancy | 047 | | Store-Super Market | | | | |

## BUILDING SUMMARY SECTION

| Sect # | Code | Description | GBA | Eff Area | SFLA |
|---|---|---|---|---|---|
| 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-finishe | 1,800 | 1,260 | 0 |
| 2 | FUS | Upper Story, Finished | 1,800 | 1,800 | 1,800 |
| | | Total: | 9,000 | 8,460 | 8,460 |

## BUILDING COST SUMMARY

| | |
|---|---|
| Effective Area | 8,460 |
| Building RCN | 879,642 |
| Spec. Feat RCN | 52,380 |
| Total RCN | 932,022 |
| % Good | 72 |
| Building Cost | 671,056 |

## BUILDING INFORMATION & DEPRECIATION

| | |
|---|---|
| Total Bldg Stories | 2 |
| Primary OCC | 045 |
| Structure Class | C |
| Actual Year Built | 1953 |
| Year Renovated | 1997 |
| Remodel Rating | 3 |
| Effective Year Built | 1977 |
| CDU | G |
| Status | OV |
| % Complete | 72 |
| *% Good Override* | |
| *Type* | |
| *Reason* | |
| *Comment* | |

## COST VALUE SUMMARY

| | | | |
|---|---|---|---|
| Land Value | 2,364,000 | Type | |
| Building Value | 1,453,230 | Reason | |
| Detached Structures | 0 | Date | |
| Misc. Improvements | | ID | |
| Cost to Cure (-) | | Comment | |
| Final Cost Value | 3,877,780 | | |

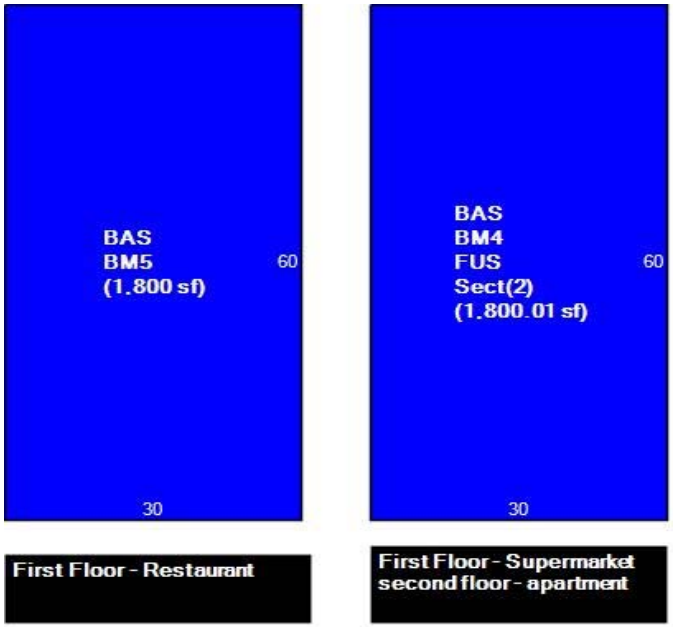
## BUILDING SPECIAL FEATURES/AMENITIES

| Code | Description | Units | UOM | Unit Price | Grade | RCN |
|---|---|---|---|---|---|---|
| SPRK | Sprinklers | 1,800 | SF | 4.90 | 4 | 11,025 |
| HVAC | (HVAC) Heating | 3,600 | SF | 9.19 | 4 | 41,355 |

## DETACHED STRUCTURES

| Code | Description | Units | UOM | Unit Price | Grade | Cdntn | RCN | | Assessed Val |
|---|---|---|---|---|---|---|---|---|---|

## SKETCH



OUTPUT FROM NEW COST MODELING ENGINE
REPORT GENERATED ON 27-Feb-2015 AT 09:39

**********Building #1 Calc Start**********
Cost Calculation for pid, bid = 183145, 173784
Account Number = 9999  8888
Use Code = 045
Cost Rate Group = RS1
Model ID:  = DCC

Section #2
Section Use: Store-Super Market
Base Rate: 103.14
Size Adjustment: 1.23860
Effective Area: 5400
Adjusted Base Rate = (103.14 + 0) * 1.23860
Adjusted Base Rate: 127.75
RCN =  ((127.75 * 4860 + 0.0000000000000000000) * 1.416800000000000) + 0
RCN: 879642

**********Factor Adjustments**********
GRADE 40 = 1.120 x RCN
COMM NBHD 9 = 1.100 x RCN
CONDITION DESIRABILITY UTILITY G = 1.150 x RCN

**********Effective Age Adjustments**********
STRUCTURE CLASS AGE FACTOR C = 0.900 x Age
CDU AGE FACTOR G = 1.000 x Age
REHAB FACTOR 3 = 0.450000 x Age
REHAB YEAR 1997 = 1.500 x Age

Actual Year Built: 1953
Effective Age = 38

**********Depreciation Adjustments**********
CDU DEPREC FACTOR G = 1.000 x Depreciation

Percent Good = 72
RCNLD: 633340
**********

Section #1
Section Use: Store-Restaurant
Base Rate: 180.25

Size Adjustment: 1.23860
Effective Area: 5400
Adjusted Base Rate = (180.25 + 0) * 1.23860
Adjusted Base Rate: 223.26
RCN = ((223.26 * 3600 + 0.0000000000000000000) * 1.416800000000000) + 0
RCN: 1138733

**********Factor Adjustments**********
GRADE 40 = 1.120 x RCN
COMM NBHD 9 = 1.100 x RCN
CONDITION DESIRABILITY UTILITY G = 1.150 x RCN

**********Effective Age Adjustments**********
STRUCTURE CLASS AGE FACTOR C = 0.900 x Age
CDU AGE FACTOR G = 1.000 x Age
REHAB FACTOR 3 = 0.450000 x Age
REHAB YEAR 1998 = 1.500 x Age

Actual Year Built: 1953
Effective Age = 38

**********Depreciation Adjustments**********
CDU DEPREC FACTOR G = 1.000 x Depreciation

Percent Good = 72
RCNLD: 819890
**********

# 2016 Economic Life Depreciation Tables

**Base Year 2015**

| Age of Building | Effective Year Built | 70 Year Economic Life | | 60 Year Economic Life | | 50 Year Economic Life | |
|---|---|---|---|---|---|---|---|
| | | Percent of Depreciation | Percent Good | Percent of Depreciation | Percent Good | Percent of Depreciation | Percent Good |
| 0 | 2015 | 0 | 100 | 0 | 100 | 0 | 100 |
| 1 | 2014 | 0 | 100 | 0 | 100 | 0 | 100 |
| 2 | 2013 | 0 | 100 | 0 | 100 | 0 | 100 |
| 3 | 2012 | 0 | 100 | 1 | 99 | 1 | 99 |
| 4 | 2011 | 1 | 99 | 1 | 99 | 1 | 99 |
| 5 | 2010 | 1 | 99 | 1 | 99 | 1 | 99 |
| 6 | 2009 | 1 | 99 | 1 | 99 | 1 | 99 |
| 7 | 2008 | 1 | 99 | 1 | 99 | 2 | 98 |
| 8 | 2007 | 1 | 99 | 2 | 98 | 2 | 98 |
| 9 | 2006 | 2 | 98 | 2 | 98 | 2 | 98 |
| 10 | 2005 | 2 | 98 | 2 | 98 | 3 | 97 |
| 11 | 2004 | 2 | 98 | 2 | 98 | 3 | 97 |
| 12 | 2003 | 2 | 98 | 3 | 97 | 4 | 96 |
| 13 | 2002 | 2 | 98 | 3 | 97 | 4 | 96 |
| 14 | 2001 | 3 | 97 | 3 | 97 | 5 | 95 |
| 15 | 2000 | 3 | 97 | 4 | 96 | 5 | 95 |
| 16 | 1999 | 3 | 97 | 4 | 96 | 6 | 94 |
| 17 | 1998 | 4 | 96 | 5 | 95 | 7 | 93 |
| 18 | 1997 | 4 | 96 | 5 | 95 | 7 | 93 |
| 19 | 1996 | 4 | 96 | 6 | 94 | 9 | 91 |
| 20 | 1995 | 5 | 95 | 6 | 94 | 9 | 91 |
| 21 | 1994 | 5 | 95 | 7 | 93 | 10 | 90 |
| 22 | 1993 | 6 | 94 | 8 | 92 | 12 | 88 |
| 23 | 1992 | 6 | 94 | 9 | 91 | 13 | 87 |
| 24 | 1991 | 7 | 93 | 9 | 91 | 15 | 85 |
| 25 | 1990 | 7 | 93 | 10 | 90 | 16 | 84 |
| 26 | 1989 | 8 | 92 | 11 | 89 | 17 | 83 |
| 27 | 1988 | 9 | 91 | 13 | 87 | 19 | 81 |
| 28 | 1987 | 9 | 91 | 14 | 86 | 20 | 80 |
| 29 | 1986 | 10 | 90 | 15 | 85 | 23 | 77 |
| 30 | 1985 | 11 | 89 | 16 | 84 | 25 | 75 |
| 31 | 1984 | 12 | 88 | 17 | 83 | 26 | 74 |
| 32 | 1983 | 13 | 87 | 18 | 82 | 29 | 71 |
| 33 | 1982 | 14 | 86 | 20 | 80 | 31 | 69 |
| 34 | 1981 | 15 | 85 | 21 | 79 | 34 | 66 |
| 35 | 1980 | 16 | 84 | 23 | 77 | 36 | 64 |
| 36 | 1979 | 17 | 83 | 25 | 75 | 38 | 62 |
| 37 | 1978 | 18 | 82 | 26 | 74 | 42 | 58 |
| 38 | 1977 | 19 | 81 | 28 | 72 | 44 | 56 |
| 39 | 1976 | 20 | 80 | 31 | 69 | 48 | 52 |
| 40 | 1975 | 21 | 79 | 32 | 68 | 50 | 50 |
| 41 | 1974 | 23 | 77 | 34 | 66 | 52 | 48 |
| 42 | 1973 | 25 | 75 | 36 | 64 | 56 | 44 |
| 43 | 1972 | 26 | 74 | 38 | 62 | 57 | 43 |
| 44 | 1971 | 28 | 72 | 40 | 60 | 61 | 39 |
| 45 | 1970 | 29 | 71 | 44 | 56 | 63 | 37 |
| 46 | 1969 | 31 | 69 | 46 | 54 | 64 | 36 |
| 47 | 1968 | 32 | 68 | 48 | 52 | 66 | 34 |
| 48 | 1967 | 34 | 66 | 50 | 50 | 67 | 33 |
| 49 | 1966 | 36 | 64 | 52 | 48 | 70 | 30 |
| 50 | 1965 | 38 | 62 | 54 | 46 | 71 | 29 |
| 51 | 1964 | 40 | 60 | 57 | 43 | | |
| 52 | 1963 | 42 | 58 | 59 | 41 | | |
| 53 | 1962 | 44 | 56 | 61 | 39 | | |
| 54 | 1961 | 46 | 54 | 63 | 37 | | |
| 55 | 1960 | 48 | 52 | 64 | 36 | | |
| 56 | 1959 | 50 | 50 | 65 | 35 | | |
| 57 | 1958 | 52 | 48 | 67 | 33 | | |
| 58 | 1957 | 54 | 46 | 69 | 31 | | |
| 59 | 1956 | 56 | 44 | 70 | 30 | | |
| 60 | 1955 | 57 | 43 | 71 | 29 | | |
| 61 | 1954 | 59 | 41 | | | | |
| 62 | 1953 | 61 | 39 | | | | |
| 63 | 1952 | 63 | 37 | | | | |
| 64 | 1951 | 64 | 36 | | | | |
| 65 | 1950 | 65 | 35 | | | | |
| 70 | 1949 | 71 | 29 | | | | |

**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 | 38% |
| 60 | Excellent | 45% |

**Story Height (Multiplies Base)**
Currently not in use

**Wall Height (Adds to Base Rate)**
Currently not in use

**CDU Condition, Desirability, Utility (Multiplies Base, Features)**

| | | |
|---|---|---|
| EX | Excellent | 35% |
| VG | Very Good | 30% |
| G | Good | 15% |
| AV | Average | -- |
| F | Fair | -25% |
| P | Poor | -50% |
| VP | Very Poor | -70% |
| US | Unsound | -90% |

**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 |

**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)**

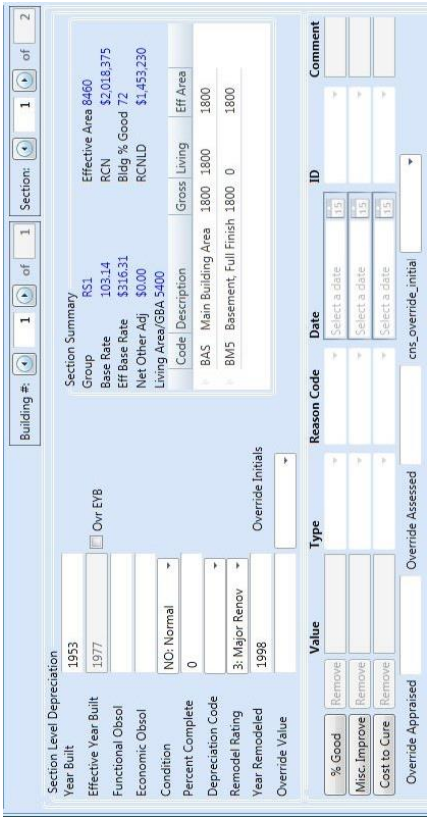
| | |
|---|---|
| 2011-2014 | 0% |
| 2009-2010 | 5% |
| 2004-2008 | 15% |
| 1999-2003 | 25% |
| Earlier-1998 | 50% |

**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. |

**Building RCN = [Section$_1$ (Base Rate * Effective Area * Size Adjustment) * ($MV_0$ * $MV_2$ * … * $MV_N$)] + [Section$_n$ (Base Rate * Effective Area * Size Adjustment) * ($MV_0$ * $MV_2$ * … * $MV_N$)] + [∑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



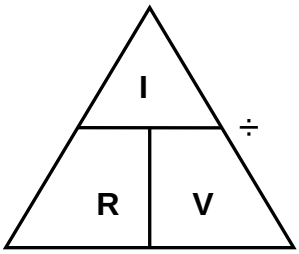
# Vision® CAMA Income Approach Valuation Process

The income approach to the valuation of real property follows the generic formula of **Market Value = NOI/Capitalization Rate** , where **NOI** is the net operating income of the property and the **Capitalization Rate** is a market-derived overall direct capitalization rate. When properly developed and calibrated, this approach is a reliable indicator of market value of income producing properties within a mass-appraisal CAMA system.

The following exercise will illustrate how the Vision© CAMA system utilized by the District of Columbia calculates values using the above model. The first section will illustrate the traditional development of a market value estimate for a typical apartment building. This example will serve to provide a practical foundation for understanding the concepts of the income approach to valuation as well as an understanding of the major components of the Vision© CAMA methodology. The second section will illustrate the actual CAMA valuation of the apartment building described in the first section.

## Income Approach to Value

An understanding of the income capitalization approach to value is essential in order to utilize the Vision© CAMA system's income model. Of the three traditional approaches to value (cost, market, income), the income approach is most often the appropriate approach when appraising property owned for it's ability to produce income to the owner. An owner anticipates future income production and the income approach quantifies the present value of the income derived from the ownership of the property. There are several varieties or forms of the income approach used to quantify or convert income into an estimate of value. The most widely used approach is direct capitalization. Direct capitalization involves converting one year's stabilized net operating income into an estimate of value in one direct step using an appropriate rate. The direct capitalization method is rooted in the market. The rate used to convert income into value represents the relationship between value and income through the following formula:




**X**

**Where: I = Income**
**R = Rate**
**V = Value**

Formula 1

To determine an estimate of value, divide the income by the rate. The income is the net operating income (NOI) and the rate is the direct capitalization rate. For example, if a property generates an NOI of $500,000 per year and the market-derived capitalization rate is 5 percent, the indicated value would be $10,000,000 ($500,000/.05).

Where do these two numbers come from? The first number, NOI, is determined by a combination of things. First, the income and expenses of the particular property are analyzed and "re-constructed" to produce the NOI. Re-constructing simply means that we analyze the income and more particularly the expenses to ensure that we have a true understanding and estimate of the amount of net operating income annually produced by the property. Oftentimes an income report will detail some expenses not directly associated with the property. For example, the debt service of a loan on the property may be subtracted from the gross income. This is not a proper expense as it is a function of the owner's financing and not an operating expense of the property. Another example may be a large "expense" taken against gross income that should be more properly spread over several years, or capitalized. Expense ratios are calculated for the various categories of expenses.

Another source for determining the NOI of a property is the analysis of many other similar properties for their income levels and expense levels or ratios. If the subject property's income and expenses are typical for similar properties, the actual NOI of the property becomes the amount to be capitalized by the rate. If, on the other hand, the property exhibits unusual income or expenses based on comparison of the ratios, some actual amounts of income or expenses may be substituted with the amounts represented by more typical ratios. The goal is to establish the typical level of NOI that a prudent investor would anticipate deriving from the property each year.

Where does the rate come from? The rate is the overall direct capitalization rate. This is the rate for the overall property used to convert a single year's income into an indication of value of the overall property using the IRV formula shown above. The rate is derived through sales analysis. Ideally, where arms-length sales of similar properties occur and the income and expense data are well known, a direct capitalization rate can be derived using the IRV formula. For example, suppose the subject property is an office building and a similar office building recently sold for $750,000. The reconstructed income and expense analysis indicated that at the time of sale the property was producing an annual net operating income of $60,000. Using the IRV formula, the capitalization rate of the property was 8 percent ($60,000/$750,000). Reliable capitalization rates are the result of the analysis of many sales of income producing properties.

The following illustration is an example of an income and expense statement for our sample property. The property, Breakaway Northwest, is a high-rise apartment complex consisting of a one eight story concrete block building. The building has 164 rental units, a management office, laundry facility and on-site surface parking. It is located close to the Convention Center in NW Washington,

DC. We'll use this property both here and in the example within Vision© CAMA in the second part of this tutorial.

**Breakaway Northwest Apartments**
**- December 31, 2010-**

| | | |
|---|---|---|
| **Potential Gross Income** | | $3,820,680 |
| Vacancy & Collection Loss (7%) | | -267,448 |
| Miscellaneous Income (laundry) (2%) | | + 62,600 |
| **Effective Gross Income** | | $3,615,832 |
| | | |
| **Expenses** | | |
| Operating: | | |
| Management (9%) | $321,200 | |
| R.E. Taxes (7%) | 262,000 | |
| Insurance (7%) | 245,800 | |
| Utilities (7%) | 238,700 | |
| Salaries (6%) | 220,250 | |
| Marketing (4%) | 130,400 | |
| Yard and Snow (2%) | 89,500 | |
| *Sub-total (42%)* | $1,507,850 | |
| | | |
| Reserves for Replacements: | | |
| Roof (4%) | $150,400 | |
| Parking (3%) | 121,000 | |
| Redecorating (3%) | 115,948 | |
| Appliances (3%) | 102,400 | |
| *Sub-total (13%)* | $489,748 | |
| | | |
| **Total Expenses** (55%) | | $1,997,598 |
| | | |
| **Net Operating Income** (45%) | | $1,618,234 |
| | | |
| **Capitalization Rate** | | 5.25% |
| | | |
| **Indicated Market Value** | | **$30,823,500** |

Illustration 1

As you examine the statement, you'll notice a few terms we have not discussed. The **potential gross income** is defined as the maximum amount of income the property can produce if fully rented at market rent before any expenses are deducted. There will always be some amount to deduct from the potential gross income in the form of **vacancy** and **collection loss.** Even if the property is fully

leased, the appraiser must take some vacancy allowance to acknowledge tenant turn-over and inevitable vacancies. It is unrealistic not to allow for some vacancy. Collection loss is that amount deducted from the potential gross income for nonpayment of rent.

In addition to rent, a property may have other sources of income. This **miscellaneous income** can come from such sources as an on-site laundry facility, furniture rental, community room rentals, vending machines, and the like.

When an amount for vacancy and collection loss is subtracted, and an amount for miscellaneous income is added to the gross potential income, the result is the **effective gross income** of the property. Expenses are subtracted from, and expense ratios are calculated based upon, the effective gross income.

Expenses usually fall into two categories: **operating expenses** and **reserves for replacements**. Sometimes operating expenses may be further divided between variable and fixed expenses. Operating expenses are those legitimate expenses necessary to support the property's ability to produce income. The sample shows some of the more typical expenses incurred by an apartment building. Notice the calculation of the expense ratios mentioned earlier. As an example, the expense ratio for management is nine percent of the effective gross income ($321,200/$3,615,832). These actual ratios are compared to typical ratios to see if any expenses are out of the ordinary. If they are out-of-line and no adequate explanation can be identified, it is appropriate to substitute that category of expense with an amount that would be more normal as indicated by market research. This is an aspect of "re-constructing" the income/expense statement to more properly reflect a stable, normalized net operating income.

Reserves for replacements are a category of expenses that are designed to set aside funds for long lived items that periodically need to be replaced. The amount of the expense is based on the item's economic life and the estimated cost to replace it in the future. Let's say that appliances must be replaced every five years at an estimated cost of $3,122 per unit. With 164 units, we need to accumulate $ 512,000 over a five year period. Charging $102,400 per year to the reserves for replacements expense allows us to set aside enough money to replace the appliances according to the five year schedule. It is always appropriate to set aside reserves for replacements, even though in practice a property may not have done so. This is another aspect to "re-constructing" the traditional income/expense statement.

Subtracting the total expenses from the effective gross income leaves us with the net operating income of the property. The NOI of the property is the "I" in the IRV formula that will be converted to an indication of value using a capitalization rate.

As mentioned earlier, we employ the direct capitalization of income to produce an estimate of value. The capitalization rates are determined by the analysis of sales of similar properties where the NOI is known. Capitalization rates vary between and within different categories of income-producing properties. Analysis

of the market is necessary to determine the proper rate to apply to the different properties. For example, a capitalization rate for a high quality office building in a prime location will be lower than a capitalization rate for a lower quality office in a less desirable location. With all other things remaining equal and no unusual externalities, capitalization rates for offices are generally less than rates for motels or shopping centers. It all harkens back to the level of return the buyers expect to receive on their investment in commercial real estate. One of their considerations is that the more risk involved with the property, the more return they require thereby raising the capitalization rate resulting in a lower valuation.

In our example, a market-derived capitalization rate for apartments of similar size and location indicate a direct capitalization rate of 5.25 percent. We now know the NOI and the cap rate and by following the IRV formula, we derive the value of Breakaway Northwest to be $30,823,500 ($1,618,234/0.0525).

The above discussion accurately represents the typical application of the income approach to valuation. However, determining valuations for ad-valorem purposes requires one significant modification to the process. Whereas in the above example we considered real estate taxes a legitimate expense, they are not expensed in ad-valorem appraisals. They are removed in our approach to account for the fact that the tax expense is directly determined by the very value we are trying to obtain. To avoid this circular situation whereby taxes affect value (lower NOI, if expensed) and value affects taxes, we remove the item from the NOI. Our tax-adjusted NOI will now be $1,880,232 ($1,618,234 + $262,000). This is another aspect to reconstructing the income/expense statement illustrated earlier.

As a consequence of removing real estate taxes from the expenses and thereby increasing the NOI by a corresponding amount, we compensate by modifying the capitalization rate. The modification to the market cap rate allows us to remove real estate taxes from the net operating expenses and replace the loss by increasing the cap rate by the effective tax rate.

The cap rate we utilize for ad-valorem appraisals is a ‘loaded’ cap rate, meaning that it is comprised of both the market cap rate and the District’s effective tax rate for apartments. Apartments are taxed at the residential tax rate. For this exercise the tax rate is $0.85 per $100 of assessed value, therefore the effective tax rate is 0.0085 (0.85/100). If the market cap rate is 5.25 percent and the effective tax rate is 0.85 percent, then our ‘loaded’ cap rate is 6.10 percent (0.0525+0.0085).

Based on the information we now have, we can estimate the market value of the subject apartment to be $30,823,500 ($1,880,232/0.061), the same as determined just a moment ago.

The above discussion has been presented as a review of the income approach to valuation, more specifically the direct capitalization technique. Included was an example of the valuation of an apartment building. In the next section, we’ll again value the same apartment building but conduct the valuation from within

the District's CAMA system. Although the work flow may appear different, the underlying IRV formula should generate the same results.

## Vision's® CAMA Income Approach to Value

In addition to the market-calibrated cost approach utilized by CAMA to value the residential property in the District, CAMA also has the capability to value commercial property using the more appropriate approach – the income capitalization approach. The discussion in this section will serve to illustrate the manner in which a commercial property, an apartment building, is valued based on the income approach.

To effectively value property, complete and accurate property characteristics must be known. Although the physical characteristics such as wall type, roof type, building style and the like are important, the most important information regarding commercial property subject to the income approach are characteristics of the property dealing with its ability to produce income. In an office building, for example, the gross building area or net leaseable area are important. In hotels and motels the significant measure is the number of rooms available. And in apartment buildings it would be the number and style of the units for rent.

We'll begin our appraisal of Breakaway Northwest by identifying the "mix" of units in the building. The table below represents this information.

The mix of units is as follows:

| No. of Bedrooms | 1 Bed | 2 Bed | 3 Bed |
|---|---|---|---|
| No. of Bathrooms | 1 Bath | 1 Bath | 2 Bath |
| No. of Units | 62 | 76 | 26 |

Table 1

From our previous discussion of the income approach, we know that there are four "key" areas having to do with the income approach to value:

- Gross Income (Rent)
- Vacancy & Expenses
- Net Operating Income
- Capitalization Rate

The illustration below highlights the location of these key areas on the data entry screen within CAMA.

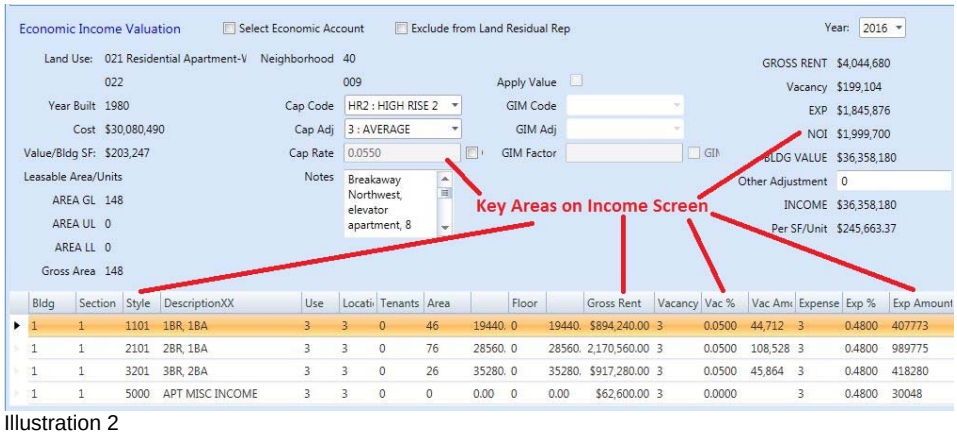
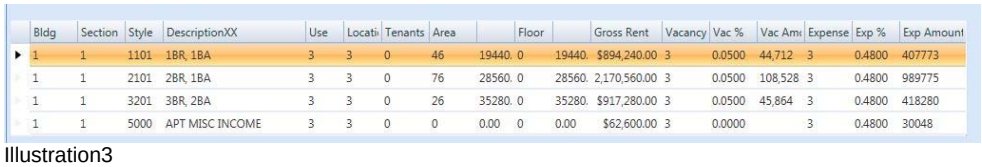


Illustration 2

## Gross Rent

Recall we will be appraising the same apartment property from the example in the first section. Let's first turn our attention to the Gross Rent. We'll be entering information for each section, using one line for each *style* of apartments. By style, we mean the unit of comparison designated for apartment buildings – 1 bed-1 bath, 2 bed w/den-1 bath, 3 bed-2 bath, and the like.

Let's look at the first line of the table:



| Bldg | Section | Style | DescriptionXX | Use | Locati | Tenants | Area | | Floor | | Gross Rent | Vacancy | Vac % | Vac Am | Expense | Exp % | Exp Amount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1101 | 1BR, 1BA | 3 | 3 | 0 | 46 | 19440. | 0 | 19440. | $894,240.00 | 3 | 0.0500 | 44,712 | 3 | 0.4800 | 407773 |
| 1 | 1 | 2101 | 2BR, 1BA | 3 | 3 | 0 | 76 | 28560. | 0 | 28560. | 2,170,560.00 | 3 | 0.0500 | 108,528 | 3 | 0.4800 | 989775 |
| 1 | 1 | 3201 | 3BR, 2BA | 3 | 3 | 0 | 26 | 35280. | 0 | 35280. | $917,280.00 | 3 | 0.0500 | 45,864 | 3 | 0.4800 | 418280 |
| 1 | 1 | 5000 | APT MISC INCOME | 3 | 3 | 0 | 0 | 0.00 | 0 | 0.00 | $62,600.00 | 3 | 0.0000 | | 3 | 0.4800 | 30048 |

Illustration3

Our first line will account for the 1 bedroom-1 bath units in the complex. The style code "1101" is selected from a pick-list that describes the different styles available for apartments. Please refer to the illustration below for a partial list of Income Style for apartments.

Illustration 4

| | |
|---|---|
| 0000 | JR. EFFICIENCY |
| 0101 | EFFICIENCY |
| 0102 | EFFICIENCY, SM |
| 0103 | EFFICIENCY, LG |
| 1101 | 1BR, 1BA |
| 1102 | 1BR, 1BA, SM |
| 1103 | 1BR, 1BA, LG |
| 1111 | 1BR+DEN, 1BA |
| 1113 | 1BR+DEN 1BA, LG |
| 2101 | 2BR, 1BA |
| 2102 | 2BR, 1BA, SM |
| 2103 | 2BR, 1BA, LG |
| 2111 | 2BR+DEN, 1BA |
| 2113 | 2BR+DEN 1BA, LG |
| 2201 | 2BR, 2BA |
| 2202 | 2BR, 2BA, SM |

There are sixty-two 1BR, 1BA units and that number is recorded in the “SF/Unit” column of the table. In addition to recording the style and number of units, the appraiser may choose to modify the Gross Rent by taking into consideration both the tenant desirability and the location of the apartment. The two columns labeled “Use” and “Loc” account for these adjustments, respectively. The adjustments are percentage increases or decreases to the Gross Income from the default value of “average.” Both the “Use” and “Loc” allow for the same percent adjustment each, as shown in the illustration below.

Illustration 5

Economic Income Valuation  Select Economic Account  Exclude from Land Residual Rep  Year: 2016

Land Use: 021 Residential Apartment-V  Neighborhood 40
022  009
Year Built 1980  Cap Code HR2 : HIGH RISE 2  Apply Value  GIM Code
Cost $30,080,490  Cap Adj 3 : AVERAGE  GIM Adj
Value/Bldg SF: $203,247  Cap Rate 0.0550  GIM Factor  GIM
Leasable Area/Units  Notes Breakaway Northwest, elevator apartment, 8
AREA GL 148
AREA UL 0
AREA LL 0
Gross Area 148

GROSS RENT $4,044,680
Vacancy $199,104
EXP $1,845,876
NOI $1,999,700
BLDG VALUE $36,358,180
Other Adjustment 0
INCOME $36,358,180
Per SF/Unit $245,663.37

| Bldg | Section | Style | DescriptionXX | Use | Locati | Tenants | Area | | Floor | | Gross Rent | Vacancy | Vac % | Vac Am | Expense | Exp % | Exp Amount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1101 | 1BR, 1BA | 3 | 3 | 0 | 46 | 19440. | 0 | 19440. | $894,240.00 | 3 | 0.0500 | 44,712 | 3 | 0.4800 | 407773 |
| 1 | 1 | 2101 | 2BR, 1BA | 3 | 3 | 0 | 76 | 28560. | 0 | 28560. | 2,170,560.00 | 3 | 0.0500 | 108,528 | 3 | 0.4800 | 989775 |
| 1 | 1 | 3201 | 3BR, 2BA | 3 | 3 | 0 | 26 | 35280. | 0 | 35280. | $917,280.00 | 3 | 0.0500 | 45,864 | 3 | 0.4800 | 418280 |
| 1 | 1 | 5000 | APT MISC INCOME | 3 | 3 | 0 | 0 | 0.00 | 0 | 0.00 | $62,600.00 | 3 | 0.0000 | | 3 | 0.4800 | 30048 |

The amount of adjustment is based on the table below:

| Rating | Description | Location | Use |
|---|---|---|---|
| 1 | POOR | 0.80 | 0.80 |
| 2 | FAIR | 0.90 | 0.90 |
| 3 | AVERAGE | 1.00 | 1.00 |
| 4 | GOOD | 1.10 | 1.10 |
| 5 | EXCELLENT | 1.25 | 1.25 |
| A | AVERAGE | 1.00 | 1.00 |
| S | NON-MARKET | 1.00 | 0.90 |

Table 2

In our example, we chose not to make any adjustments for location or desirability to any of the apartment units in this property.

The Base Rate shows the annual rent for each unit of the particular style "1101" – 1BR, 1BA. In this example the rent is $1,620 per month or $19,440 on an annual basis as shown in the base rate column. This value has been selected from a table in CAMA. The table has been calibrated based upon market analysis of current rents segmented by location and style, throughout the District. Below is an excerpt of a table that illustrates the rents for our particular property.

| Code | Description | OLD CITY #2 Monthly Rent |
|---|---|---|
| 0000 | JR. EFFICIENCY | 1255 |
| 0101 | EFFICIENCY | 1330 |
| 0102 | EFFICIENCY, SM | 1255 |
| 0103 | EFFICIENCY, LG | 1465 |
| **1101** | **1BR, 1BA** | **1620** |
| 1102 | 1BR, 1BA, SM | 1475 |
| 1103 | 1BR, 1BA, LG | 1800 |
| 1111 | 1BR+DEN, 1BA | 1885 |
| 1113 | 1BR+DEN 1BA, LG | 2075 |
| **2101** | **2BR, 1BA** | **2380** |
| 2102 | 2BR, 1BA, SM | 2145 |
| 2103 | 2BR, 1BA, LG | 2610 |
| 2111 | 2BR+DEN, 1BA | 2740 |
| 2113 | 2BR+DEN 1BA, LG | 3010 |
| 2201 | 2BR, 2BA | 2740 |
| 2202 | 2BR, 2BA, SM | 2465 |
| 2203 | 2BR, 2BA, LG | 3010 |

| | | |
|---|---|---|
| 2211 | 2BR+DEN, 2BA | 3285 |
| 2213 | 2BR+DEN 2BA, LG | 3620 |
| 3101 | 3BR, 1BA | 2550 |
| 3102 | 3BR, 1BA, SM | 2290 |
| 3103 | 3BR, 1BA, LG | 2805 |
| 3111 | 3BR+DEN, 1BA | 2940 |
| 3113 | 3R+DEN 1BA, LG | 3220 |
| **3201** | **3BR, 2BA** | **2940** |
| 3202 | 3BR, 2BA, SM | 2635 |

Table 3

Notice that our subject property is located in the Old City #2 market. The District of Columbia is divided into nine separate markets for income modeling purposes. The market influences within Old City #2 are, for example, different from the influences within Southwest or Georgetown markets. Separate rent rate and vacancy and expense ratio schedules exist for each separate market.

As we continue with our example, we account for the other two styles of units in a similar manner. At this point, the gross rent has been calculated to be $4,293,120. But, if you recall from the income and expense statement, the property generated an additional $62,600 in non-rental income. We need to include this amount to determine to total gross income.

To account for the miscellaneous income, select “5000 APT MISC INCOME” as the style and enter the actual amount directly into the Gross Rent column. We want to be sure to set the “OV?”(override), column to “Yes.” By doing so, we ensure that the amount does not get adjusted for vacancy and collection loss discussed in the next section. Typically, only rental income is subjected to vacancy and collection loss. See the illustration below:

| Bldg | Section | Style | DescriptionXX | Use | Locati | Tenants | Area | | Floor | | Gross Rent | Vacancy | Vac % | Vac Am | Expense | Exp % | Exp Amount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1101 | 1BR, 1BA | 3 | 3 | 0 | 62 | 19440. | 0 | 19440. | 1,205,280.00 | 3 | 0.0500 | 60,264 | 3 | 0.4800 | 549608 |
| 1 | 1 | 2101 | 2BR, 1BA | 3 | 3 | 0 | 76 | 28560. | 0 | 28560. | 2,170,560.00 | 3 | 0.0500 | 108,528 | 3 | 0.4800 | 989775 |
| 1 | 1 | 3201 | 3BR, 2BA | 3 | 3 | 0 | 26 | 35280. | 0 | 35280. | $917,280.00 | 3 | 0.0500 | 45,864 | 3 | 0.4800 | 418280 |
| 1 | 1 | 5000 | APT MISC INCOME | 3 | 3 | 0 | 0 | 0 | 0 | 0.00 | $62,600.00 | 3 | 0.0000 | | 3 | 0.4800 | 30048 |

Illustration 6

This concludes our discussion of the Gross Rent tab in the CAMA system. We have accounted for all of the rent attributable to the property and concluded that the Gross Rent is the sum of $ 4,355,720, the same amount as shown on the income and expense sheet from section one. Next, we’ll turn to the Vacancy & Expenses portion of the record.

## Vacancy and Expenses

Our work in the Vacancy and Expenses will be similar to what we did in the Gross Income. However, in this table we’ll account for four items:

- Vacancy amount
- EGI (Effective Gross Income) calculation

- Expense amount
- NOI (Net Operating Income) calculation

The value of the NOI calculated here will be the basis for the final valuation using the IRV formula, after selecting a rate. See below:

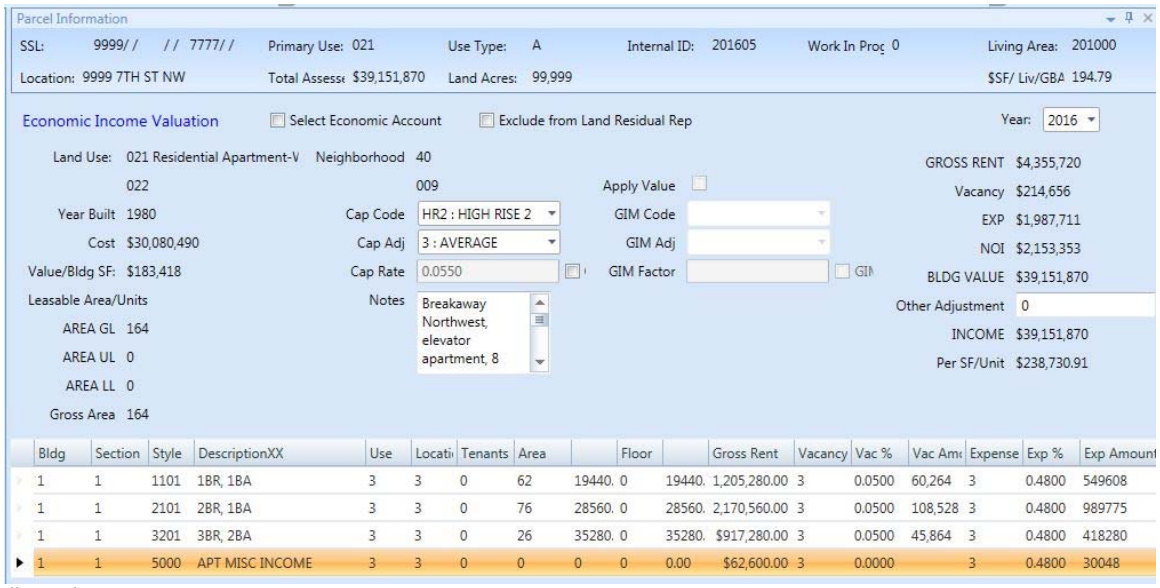


Illustration 7

A Vacancy and Expenses line is automatically created for each style shown on the Gross Rent. The values are based on the market area of the property and are derived from market analysis. Recall that our apartments are located in the Old City #2 market. CAMA populates the Vac% column and the Exp% column with the market rates appropriate for Old City #2; in this case it would be based on this table:

| | GEORGETOWN | NORTHEAST | OLD CITY #2 | SOUTHEAST |
|---|---|---|---|---|
| Vacancy Ratio | 4% | 7% | 5% | 8% |
| Expense Ratio | 42% | 60% | 48% | 60% |

Table 4

We have inspected the property and concur that the vacancy rate should be five percent, to coincide with typical vacancies for properties in Old City #2.

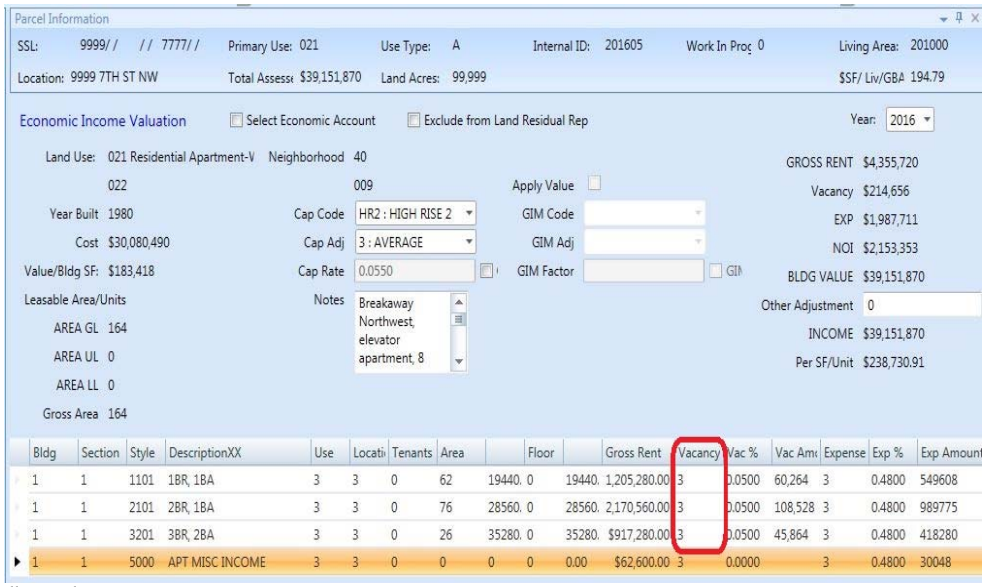


Illustration 8

If, however, we found the property to have less than typical vacancy we could have selected “4 Good.” Whereas the typical vacancy for the Old City #2 market area is 5 percent, had we selected “Good”, the vacancy rate would have been modified by appropriate multiplier in the adjustment table. The adjusted amount would have been 2.5 percent (0.05 * 0.50). The amount of adjustment for both vacancy and expense are shown in the table below.

| Rating | Description | Vacancy | Expense |
|---|---|---|---|
| 1 | POOR | 2.00 | 1.25 |
| 2 | FAIR | 1.50 | 1.10 |
| 3 | AVERAGE | 1.00 | 1.00 |
| 4 | GOOD | 0.50 | 0.90 |
| 5 | EXCELLENT | 0.25 | 0.75 |
| A | AVERAGE | 1.00 | 1.00 |
| S | NON-MARKET | 0.25 | 1.00 |

Table 5

.

The Expense % may be adjusted in a similar manner, but we’ll leave it set to the typical percent associated with the Old City #2 market of forty-eight percent. By subtracting the Exp. Amount from the EGI, we get the NOI of the property. CAMA has calculated the NOI to be $2,153,353, identical to our earlier income and expense report modified for real estate taxes discussed earlier.

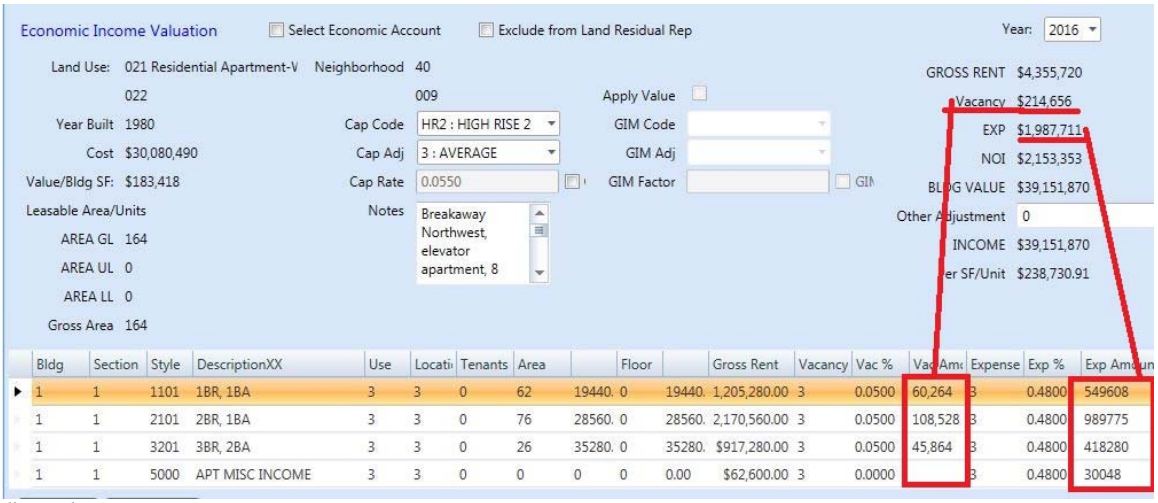


Illustration 9

We're almost finished. The last piece of the valuation process is the capitalization rate.

## Capitalization Rate

Capitalization rates will vary across the District based on the class of property (office, retail, apartments, etc.) and its location (market area). Capitalization rates are assigned to apartments based on their market location and type of apartment complex. The District is divided into three submarkets. Each of these submarkets provides a separate cap rate for high-rise and low-rise apartments. Neighborhood 40/E, Old City II, is located in the Northwest market area and our subject is a high-rise type complex.

The assigned capitalization rate for high-rise apartments in the Northwest market area is 0.055 or 5.5 percent. Remember, this is the 'loaded' cap rate. See the illustration below.

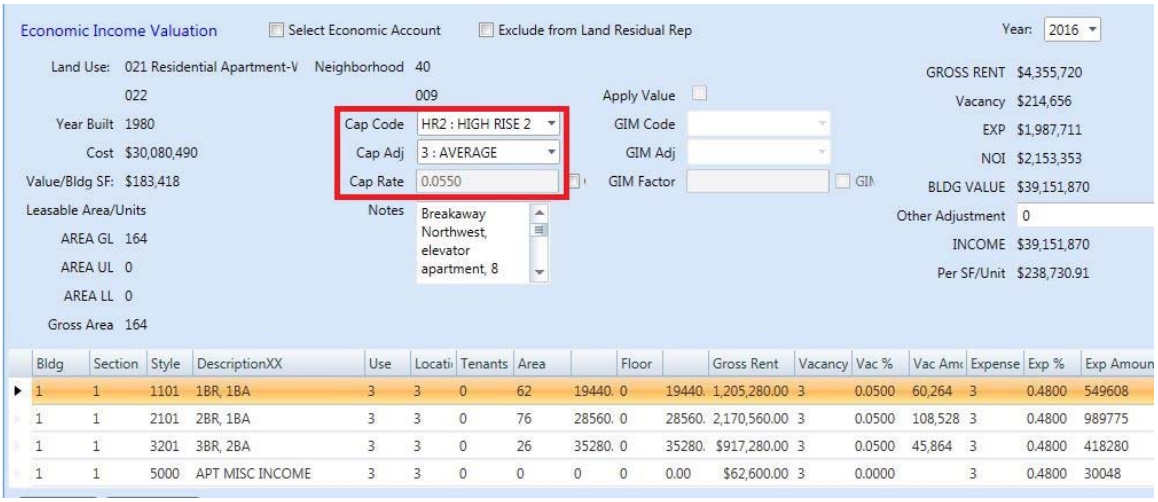


Illustration 10

Upon analysis of the property and its income and expenses, an adjustment to the cap rate is not warranted and therefore the cap rate adjustment is set to “Average”. Had the property been located closer to the Mt. Vernon Metro station, there may have been a reason to adjust the cap rate down to reflect the property’s good performance based on its proximity to the station. In that situation, instead of ‘average’, we would want to adjust the rate to “Good” thereby lowering the rate. This adjustment is accomplished by the Cap Adjustment dialog box. See below.

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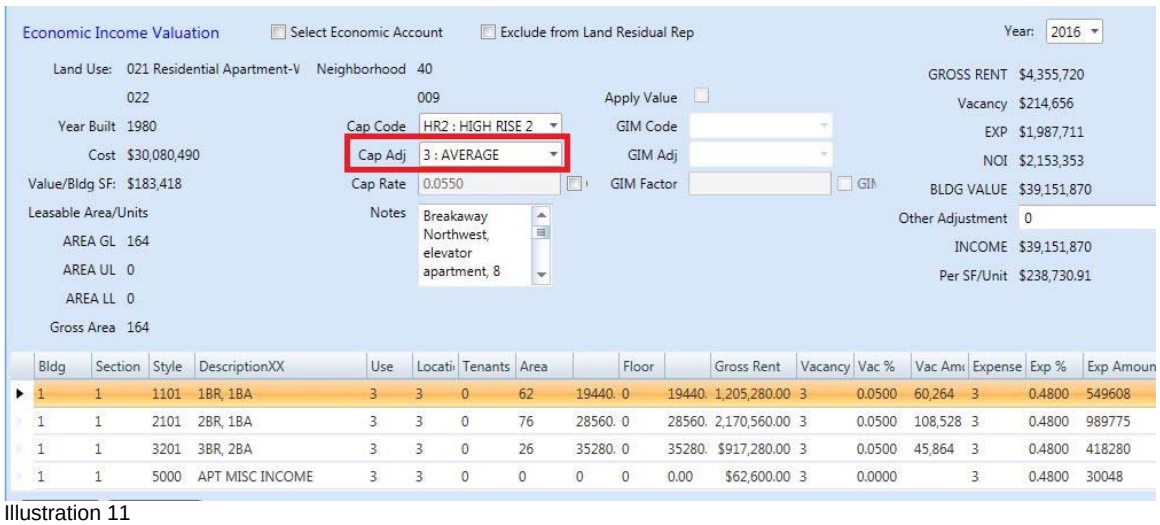


Illustration 11

Had we agreed that the performance was “Good”, our original cap rate of 5.5 percent would have been modified to 4.95 percent (0.061 * 0.90). Remember IRV tells us that, all other things being equal, the lower the cap rate the higher the property value and vise versa.

| Cap Rating | Description | Adjustment |
|---|---|---|
| 0 | VERY POOR | 1.30 |
| 1 | POOR | 1.20 |
| 2 | FAIR | 1.10 |
| 3 | AVERAGE | 1.00 |
| 4 | GOOD | 0.90 |
| 5 | EXCELLENT | 0.80 |
| A | AVERAGE | 1.00 |

Table 6

## Valuation

We have almost come to the end of our example and exercise. One simple division remains. Knowing that the NOI is $2,153,353 and that the overall direct capitalization rate is 0.055, we can calculate the estimated value of Breakaway Northwest to be $39,151,870 ($2,153,353/0.055). Again, this is identical to the amount estimated in the first section of the exercise. The final results are highlighted below.

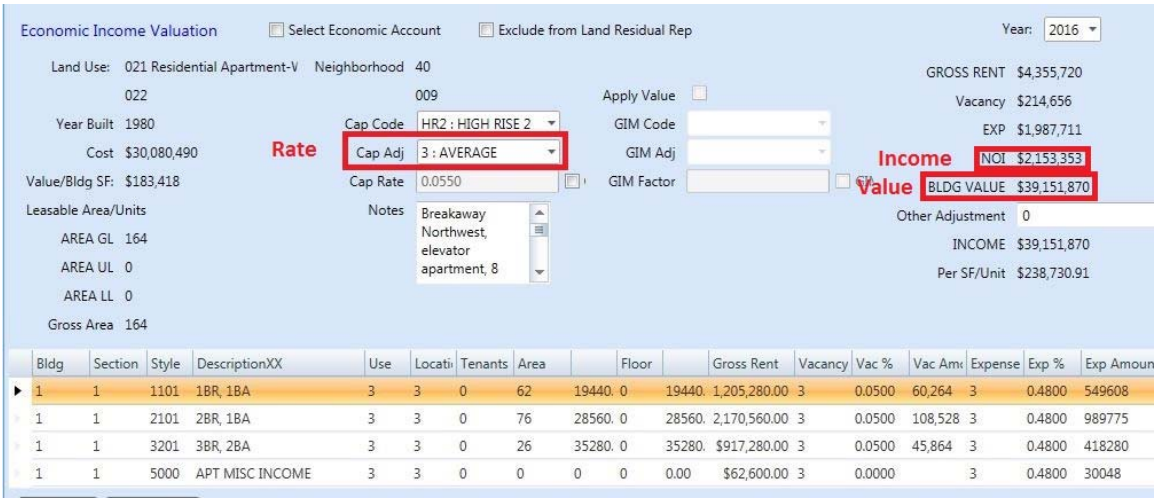



Illustration 12

## Some Final Thoughts

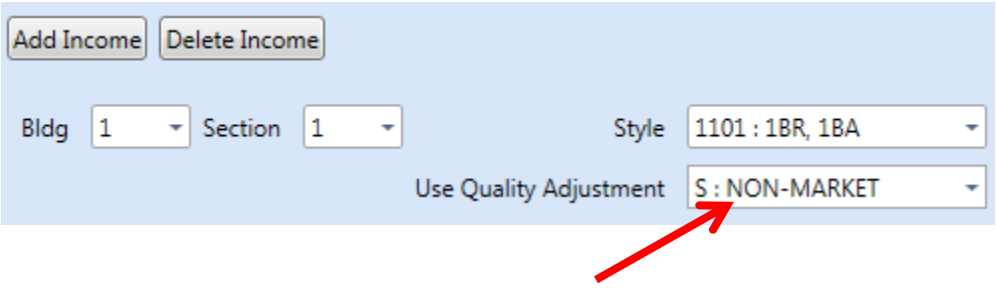
We have introduced you to some of the most elementary aspects of property valuation using the District's Vision® CAMA system. We have developed the estimated market value of a fictitious apartment complex, utilizing the direct capitalization income approach to value. This guideline is merely a small window, a first step, in the complex field of mass appraisal. A CAMA system robust enough to appraise almost 200,000 different properties will necessarily be comprehensive and complex. Additionally, an initial valuation generated by CAMA is always subject to the review and approval of a qualified, professional appraiser before it becomes a final value. As you explore and utilize the program make certain that you fully understand the ramifications and results of your actions. Your supervisor and/or CAMA manager will always be available to assist you.

## Guidelines for Non-Market Multifamily (Apartment) Assessment

Various affordable multi-family residential properties benefit from some public funding programs. The funding programs mostly impose restrictions that run with the land for a determined period in exchange for some restricted rent or other subsidy.

There are many categories of low-income multifamily housing with many or different complex capital financial structures, which makes its valuation a challenge. Examples of low-income (affordable) housing development includes, Section 202 housing, Section 221, Section 8 certificate and voucher program, Hope VI program, Low Income Housing Tax Credit (LIHTC) etc.

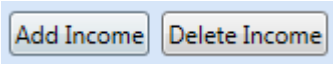
In simplifying the valuation/assessment process of low-income housing, and for OTR purposes, apartment units in low-income multifamily development under any kind of government program are referred to as **"non-market"** unit; denoted by **"S: NON-MARKET"** in Vision CAMA program under all adjustments categories except the capitalization rate.




### Valuation Methodology

Income approach is generally accepted as the most reliable valuation method of appraising low-income multifamily housing developments. The sales comparison approach is less applicable due to limited or total lack of truly comparable sales, because of different income characteristics and government restrictions imposed on these properties. Also, these developments are sometimes too old, to make conclusion of market value via cost approach reliable.

The objective of this guide line is to focus on estimating market value of "non-market" apartments using Vision CAMA income model for consistency and consideration to existing restrictions by the government program in the housing development.

When the unit-mix consists of market and non-market units – Use 

to populate the unit-mix in the income model table.

Sample Apartment Units-Mix. S = Non-Market Units

| Bldg | Section | Style | DescriptionXX | Use | Locati | Tenants | Area |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 1101 | 1BR, 1BA | 3 | 3 | 0 | 45 |
| 1 | 1 | 2101 | 2BR, 1BA | 3 | 3 | 0 | 20 |
| 1 | 1 | 3201 | 3BR, 2BA | 3 | 3 | 0 | 15 |
| 1 | 1 | 5000 | APT MISC INCOME | 3 | 3 | 0 | 0 |
| 1 | 1 | 1101 | 1BR, 1BA | S | 3 | 0 | 15 |
| 1 | 1 | 2101 | 2BR, 1BA | S | S | 0 | 5 |

**Market = 80 units**
**Non-Market = 20 units**
**Total = 100**

Style: 2101 : 2BR, 1BA

Use Quality Adjustment: S : NON-MARKET

The income model automatically adjusts market rent when "S: NON-MARKET" is selected under Use Quality Adjustment.

**Rent** **Market Rent** **Adjusted**

| Bldg | Section | Style | DescriptionXX | Use | Locati | Tenants | Area | | Floor | | Gross Rent |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1101 | 1BR, 1BA | S | 3 | 0 | 15 | 19440. | UL | 17496. | $262,440.00 |

When the I&E report have the actual (received) rent for any non-market unit, check the box in front of Gross Rent and override it with the actual rent.

Style: 2101 : 2BR, 1BA

Use Quality Adjustment: S : NON-MARKET

Sub Areas: 0

Gross Rent: 125000 ☑

**Actual Rent (override)**

**Actual Rent (override)**

| Bldg | Section | Style | DescriptionXX | Use | Locati | Tenants | Area | | Floor | | Gross Rent |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 2101 | 2BR, 1BA | S | S | 0 | 5 | 28560. | UL | 25000 | $125,000.00 |

Select or apply non-market vacancy adjustment to all non-market units

Debt/Vac Adjustment: S : NON-MARKET  Debt/Vac Amount: 1563  Ovr

| Bldg | Section | Style | DescriptionXX | Use | Locati | Tenants | Area | | Floor | | Gross Rent | Vacancy | Vac % | Vac Am |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1101 | 1BR, 1BA | 3 | 3 | 0 | 45 | 19440. | 0 | 19440. | $874,800.00 | 3 | 0.0500 | 43,740 |
| 1 | 1 | 2101 | 2BR, 1BA | 3 | 3 | 0 | 20 | 28560. | 0 | 28560. | $571,200.00 | 3 | 0.0500 | 28,560 |
| 1 | 1 | 3201 | 3BR, 2BA | 3 | 3 | 0 | 15 | 35280. | 0 | 35280. | $529,200.00 | 3 | 0.0500 | 26,460 |
| 1 | 1 | 5000 | APT MISC INCOME | 3 | 3 | 0 | 0 | 0 | 0 | 0.00 | $62,600.00 | 3 | 0.0000 | |
| 1 | 1 | 1101 | 1BR, 1BA | S | 3 | 0 | 15 | 19440. | UL | 17496. | $262,440.00 | S | 0.0125 | 3,281 |
| 1 | 1 | 2101 | 2BR, 1BA | S | S | 0 | 5 | 28560. | UL | 25000 | $125,000.00 | S | 0.0125 | 1,563 |

Expenses and cap rate should be consistent for all the units except otherwise determined by the appraiser based on verifiable data.

Expense Adjustment: 3 : AVERAGE  Expense Amount: 59250  Ovr

| Bldg | Section | Style | DescriptionXX | Use | Locati | Tenants | Area | | Floor | | Gross Rent | Vacancy | Vac % | Vac Am | Expense | Exp % | Exp Amount |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1101 | 1BR, 1BA | 3 | 3 | 0 | 45 | 19440. | 0 | 19440. | $874,800.00 | 3 | 0.0500 | 43,740 | 3 | 0.4800 | 398909 |
| 1 | 1 | 2101 | 2BR, 1BA | 3 | 3 | 0 | 20 | 28560. | 0 | 28560. | $571,200.00 | 3 | 0.0500 | 28,560 | 3 | 0.4800 | 260467 |
| 1 | 1 | 3201 | 3BR, 2BA | 3 | 3 | 0 | 15 | 35280. | 0 | 35280. | $529,200.00 | 3 | 0.0500 | 26,460 | 3 | 0.4800 | 241315 |
| 1 | 1 | 5000 | APT MISC INCOME | 3 | 3 | 0 | 0 | 0 | 0 | 0.00 | $62,600.00 | 3 | 0.0000 | | 3 | 0.4800 | 30048 |
| 1 | 1 | 1101 | 1BR, 1BA | S | 3 | 0 | 15 | 19440. | UL | 17496. | $262,440.00 | S | 0.0125 | 3,281 | 3 | 0.4800 | 124397 |
| 1 | 1 | 2101 | 2BR, 1BA | S | S | 0 | 5 | 28560. | UL | 25000 | $125,000.00 | S | 0.0125 | 1,563 | 3 | 0.4800 | 59250 |

Cap Code: HR2 : HIGH RISE 2
Cap Adj: 3 : AVERAGE
Cap Rate: 0.0550  Ovr

Finally, check your analysis for accuracy and value conclusion.

| | |
|---|---|
| GROSS RENT | $2,425,240 |
| Vacancy | $103,603 |
| EXP | $1,114,386 |
| NOI | $1,207,252 |
| BLDG VALUE | $21,950,040 |
| Other Adjustment | 0 |
| INCOME | $21,950,040 |
| Per SF/Unit | $219,500.40 |

# APPENDIX:

Sample PRC

| | | | |
|---|---|---|---|
| SSL 9999 7777 | Internal ID 201605 | | |
| Location 9999 7TH ST NW | | | |
| Current Owner | | | |
| BREAKAWAY NORTHWEST APTS INC | | | |
| 9999 7TH ST | | | |
| WASHINGTON DC 20001-999 | | | |
| Additional Owners: | | | |

**Sales Information**

| Sale Date | Q/U | V/I | Sale Price |
|---|---|---|---|
| 01-01-2006 | Q | I | 41,472,000 |
| 01-01-2005 | Q | I | 39,000,000 |
| 01-01-2004 | Q | I | 35,000,000 |
| 01-01-2003 | U | I | 0 |
| 01-01-2002 | Q | I | 30,000,000 |

| | |
|---|---|
| Year Built | 1980 |
| Total Appraised Parcel Value | 36,358,180 |

**Commercial Data Elements**

| | | |
|---|---|---|
| Exterior Finish | BR | Brick |
| | 9.0 | 1.6421 |

2016

**INCOME VALUATION**

Washington, DC

2/27/2015 10:40:37 AM

## *ECONOMIC INCOME VALUATION*

**Leaseable Area Summary**

| | |
|---|---|
| Ground Level | 148 |
| Lower level | 0 |
| Upper Level | 0 |
| Total Leaseable Area | 148 |

**Cap Rate**

| | |
|---|---|
| Cap Code | HR2 |
| Cap Adjust | 3 |
| Cap Rate | 0.0550 |

| Rent ID | NBHD |
|---|---|
| 009 | 40 |

**Income**

| | |
|---|---|
| Gross Income | 4,044,680 |
| Vacancy Allowance | 199,104 |
| Expense Allowance | 1,845,876 |
| Net Income | 1,999,700 |

**Income Value**

| | |
|---|---|
| Income Value | 36,358,180 |
| Other Adjust | 0 |
| Total Income Value | 36,358,180 |
| Value per SF/Unit | 245,663 |

**Notes**

Breakaway Northwest, elevator apartment, 8 story building. NW corner of 6th and M St., NW. Recently remodeled. Close to Mt. Vernon Sq. Metro.

| # | Bldg # | Sect # | Style | | Adj Table | OCC | SF/Unit | Flr Lev | Base Rate | Use Adj | Loc Adj | Rent SF/Unit | Gross Rent | Vac | Vac % | Vacancy Allowance | EGI | EXP | EXP % | EXP /SF | Expenses | NOI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 110 | 1BR, 1BA | 1 | 0 | 46 | 0 | 19440.00 | 3 | 3 | 19440.00 | 894,240 | 3 | 0.05 | 44,712 | 849,528 | 3 | 0.48 | | 407,773 | 441,755 |
| 2 | 1 | 1 | 210 | 2BR, 1BA | 1 | 0 | 76 | 0 | 28560.00 | 3 | 3 | 28560.00 | 2,170,560 | 3 | 0.05 | 108,528 | 2,062,032 | 3 | 0.48 | | 989,775 | 1,072,257 |
| 3 | 1 | 1 | 320 | 3BR, 2BA | 1 | 0 | 26 | 0 | 35280.00 | 3 | 3 | 35280.00 | 917,280 | 3 | 0.05 | 45,864 | 871,416 | 3 | 0.48 | | 418,280 | 453,136 |
| 4 | 1 | 1 | 500 | APT MISC I | 6 | 0 | 0 | 0 | 0.00 | 3 | 3 | 0.00 | 62,600 | 3 | 0.00 | 0 | 62,600 | 3 | 0.48 | | 30,048 | 32,552 |
| | | | | | | | 148 | | | | | | 4,044,680 | | | 199,104 | 3,845,576 | | | | 1,845,876 | 1,999,700 |

| | | | |
|---|---|---|---|
| SSL | 9999 7777 | Internal ID | 201605 |
| Location | 9999 7TH ST NW | | |

Current Owner

BREAKAWAY NORTHWEST APTS INC

9999 7TH ST

WASHINGTON DC 20001-9999

Additional Owners:

**Sales Information**

| Sale Date | Q/U | V/I | Sale Price |
|---|---|---|---|
| 01-01-2006 | Q | I | 41,472,000 |
| 01-01-2005 | Q | I | 39,000,000 |
| 01-01-2004 | Q | I | 35,000,000 |
| 01-01-2003 | U | I | 0 |
| 01-01-2002 | Q | I | 30,000,000 |

| | |
|---|---|
| Year Built | 1980 |
| Appraised Value | 36,358,180 |

**Commercial Data Elements**

| | | |
|---|---|---|
| Exterior Finish | BR | Brick |
| | 9.0 | 1.6421 |

2016

**INCOME VALUATION**

Washington, DC

2/27/2015 10:40:37 AM

***ACTUAL INCOME VALUATION***

| Cap Rate | Income | Income Value | Expense Breakdown |
|---|---|---|---|
| Cap Code | Gross Income | Income Value: | Heat, Maintenance, Accounting, Electic, Insurance, Management, Water, Trash Removal, Reserves, Sewer, Snow Removal, Other |
| Cap Adjust | Vacancy Allowance | Excess Land: | |
| Cap Rate | Expense Allowance | Total Income Value: | |
| | Other Income | Value Per SF/Unit: | |
| | Net Income | | |

| # | Bld # | Sec # | Style | Adj Table | OCC | SF/Unit | Flr Lev | Loc Adj | Use Adj | Rent SF/Unit | Gross Rent | Vac Adj | Exp Adj | Other Income | Val Code | Notes | Lease Type | Tenant | Lease Begin | Yrs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 0 | | | | | 0 | | | | | | | | | |

# 2017 CAMA Residential Construction Valuation Guideline -- RPAD

## USECODE

**(Selects Base Rate)**

| No. | Description | Value |
|---|---|---|
| 011 | Row | $134.18 |
| 012 | Detached | $156.49 |
| 013 | Semi-Detached | $133.26 |
| 015 | Mixed Use | $134.18 |
| 019 | Miscellaneous | $134.18 |
| 023 | Small Apt. Bldg. | $104.63 |
| 024 | Conversion | $139.73 |

## 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 | |
| 15 | Split Foyer | |
| **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 (Descriptive)** | | |
| 0 | Default | |
| 1 | Single | |
| 2 | Multi | |
| 6 | Row End | $3.00 |
| 7 | Row Inside | |
| 8 | Semi-Detached | |
| **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 |
| 13 | Neoprene | $0.00 |
| 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 | |
| 10 | Air Exchng | |
| 11 | Gravity Furnace | |
| 12 | Ind Unit | |
| 13 | Hot Water Rad | |

**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 |

**Per Unit Adjustment (Flat Rate Add)**

| | |
|---|---|
| Full Bath (over 1) | $12,500 |
| Half Bath | $ 7,750 |
| Fireplace | $ 8,000 |
| Kitchen | $11,500 |
| Finished Basement (Basic) | $20.00/sf |
| Finished Basement (Partition) | $57.00/sf |
| Basement Garage | $50.00/sf |
| Carport | $36.00/sf |
| Stoop | $24.00/sf |
| Open Porch | $24.00/sf |
| Covered Open Porch | $42.00/sf |
| Screen Enclosed Porch | $45.00/sf |
| Glass Enclosed Porch | $54.00/sf |
| Fully Enclosed Porch | $60.00/sf |
| Deck | $30.00/sf |
| Patio | $ 9.00/sf |

**Grade (Multiplies Base, Add & Flat)**

| | | |
|---|---|---|
| 0 | Default | |
| 1 | Low Quality | 0.50 |
| 2 | Fair Quality | 0.75 |
| 3 | Average Quality | 1.00 |
| 4 | Above Average Quality | 1.07 |
| 5 | Good Quality | 1.18 |
| 6 | Very Good Quality | 1.29 |
| 7 | Excellent Quality | 1.43 |
| 8 | Superior Quality | 1.66 |
| 9 | Extraordinary – A | 1.92 |
| 10 | Extraordinary – B | 2.15 |
| 11 | Extraordinary – C | 2.55 |
| 12 | Extraordinary – D | 2.90 |

**Interior Condition (Multiplies Base, Add & Flat)**

| | | |
|---|---|---|
| 0 | Typical | |
| 1 | Poor | .766 |
| 2 | Fair | .819 |
| 3 | Average | 1.000 |
| 4 | Good | 1.089 |
| 5 | Very Good | 1.182 |
| 6 | Excellent | 1.239 |

**Exterior Condition (Multiplies Base, Add & Flat)**

| | | |
|---|---|---|
| 0 | Default | |
| 1 | Poor | .766 |
| 2 | Fair | .819 |
| 3 | Average | 1.000 |
| 4 | Good | 1.089 |
| 5 | Very Good | 1.182 |
| 6 | Excellent | 1.239 |

**Overall Condition (Multiplies Base, Add & Flat)**

| | | |
|---|---|---|
| 0 | Default | |
| 1 | Poor | .766 |
| 2 | Fair | .819 |
| 3 | Average | 1.000 |
| 4 | Good | 1.089 |
| 5 | Very Good | 1.182 |
| 6 | Excellent | 1.239 |

**Remodel Type (Multiplies Base, Add & Flat)**

| | | |
|---|---|---|
| 0 | Default | |
| 1 | Unknown | |
| 2 | Gut Rehab | 1.43 |
| 3 | Major Renov | 1.26 |
| 4 | Remodel | 1.09 |
| 5 | Addition | |
| 6 | Cosmetic | 1.02 |

The effect of this multiplier diminishes at a rate of 5% per year based on the ***Remodel Year***.

**DEPRECIATION DETAIL**

| No. | Description | Value |
|---|---|---|
| **Grade** | **(Adjust EYB)** | |
| 0 | Default | |
| 1 | Low Quality | 20% |
| 2 | Fair Quality | 10% |
| 3 | Average Quality | -- |
| 4 | Above Average | -05% |
| 5 | Good Quality | -10% |
| 6 | Very Good Quality | -15% |
| 7 | Excellent Quality | -25% |
| 8 | Superior Quality | -35% |
| 9 | Extraordinary – A | -45% |
| 10 | Extraordinary – B | -50% |
| 11 | Extraordinary – C | -50% |
| 12 | Extraordinary – D | -50% |
| **Bath Style (Adjust EYB)** | | |
| 0 | Default | |
| 1 | No Remodeling | |
| 2 | Semi-Modern | - 05% |
| 3 | Modern | - 10% |
| 4 | Luxury | - 20% |
| **Kitchen Style (Adjust EYB)** | | |
| 0 | Default | |
| 1 | No Remodeling | |
| 2 | Semi-Modern | - 10% |
| 3 | Modern | - 20% |
| 4 | Luxury | - 40% |

**Building RCN = [(Base Rate + $\sum$ $ABRV_n$) * Effective Area * Size Adjustment + $\sum$ $AFRV_n$ ] * ($MV_0$ * $MV_2$ * … * $MV_N$)**

**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

**Depreciation Table**

**Base Year 2016**

| *Effective Age of Building* | *% Depr.* | *% Good* | *Effective Year Built* |
|---|---|---|---|
| 0 | 0 | 100 | 2016 |
| 1 | 1 | 99 | 2015 |
| 2 | 2 | 98 | 2014 |
| 3 | 2 | 98 | 2013 |
| 4 | 3 | 97 | 2012 |
| 5 | 3 | 97 | 2011 |
| 6 | 4 | 96 | 2010 |
| 7 | 4 | 96 | 2009 |
| 8 | 4 | 96 | 2008 |
| 9 | 4 | 96 | 2007 |
| 10 | 5 | 95 | 2006 |
| 11 | 5 | 95 | 2005 |
| 12 | 5 | 95 | 2004 |
| 13 | 5 | 95 | 2003 |
| 14 | 6 | 94 | 2002 |
| 15 | 6 | 94 | 2001 |
| 16 | 6 | 94 | 2000 |
| 17 | 6 | 94 | 1999 |
| 18 | 6 | 94 | 1998 |
| 19 | 7 | 93 | 1997 |
| 20 | 7 | 93 | 1996 |
| 21 | 7 | 93 | 1995 |
| 22 | 7 | 93 | 1994 |
| 23 | 7 | 93 | 1993 |
| 24 | 8 | 92 | 1992 |
| 25 | 8 | 92 | 1991 |
| 26 | 8 | 92 | 1990 |
| 27 | 8 | 92 | 1989 |
| 28 | 8 | 92 | 1988 |
| 29 | 9 | 91 | 1987 |
| 30 | 9 | 91 | 1986 |
| 31 | 9 | 91 | 1985 |
| 32 | 9 | 91 | 1984 |
| 33 | 9 | 91 | 1983 |
| 34 | 9 | 91 | 1982 |
| 35 | 10 | 90 | 1981 |
| 36 | 10 | 90 | 1980 |
| 37 | 10 | 90 | 1979 |
| 38 | 10 | 90 | 1978 |
| 39 | 10 | 90 | 1977 |
| 40 | 10 | 90 | 1976 |
| 41 | 11 | 89 | 1975 |
| 42 | 11 | 89 | 1974 |
| 43 | 11 | 89 | 1973 |
| 44 | 11 | 89 | 1972 |
| 45 | 11 | 89 | 1971 |
| 46 | 11 | 89 | 1970 |
| 47 | 12 | 88 | 1969 |
| 48 | 12 | 88 | 1968 |
| 49 | 12 | 88 | 1967 |
| 50 | 12 | 88 | 1966 |
| 51 | 12 | 88 | 1965 |
| 52 | 12 | 88 | 1964 |
| 53 | 12 | 88 | 1963 |
| 54 | 13 | 87 | 1962 |
| 55 | 13 | 87 | 1961 |
| 56 | 13 | 87 | 1960 |
| 57 | 13 | 87 | 1959 |
| 58 | 13 | 87 | 1958 |
| 59 | 13 | 87 | 1957 |
| 60 | 14 | 86 | 1956 |
| 61 | 14 | 86 | 1955 |
| 62 | 14 | 86 | 1954 |
| 63 | 14 | 86 | 1953 |
| 64 | 14 | 86 | 1952 |
| 65 | 14 | 86 | 1951 |
| 70 | 15 | 85 | 1946 |
| 75 | 16 | 84 | 1941 |

# 2016 Economic Life Depreciation Tables

**Base Year 2016**

| Age of Building | Effective Year Built | 70 Year Economic Life | | 60 Year Economic Life | | 50 Year Economic Life | |
|---|---|---|---|---|---|---|---|
| | | Percent of Depreciation | Percent Good | Percent of Depreciation | Percent Good | Percent of Depreciation | Percent Good |
| 0 | 2016 | 0 | 100 | 0 | 100 | 0 | 100 |
| 1 | 2015 | 0 | 100 | 0 | 100 | 0 | 100 |
| 2 | 2014 | 0 | 100 | 0 | 100 | 0 | 100 |
| 3 | 2013 | 0 | 100 | 1 | 99 | 1 | 99 |
| 4 | 2012 | 1 | 99 | 1 | 99 | 1 | 99 |
| 5 | 2011 | 1 | 99 | 1 | 99 | 1 | 99 |
| 6 | 2010 | 1 | 99 | 1 | 99 | 1 | 99 |
| 7 | 2009 | 1 | 99 | 1 | 99 | 2 | 98 |
| 8 | 2008 | 1 | 99 | 2 | 98 | 2 | 98 |
| 9 | 2007 | 2 | 98 | 2 | 98 | 2 | 98 |
| 10 | 2006 | 2 | 98 | 2 | 98 | 3 | 97 |
| 11 | 2005 | 2 | 98 | 2 | 98 | 3 | 97 |
| 12 | 2004 | 2 | 98 | 3 | 97 | 4 | 96 |
| 13 | 2003 | 2 | 98 | 3 | 97 | 4 | 96 |
| 14 | 2002 | 3 | 97 | 3 | 97 | 5 | 95 |
| 15 | 2001 | 3 | 97 | 4 | 96 | 5 | 95 |
| 16 | 2000 | 3 | 97 | 4 | 96 | 6 | 94 |
| 17 | 1999 | 4 | 96 | 5 | 95 | 7 | 93 |
| 18 | 1998 | 4 | 96 | 5 | 95 | 7 | 93 |
| 19 | 1997 | 4 | 96 | 6 | 94 | 9 | 91 |
| 20 | 1996 | 5 | 95 | 6 | 94 | 9 | 91 |
| 21 | 1995 | 5 | 95 | 7 | 93 | 10 | 90 |
| 22 | 1994 | 6 | 94 | 8 | 92 | 12 | 88 |
| 23 | 1993 | 6 | 94 | 9 | 91 | 13 | 87 |
| 24 | 1992 | 7 | 93 | 9 | 91 | 15 | 85 |
| 25 | 1991 | 7 | 93 | 10 | 90 | 16 | 84 |
| 26 | 1990 | 8 | 92 | 11 | 89 | 17 | 83 |
| 27 | 1989 | 9 | 91 | 13 | 87 | 19 | 81 |
| 28 | 1988 | 9 | 91 | 14 | 86 | 20 | 80 |
| 29 | 1987 | 10 | 90 | 15 | 85 | 23 | 77 |
| 30 | 1986 | 11 | 89 | 16 | 84 | 25 | 75 |
| 31 | 1985 | 12 | 88 | 17 | 83 | 26 | 74 |
| 32 | 1984 | 13 | 87 | 18 | 82 | 29 | 71 |
| 33 | 1983 | 14 | 86 | 20 | 80 | 31 | 69 |
| 34 | 1982 | 15 | 85 | 21 | 79 | 34 | 66 |
| 35 | 1981 | 16 | 84 | 23 | 77 | 36 | 64 |
| 36 | 1980 | 17 | 83 | 25 | 75 | 38 | 62 |
| 37 | 1979 | 18 | 82 | 26 | 74 | 42 | 58 |
| 38 | 1978 | 19 | 81 | 28 | 72 | 44 | 56 |
| 39 | 1977 | 20 | 80 | 31 | 69 | 48 | 52 |
| 40 | 1976 | 21 | 79 | 32 | 68 | 50 | 50 |
| 41 | 1975 | 23 | 77 | 34 | 66 | 52 | 48 |
| 42 | 1974 | 25 | 75 | 36 | 64 | 56 | 44 |
| 43 | 1973 | 26 | 74 | 38 | 62 | 57 | 43 |
| 44 | 1972 | 28 | 72 | 40 | 60 | 61 | 39 |
| 45 | 1971 | 29 | 71 | 44 | 56 | 63 | 37 |
| 46 | 1970 | 31 | 69 | 46 | 54 | 64 | 36 |
| 47 | 1969 | 32 | 68 | 48 | 52 | 66 | 34 |
| 48 | 1968 | 34 | 66 | 50 | 50 | 67 | 33 |
| 49 | 1967 | 36 | 64 | 52 | 48 | 70 | 30 |
| 50 | 1966 | 38 | 62 | 54 | 46 | 71 | 29 |
| 51 | 1965 | 40 | 60 | 57 | 43 | | |
| 52 | 1964 | 42 | 58 | 59 | 41 | | |
| 53 | 1963 | 44 | 56 | 61 | 39 | | |
| 54 | 1962 | 46 | 54 | 63 | 37 | | |
| 55 | 1961 | 48 | 52 | 64 | 36 | | |
| 56 | 1960 | 50 | 50 | 65 | 35 | | |
| 57 | 1959 | 52 | 48 | 67 | 33 | | |
| 58 | 1958 | 54 | 46 | 69 | 31 | | |
| 59 | 1957 | 56 | 44 | 70 | 30 | | |
| 60 | 1956 | 57 | 43 | 71 | 29 | | |
| 61 | 1955 | 59 | 41 | | | | |
| 62 | 1954 | 61 | 39 | | | | |
| 63 | 1953 | 63 | 37 | | | | |
| 64 | 1952 | 64 | 36 | | | | |
| 65 | 1951 | 65 | 35 | | | | |
| 70 | 1950 | 71 | 29 | | | | |

# 2017 Cost Occupancy / Use Codes

| Occ. Code | Land Class | Description | Bldg. Model | Bldg. Occ. | Cost Group | Cost Adjustment | Size Adj. Table | Standard Size | Standard Wall Height | Wall Height Adjustment | Run Cost? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 001 | C | Non-conform residential-single | 94 | 001 | RH1 | 1 | S90 | 2000 | 8 | 0.015 | 1 |
| 002 | R | Non-conform residential-multi- | 03 | 002 | AP1 | 1 | S90 | 1500 | 8 | 0.02 | 1 |
| 003 | R | Residential Transient | 05 | 003 | RH1 | 1 | S90 | 8000 | 10 | 0.015 | 1 |
| 004 | C | Commercial-Retail (NC) | 94 | 004 | RT1 | 1 | S90 | 5000 | 12 | 0.01 | 1 |
| 005 | C | Commercial-Office (NC) | 94 | 005 | OF1 | 1 | S90 | 6000 | 10 | 0.015 | 1 |
| 006 | C | Commercial-Spec Purpose (NC) | 94 | 006 | GS1 | 1 | S90 | 6000 | 8 | 0.015 | 1 |
| 007 | C | Industrial (NC) | 96 | 007 | MN2 | 1 | S90 | 20000 | 8 | 0.015 | 1 |
| 008 | C | Special Purpose (NC) | 94 | 008 | GS1 | 1 | S90 | 8000 | 8 | 0.015 | 1 |
| 011 | R | Residential Row Single Family | 01 | 011 | R11 | 1 | SG3 | 1800 | 8 | 0.015 | 1 |
| 012 | R | Residential Detached Single Fa | 01 | 012 | R12 | 1 | SG3 | 1800 | 8 | 0.015 | 1 |
| 013 | R | Residential-Semi-Detached Sing | 01 | 013 | R13 | 1 | SG3 | 1800 | 8 | 0.015 | 1 |
| 014 | R | Residential Garage | 00 | 014 | | 1 | S90 | 10000 | 0 | 0.015 | 1 |
| 015 | R | Residential-Mixed Use | 01 | 015 | R15 | 1 | SG3 | 1800 | 8 | 0.02 | 1 |
| 016 | R | Residential-Condo-Horizontal | 05 | 016 | CND | 1 | S90 | 1000 | 8 | 0.015 | 1 |
| 017 | R | Residential-Condo-Vertical | 05 | 017 | CON | 1 | CDU | 800 | 8 | 0.015 | 1 |
| 018 | R | Residential-Condo-Parking | 00 | 018 | | 1 | S90 | 10000 | 8 | 0.015 | 1 |
| 019 | R | Residential-Single Family-Misc | 01 | 019 | R19 | 1 | SG3 | 1800 | 8 | 0.015 | 1 |
| 021 | C | Residential Apartment-Walk-Up | 94 | 021 | AP1 | 1 | S90 | 10000 | 8 | 0.02 | 1 |
| 022 | C | Residential-Apartment-Elevator | 94 | 022 | AP2 | 1 | S90 | 50000 | 8 | 0.015 | 1 |
| 023 | R | Res Flats-Less than 5 Units | 03 | 023 | R23 | 1 | SG4 | 3000 | 8 | 0.015 | 1 |
| 024 | R | Res-Coversions less than 5 Uni | 02 | 024 | R24 | 1 | SG3 | 1800 | 8 | 0.015 | 1 |
| 025 | C | Res-Coversions 5 Units | 94 | 025 | MRC | 1 | S90 | 10000 | 8 | 0.02 | 1 |
| 026 | C | Res-Cooperative-Horizo | 94 | 026 | AP2 | 1 | S90 | 10000 | 8 | 0.015 | 1 |
| 027 | C | Res-Cooperative-Verical | 94 | 027 | AP2 | 1 | S90 | 50000 | 8 | 0.015 | 1 |
| 028 | C | Res-Conversions-mr than 5 | 94 | 028 | MRC | 1 | S90 | 20000 | 8 | 0.015 | 1 |
| 029 | C | Res-Multi-family Misc | 94 | 029 | AP2 | 1 | S90 | 50000 | 8 | 0.015 | 1 |
| 031 | C | Hotel-Small | 94 | 031 | HT1 | 1 | S90 | 20000 | 9 | 0.01 | 1 |
| 032 | C | Hotel-Large | 94 | 032 | HT2 | 1 | S90 | 135000 | 9 | 0.01 | 1 |
| 033 | C | Motel | 94 | 033 | HT1 | 0.8 | S90 | 20000 | 9 | 0.01 | 1 |
| 034 | C | Private Club | 94 | 034 | GS1 | 1 | S90 | 4000 | 14 | 0.015 | 1 |
| 035 | C | Tourist Homes | 94 | 035 | RH1 | 1 | S90 | 8000 | 10 | 0.015 | 1 |
| 036 | C | Dormitory | 94 | 036 | RH2 | 1 | S90 | 8000 | 8 | 0.015 | 1 |
| 037 | C | Inn | 94 | 037 | MRC | 1 | S90 | 12000 | 10 | 0.01 | 1 |
| 038 | C | Fraternity/Sorority House | 94 | 038 | RH2 | 1 | S90 | 8000 | 10 | 0.015 | 1 |
| 039 | C | Res-Transient Misc | 94 | 039 | RH1 | 1 | S90 | 5000 | 8 | 0.015 | 1 |
| 041 | C | Store-Small 1 Story | 94 | 041 | RT1 | 1 | S90 | 10000 | 14 | 0.01 | 1 |
| 042 | C | Store-Misc | 94 | 042 | RT1 | 1 | S90 | 4000 | 14 | 0.01 | 1 |
| 043 | C | Store-Department | 94 | 043 | RT3 | 1 | S90 | 40000 | 14 | 0.01 | 1 |
| 044 | C | Store-Shopping Center/Mall | 94 | 044 | RT2 | 1 | S90 | 60000 | 18 | 0.01 | 1 |
| 045 | C | Store-Restaurant | 94 | 045 | RS1 | 1 | S90 | 5000 | 12 | 0.01 | 1 |
| 046 | C | Store-Barber/Beauty Shop | 94 | 046 | RT4 | 1 | S90 | 4000 | 14 | 0.01 | 1 |
| 047 | C | Store-Super Market | 94 | 047 | RT2 | 0.88 | S90 | 22000 | 14 | 0.01 | 1 |
| 048 | C | Commer-Retail-Condo | 94 | 048 | RT1 | 1 | S90 | 3000 | 14 | 0.01 | 1 |
| 049 | C | Commer-Retail-Misc | 94 | 049 | RT1 | 1 | S90 | 4000 | 14 | 0.01 | 1 |
| 051 | C | Commercial-Office-Small | 94 | 051 | OF1 | 1 | S90 | 6000 | 10 | 0.015 | 1 |
| 052 | C | Commercial-Office-Large | 94 | 052 | OF3 | 1 | S90 | 60000 | 10 | 0.015 | 1 |
| 053 | C | Commercial-Planned-Development | 94 | 053 | OF3 | 1 | S90 | 300000 | 10 | 0.015 | 1 |
| 056 | C | Office-Condo-Horizontal | 94 | 056 | OF1 | 1 | S90 | 3000 | 10 | 0.015 | 1 |
| 057 | C | Office-Condo-Vertical | 94 | 057 | OF1 | 1 | S90 | 3000 | 10 | 0.015 | 1 |
| 058 | C | Commercial-Office-Condo | 94 | 058 | OF3 | 1 | S90 | 6000 | 10 | 0.015 | 1 |
| 059 | C | Commercial-Office-Misc | 94 | 059 | OF2 | 1 | S90 | 6000 | 10 | 0.015 | 1 |
| 061 | C | Commercial-Banks_Financial Svc | 94 | 061 | BN1 | 1 | S90 | 3000 | 14 | 0.015 | 1 |
| 062 | C | Commercial-Garage_ Vehicle Sal | 94 | 062 | PK1 | 1 | S90 | 5000 | 8 | 0.015 | 1 |
| 063 | C | Commercial-Parking Garage | 94 | 063 | PK2 | 1 | S90 | 55000 | 8 | 0.015 | 1 |
| 064 | C | Parking Lot Special Purpose | 00 | 064 | | 1 | S90 | 25000 | 0 | 0 | 1 |
| 065 | C | Vehicle Svc Station_ Vintage | 94 | 065 | SV1 | 1 | S90 | 5000 | 12 | 0.01 | 1 |
| 066 | C | Theaters_ Entertainment | 94 | 066 | GS2 | 1 | S90 | 20000 | 22 | 0.01 | 1 |
| 067 | C | Commercial-Restaurant | 94 | 067 | RS1 | 1 | S90 | 5000 | 12 | 0.01 | 1 |
| 068 | C | Commercial-Restaurant-Fast Foo | 94 | 068 | RS2 | 1.1 | S90 | 3000 | 12 | 0.01 | 1 |
| 069 | C | Commercial-Specific Purpose | 94 | 069 | RT1 | 1 | S90 | 10000 | 14 | 0.01 | 1 |
| 071 | C | Industrial-Raw Material | 94 | 071 | MN1 | 1 | S90 | 15000 | 14 | 0.015 | 1 |

# 2017 Cost Occupancy / Use Codes

| Occ. Code | Land Class | Description | Bldg. Model | Bldg. Occ. | Cost Group | Cost Adjustment | Size Adj. Table | Standard Size | Standard Wall Height | Wall Height Adjustment | Run Cost? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 072 | C | Industrial-Heavy Manufacturing | 94 | 072 | MN2 | 1 | S90 | 30000 | 12 | 0.015 | 1 |
| 073 | C | Industrial-Light | 94 | 073 | MN1 | 1 | S90 | 22000 | 12 | 0.015 | 1 |
| 074 | C | Industrial-Warehouse-1-story | 94 | 074 | WH2 | 1 | S90 | 25000 | 16 | 0.01 | 1 |
| 075 | C | Industrial-Warehouse-Multistor | 94 | 075 | WH1 | 1 | S90 | 20000 | 16 | 0.01 | 1 |
| 076 | C | Industrial-Truck Teminal | 94 | 076 | WH3 | 1 | S90 | 20000 | 16 | 0.01 | 1 |
| 078 | C | Warehouse-Condo | 94 | 078 | WH2 | 1 | S90 | 5000 | 16 | 0.01 | 1 |
| 079 | C | Industrial -Misc | 94 | 079 | MN1 | 1 | S90 | 22000 | 12 | 0.015 | 1 |
| 081 | C | Religious | 94 | 081 | PS1 | 1 | S90 | 15000 | 24 | 0.01 | 1 |
| 082 | C | Medical | 94 | 082 | MC1 | 1 | S90 | 15000 | 10 | 0.01 | 1 |
| 083 | C | Educational | 94 | 083 | ED1 | 1 | S90 | 80000 | 12 | 0.01 | 1 |
| 084 | C | Public Service | 94 | 084 | PS1 | 1 | S90 | 12000 | 12 | 0.01 | 1 |
| 085 | C | Embassy_ Chancery | 94 | 085 | PS2 | 1 | S90 | 12000 | 12 | 0.01 | 1 |
| 086 | C | Museum_ Library_ Gallery | 94 | 086 | GS3 | 1 | S90 | 14000 | 14 | 0.01 | 1 |
| 087 | C | Recreational | 94 | 087 | RB1 | 1 | S90 | 20000 | 24 | 0.01 | 1 |
| 088 | C | Healthcare Facility | 94 | 088 | MC2 | 1 | S90 | 8000 | 12 | 0.01 | 1 |
| 089 | C | Special Purpose | 94 | 089 | GS2 | 1 | S90 | 2000 | 8 | 0.01 | 1 |
| 091 | R | Vacant | 00 | 091 | | 1 | S90 | | 0 | 0.015 | 1 |
| 092 | R | Vacant-with permit | 00 | 092 | | 1 | S90 | | 0 | | 1 |
| 093 | R | Vacant-zoning limits | 00 | 093 | | 1 | | | 0 | | 1 |
| 094 | R | Vacant-false abutting | 00 | 094 | | 1 | | | 0 | | 1 |
| 095 | R | Vacant-Commercial Use | 00 | 095 | | 1 | | | 0 | | 1 |
| 096 | R | Vacant-Unimproved Parking | 00 | 096 | | 1 | | | 0 | | 1 |
| 116 | R | Condo-Horizontal Combined | 05 | 116 | CND | 1 | S90 | 3000 | 8 | 0.015 | 1 |
| 117 | R | Condo-Vertictal Combined | 05 | 117 | CND | 1 | S90 | 2000 | 8 | 0.015 | 1 |
| 126 | C | Coop-Horizontal-Mixed Use | 94 | 126 | AP2 | 1 | S90 | 10000 | 8 | 0.01 | 1 |
| 127 | C | Coop-Vertical-Mixed Use | 94 | 127 | AP2 | 1 | S90 | 10000 | 8 | 0.01 | 1 |
| 165 | C | Vehicle Svc Station_ Kiosk | 94 | 165 | SS1 | 1 | S90 | 5000 | 14 | 0.01 | 1 |
| 189 | C | Special Purpose-Memorial | 00 | 189 | | 1 | S90 | 10000 | 0 | 0.01 | 1 |
| 191 | C | Vacant | 00 | 191 | | 1 | | | | | 1 |
| 192 | C | Vacant-with permit | 00 | 192 | | 1 | | | | | 1 |
| 193 | C | Vacant-zoning limits | 00 | 193 | | 1 | | | | | 1 |
| 194 | C | Vacant-false abutting | 00 | 194 | | 1 | | | | | 1 |
| 195 | C | Vacant-Commercial Use | 00 | 195 | | 1 | | | | | 1 |
| 196 | C | Vacant-Unimproved Parking | 00 | 196 | | 1 | | | | | 1 |
| 214 | C | Garage-Multi-family | 00 | 214 | | 1 | S90 | 10000 | 0 | 0.015 | 1 |
| 216 | C | Condo-Investment-Horizontal | 94 | 216 | CND | 1 | S90 | 10000 | 8 | 0.015 | 1 |
| 217 | C | Condo-Investment-Vertical | 94 | 217 | CND | 1 | S90 | 50000 | 8 | 0.015 | 1 |
| 265 | C | Vehicle Svc Station_ Kiosk | 94 | 265 | SS1 | 1 | S90 | 5000 | 12 | 0.01 | 1 |
| 316 | R | Condo-Duplex | 05 | 316 | CND | 1 | S90 | 5000 | 8 | 0.015 | 1 |
| 365 | C | Vehicle Svc Station_ Market | 94 | 365 | SS2 | 1 | S90 | 5000 | 12 | 0.01 | 1 |
| 417 | R | Condo-Vertical-Parking-Unid | 00 | 417 | | 1 | | 2000 | 0 | | 1 |
| 465 | C | Vehicle Svc Station_ Market | 94 | 465 | SS2 | 1 | S90 | 5000 | 14 | 0.01 | 1 |
| 516 | R | Condo-Detached | 01 | 516 | SIN | 1 | S90 | 2000 | 8 | 0.015 | 1 |

**Government of the District of Columbia** **Office of Tax and Revenue - Real Property Tax Administration**
**1101 4th Street, SW, Suite W550, Washington, DC 20024**

# Use Codes

| Code Description | Long Description |
|---|---|
| **001** Residential-Single Family (NC) | (CLASS 1): Single-family residential property which normally would receive a use code, 11-19, 23-24 but has non-conforming use. (Assigned to Commercial) |
| **002** Residential-Multi-Family (NC) | (CLASS 1): Multi-family residential property which normally would receive a use code, 21-22 or 25-29, but has a non-conforming use. (Assigned to Residential) |
| **003** Residential-Transient (NC) | (CLASS 1): Transient residential property which normally would receive a use code, 31-39, but has a non-conforming use. (Assigned to Residential) |
| **004** Commercial-Retail (NC) | (CLASS 2): Retail commercial property which normally would receive a use code, 41-49, but has non-conforming use. (Assigned to Residential) |
| **005** Commercial-Office (NC) | (CLASS 2): Commercial office property which normally would receive a use code, 51-53,57-59, but has non-conforming use. (Assigned to Residential) |
| **006** Commercial-Specific Purpose (NC) | (CLASS 2): Commercial property which normally would receive a specific purpose use code, 61-69, but has non-conforming use. (Assigned to Residential) |
| **007** Industrial (NC) | (CLASS 2): Industrial property which normally would receive a use code, 71-79, but has non-conforming use. (Assigned to Residential) |
| **008** Special Purpose (NC) | (CLASS 2): Special purpose property which normally would receive a use code, 81-89, but has non-conforming use. (Assigned to Residential) |
| **011** Residential-Row-Single-Family | (CLASS 1): Single-family dwelling with 2 walls built as common walls with another structure, 2 exposed walls; primarily used as place of abode. |
| **012** Residential-Detached-Single-Fa | (CLASS 1): Free-standing dwelling with open space around it and in all exterior walls; primarily used as abode. |
| **013** Residential-Semi-Detached-Sing | (CLASS 1): Structure with 1 dwelling place, 1 wall built as common wall with another structure, 3 exposed walls; primarily used as abode. |
| **014** Residential-Garage | (CLASS 1): Structure used primarily as accessory to single-family residence; no living quarters; on an individual lot. Garages, pools, tennis courts, pads, etc. |
| **015** Residential-Mixed Use | (CLASS 1 or 2): Single-family property with commercial (usually office) space in part of house. If use is mostly single-family, lot may be eligible for a Homestead Deduction. Mixed-use eligible. |
| **016** Residential-Condo-Horizontal | (CLASS 1): Enclosed space of 1 or more rooms, occupying all or part of 1 or more floors; entrance no higher than 3 floors; single-family use; may/may not have parking, laundry, patio, etc. |
| **017** Residential-Condo-Vertical | (CLASS 1): Enclosed space of 1 or more rooms, occupying all/part of 1 or more floors; in structure with elevator; more than 3 floors. Original primary use single-family. May have parking, laundry, patio, etc. |
| **018** Residential-Condo-Garage | (CLASS 1) : Specific space, enclosed or not, for vehicle parking or storage; use is accessory to single-family residential; no living quarters; individually located to be freely exchanged independently of another unit. |
| **019** Residential-Single-Family-Misc | (CLASS 1) : All other residential-single family uses not otherwise coded. |
| **021** Residential-Apartment-Walk-Up | (CLASS 1): Structure of 6 or more units; 1 owner; owner's motivation is to earn net investment income; no units higher than 3rd floor; no elevator; may have accessory uses. |
| **022** Residential-Apartment-Elevator | (CLASS 1): Structure with 12 or more units; 1 owner; elevator, more than 3 floors; may have accessory uses (parking, laundry, etc.). Owner's motivation is investment income. |
| **023** Residential Flats-Less than 5 | (CLASS 1): Structure with more than 1 single family unit, less than 5; usually self-contained, under 1 roof; few accessory uses; in some cases, owner occupies 1 unit; built for this use. |
| **024** Residential-Conversions-Less t | (CLASS 1 ): Structure with more than 1 single-family unit, but less than 5; usually self-contained, under 1 roof; few accessory uses; 1 unit may be owner-occupied; original primary use not multi-family. |
| **025** Residential-Conversion-5 Units | (CLASS 1): Structure with 5 units, usually not self-contained but under 1 roof; with few accessory uses; 1 unit may be owner-occupied; original primary use not multi-family. |
| **026** Residential-Cooperative-Horizontal | (Class 1) : Structure with more than 1 unit, of 1 or more rooms; 1 corporate ownership accounts for benefit of all tenant-shareholders, or lease from shareholders; entrance no higher than 3 floors; may have accessory uses. |
| 027 Residential-Cooperative-Vertical | (Class 1): Structure with more than 1 unit, each with 1 or more rooms; 1 corporate ownership accounts for benefit of all tenant-shareholders; lease from shareholders; elevator; more than 3 floors; may have accessory uses. |
| **029** Residential-Multifamily, Misc | (CLASS 1 or 2): All other residential multi-family uses not otherwise noted. Mixed-use eligible. |
| **031** Hotel-Small | (CLASS 2): Structure providing a temporary or semi-permanent residence; sleep accommodations, personal services, usually eating/drinking facilities; may include entertainment; 150 rooms or less. |

# Use Codes

| Code Description | Long Description |
|---|---|
| **032** Hotel-Large | (CLASS 2): Structure providing temporary or semi-permanent residences; full personal services; eating/drinking facilities, entertainment, retail, banquet /conference capabilities; more than 150 rooms. |
| **033** Motel | (CLASS 2): Structure used primarily as temporary residence; may include personal services, restaurant facilities, adequate parking; sleep accommodations may be open to building's exterior. |
| **034** Club-Private | (CLASS 2): Structure used primarily as meeting place for members of an association organized for promotion of a common social/other objective; limited to members/guests. May include meals, residential suites. Mixed-use eligible. |
| **035** Tourist Homes | (CLASS 2): Structure or part-structure used primarily for temporary sleep accommodations; no other services; may provide limited parking. |
| **036** Dormitory | (CLASS 2): Structure or part-structure used as resident hall with sleep accommodations; may provide other services, such as food/beverage facilities. |
| **037** Inn | (CLASS 2): Structure used primarily as a temporary residence. Rooms/suites may include kitchens; no guest central dining other than continental breakfast. No commercial adjuncts, function rooms. |
| **038** Fraternity/Sorority House | (CLASS 1): Resident hall with sleep accommodations; may provide other services, such as food/beverage facilities. Mixed-use eligible. |
| **039** Residential-Transient, Misc | (CLASS 2): All other residential transient not otherwise coded. |
| **041** Store-Small 1-Story | (CLASS 2): Structure used primarily for retail sales; row, attached, or detached; with/without accessory uses; with/without living quarters. |
| **042** Store-Misc | (CLASS 2): Structure used primarily for ground-level retail sales; row, attached, or detached; with/without other uses; with/without living quarters. Mixed-use eligible. |
| **043** Store-Department | (CLASS 2): Structure used primarily for sales of combination of retail products; no living quarters; except custodial staff. Mixed-use eligible. |
| **044** Store-Shopping Center/Mall | (CLASS 2): Structure/combination of structures, enclosed/not; with combination of retail businesses located to present a unified cluster of similar uses with common elements: parking, entrances, pedestrian areas. |
| **045** Store-Restaurant | (CLASS 2): Structure used primarily for retail sales of food/drink prepared for carry-out or on-site consumption; in row; with/without other uses. Mixed-use eligible. |
| **046** Store-Barber/Beauty Shop | (CLASS 2): Structure used primarily for retail sales/individual grooming services; on ground level; row, attached, or detached; other uses may occupy parts. Mixed-use eligible. |
| **047** Store-Super Market | (CLASS 2): Structure used primarily for retail grocery sales; ground level; row, attached, or detached; with/without accessory uses. Mixed-use eligible. |
| **048** Commercial-Retail-Condo | (CLASS 2): Unit in a predominately residential condo complex used for retail sales/service business. |
| **049** Commercial-Retail-Misc | (CLASS 2): All other retail commercial land uses not otherwise coded. Mixed-use eligible. |
| **051** Commercial-Office-Small | (CLASS 2: Structure without elevators used primarily for offices; secondary use may be retail sales, services, parking. |
| **052** Commercial-Office-Large | (CLASS 2): Structure with elevator; used predominantly for offices, secondarily for retail sales, services, parking. |
| **053** Commercial-Planned Development | (CLASS 2): Structure/combination of structures designed to incorporate several coordinated commercial endeavors into 1 closely-grouped unit; may include mall, offices, theaters, hotels, etc. Mixed-use eligible. |
| **056** Office-Condo-Horizontal | (CLASS 2): Structure with more than 1 unit; entrance no higher than 3 floors above ground level; designed primarily for office use; may have accessory uses such as parking, etc. |
| **057** Office-Condo-Vertical | (CLASS 2): Structure with more than 1 unit, elevator, and more than 3 floors; designed primarily for office use; accessory uses such as parking, etc. |
| **058** Commercial-Office-Condo | (CLASS 2): Unit in a predominantly residential condo complex used as a commercial office. Mixed-use eligible. |
| **059** Commercial-Office-Misc. | (CLASS 2): All other commercial office uses which have not been otherwise coded. Mixed-use eligible. |
| **061** Commercial-Banks, Financial | (CLASS 2): Structure with service facility devoted to transactions dealing with money as a commodity. |
| **062** Commercial-Garage, Vehicle Sale | (CLASS 2): Structure with facility for motor vehicle repairs; devoted to retail/ wholesale motor vehicle sales. |
| **063** Commercial-Parking Garage | (CLASS 2): Structure used primarily for public storage of motor vehicles; repair, greasing, washing, or similar services incidental uses. |
| **064** Parking Lot-Special Purpose | (CLASS 2): Lot used primarily for public storage of motor vehicles; any repair is incidental use; may have attendance booth, storage lifts, residential parking space if on separate lot/paved. |

# Use Codes

| Code Description | Long Description |
|---|---|
| **065** Vehicle Service Station-Vintage | (CLASS 2): Structure used for retail sale of motor fuel, lubricants. Incidental services such as lubricaton, hand-car washing; sale, installation, minor repair of tires, batteries, other auto accessories. |
| **066** Theaters, Entertainment | (CLASS 2): Structure with primary use for live, on-screen, or audience-participation entertainment. |
| **067** Commercial-Restaurant | (CLASS 2): Structure used primarily as public eating place for retail sale of food/drink prepared/consumed on-site; secondary accessory uses. |
| **068** Commercial-Restaurant-Fast Food | (CLASS 2): Structure used for retail sale of food/drink (non-alcoholic), cooked/heated in-structure for carry-out or on-site, usually specializing in a particular food. |
| **069** Commercial-Specific Purpose, Misc | (CLASS 2): All other specific purpose commercial uses not otherwise coded. Mixed-use eligible. |
| **071** Industrial-Raw Material Handling | (CLASS 2) : Property used primarily to receive, store, handle, ship industrial bulk raw material, normally processed/used at another location. |
| **072** Industrial-Heavy Manufacturing | (CLASS 2): Structure containing processing/manufacturing equipment which handles raw material; may change the material into a finished product for public use or for assembly operation; use limited to structure. |
| **073** Industrial-Light | (CLASS 2): Structure used to process, assemble, or manufacture raw, semi-finished, or finished materials, and/or completed components; use not limited to structure. |
| **074** Industrial-Warehouse-1-Story | (CLASS 2): Structure used primarily to store materials/finished products; unlimited story height; accessory uses: office and/or retail-wholesale display area, parking. |
| **075** Industrial-Warehouse-Multi-Story | (CLASS 2): Structure used primarily to store materials/finished products; 2 or more floors devoted to structure's primary use; accessory office and retail-wholesale display area. |
| **076** Industrial-Truck Terminal | (CLASS 2): Structure used primarily to store (short-term) and transfer (turn-around) materials/finished products shipped by truck; raised truck level bays for receiving/shipping; accessory office. |
| **078** Warehouse-Condo | (CLASS 2): Structure used primarily to store materials/finished products; unlimited story height, 2 or more floors; accessory office and/or retail/wholesale display area. |
| **079** Industrial-Misc | (CLASS 2): All other industrial uses not otherwise coded. Mixed-use eligible. |
| **081** Religious | (CLASS 2): Structure devoted to public worship; housing for and/or education of clergy/officials connected to religious activity; religious communities. |
| **082** Medical | (CLASS 2): Structure devoted to public/private medical or surgical care to the sick or injured; outpatient diagnosis/treatment; education of medical personnel/officials. |
| **083** Educational | (CLASS 2): Structure devoted to any level of public/private instruction. May include administrative, accessory functions; parking, retail sales, secondary use. |
| **084** Public Service | (CLASS 2): Structure used primarily to serve public to protect people or property; utility service; other public service. Accessory uses are secondary. |
| **085** Embassy, Chancery, etc. | (CLASS 2): Structure used primarily as offices of an ambassador or foreign government. Accessory uses secondary. |
| **086** Museum, Library, Gallery | (CLASS 2): Structure for exhibition, display, storage of art works, other displayable chattels; usually open for public enjoyment;accessory uses (parking, retail sales). |
| **087** Recreational | (CLASS 2): Facility primarily used for public viewing of sporting events, training/participation in recreational activities, or any other special sporting or leisure activity. |
| **088** Health Care Facility | (CLASS 2): Structure devoted to public/private medical care/treatment of the sick or injured; may include other medically connected activities, other uses (retail sales, parking). |
| **089** Special Purpose-Misc | (CLASS 2): All other special purpose uses not otherwise coded. Mixed-use eligible. |
| **091** Vacant-True | (Class 1): Lot not improved with a structure and Residential vacant land (formerly Class 3). |
| **092** Vacant-with Permit | (CLASS 1): Lot for which an unexpired building permit has been issued. |
| **093** Vacant-Zoning Limits | (CLASS 1): Lot on which DC Zoning regulations prohibit an owner to build as a matter of right or lot with deed or covenant restrictions precluding buildings. |
| **094** Vacant-False-Abutting | (CLASS 1): Lot assigned no real estate improvement value, but having part of a structure whose value is assigned to another lot. Mixed-use eligible. |
| **095** Vacant-Residential Use | (CLASS 1): Lot with relatively permanent structures (storage tanks, railroad tracks), but not buildings, used for residential purposes, making the lot unbuildable. |

# Use Codes

| Code Description | Long Description |
|---|---|
| **096** Vacant-Unimproved Parking | (CLASS 1): Unimproved, graveled parking lot with approved parking permit. |
| **097** Vacant-Improved and Abandoned | (CLASS 3): Residential and commercial improved vacant and abandoned properties (formerly Class 3). **No longer in use.** |
| **116** Condo-Horizontal-Combined- | (CLASS 1): Unit in a structure with entrance no higher than 3 floors; designed primarily for single family residential use; accessory uses. Abuts primary unit; owner entitled to lower (Class 1) tax rate, but not Homestead Deduction. |
| **117** Condo-Vertical-Combined | (CLASS 1): Unit in structure with entrance no higher than 3 floors, designed primarily for single family residential use; accessory uses. Abuts primary unit; owner entitled to lower (Class 1) tax rate, but not Homestead Deduction. |
| **126** Coop-Horizontal-Mixed Use | (Class 1 or 2): Structure with more than 1 unit, an elevator, more than 3 floors; under 1 corporate ownership which acts to benefit all shareholders-tenants. Additional uses: retail sales, restaurants, offices. Mixed-use eligible. |
| **127** Coop-Vertical-Mixed Use | (Class 1 or 2): Structure with more than 1 unit, elevator, more than 3 floors; under 1 corporate ownership which acts to benefit all shareholders-tenants. Additional uses: retail sales, restaurants, offices. Mixed-use eligible. |
| **165** Vehicle Service Station-Kiosk | (CLASS 2): Small cashier booth used for to sell motor oil, lubricants, small miscellaneous items (candy, gum, cigarettes). |
| **189** Special Purpose-Memorial | (CLASS 2): Permanent structure other than a building devoted to or available for public use: statues, fountains, pools, etc. |
| **191** Vacant-True | (CLASS 2): Lot not improved with a structure and commercial vacant land (formerly Class 3). |
| **192** Vacant-With Permit | (CLASS 2): Lot for which an unexpired building permit has been issued. |
| **193** Vacant-Zoning limits | (CLASS 2): Lot on which DC Zoning regulations prohibit an owner to build as a matter of right or lot with deed or covenant restrictions precluding buildings. |
| **194** Vacant-False-Abutting | (CLASS 2): Lot assigned no real estate improvement value, but having part of a structure whose value is assigned to another lot. Mixed-use eligible. |
| **195** Vacant-Commercial Use | (CLASS 2): Lot with relatively permanent structures (storage tanks, railroad tracks), but not buildings, used for commercial purpose, making the lot unbuildable. |
| **196** Vacant-Unimproved Parking | (CLASS 2): Unimproved, graveled parking lot with approved parking permit. |
| **197** Vacant-Improved and Abandoned | (CLASS 3): Residential and commercial improved vacant and abandoned properties (formerly Class 3). **No longer in use**. |
| **214** Garage-Multi-Family | (CLASS 1): Structure used primarily as accessory to multi-family residence; no living quarters; on individual lot. |
| **216** Condo-Investment-Horizontal | (CLASS 1): Unit with entrance no higher than 3 floors above ground level, designed for single- family primary use; accessory uses. Fee owner's presumptive motivation is net investment income. |
| **217** Condo-Investment-Vertical | (CLASS 1): Unit with entrance no higher than 3 floors above ground level; designed for single- family primary use; accessory uses. Fee owner's presumptive motivation is net investment income. |
| **265** Vehicle Service Station-Kiosk | (CLASS 2): Small cashier booth used for retail of motor oil, small miscellaneous items (candy, gum); and provides non-incidental services like car washing. |
| **316** Condo-Duplex | (CLASS 1): Enclosed space with 2 piggy-backed units; designed primarily for single-family use; accessory uses: parking, laundry, storage, balcony, etc. |
| **365** Vehicle Service Station-Market | (CLASS 2): Structure used for retail of motor oil, lubricants, incidental items (edibles, household products). |
| **416** Condo-Horizontal-Parking-Unid | (CLASS 1): Condo in regime where ownership of an associated parking space, following condo's sale, is unclear. (Assessor must determine space's status.) |
| **417** Condo-Vertical-Parking-Unid | (CLASS 1): Condo in regime where ownership of an associated parking space, following condo's sale, is unclear. (Assessor must determine space's status.) |
| **465** Vehicle Service Station-Market | (CLASS 2): Structure used to sell motor oil, lubricants, incidental items (edibles, household products); and to provide non-incidental services such as car washing. |
| **516** Condo-Detached | (CLASS 1): Enclosed space of one unit of 1 or more rooms in a structure designed primarily for single- family residential use; accessory uses (parking, laundry, storage space, balcony, etc.) |
| **995** Condo Main (class 1): | |

# 2017 Base Cost Rates

| Cost Group | Class | Base Rate | Depr. Table | Econ. Life | Max. Depr. | Max. Age |
|---|---|---|---|---|---|---|
| AP1 | 0 | $115.27 | 5 | 60 | 80 | 99 |
| AP1 | A | $118.50 | 5 | 70 | 80 | 99 |
| AP1 | B | $120.80 | 5 | 70 | 80 | 99 |
| AP1 | C | $115.27 | 5 | 60 | 80 | 99 |
| AP1 | D | $114.10 | 5 | 50 | 80 | 99 |
| AP1 | S | $108.00 | 5 | 50 | 80 | 99 |
| AP2 | 0 | $137.85 | 5 | 60 | 80 | 99 |
| AP2 | A | $188.04 | 5 | 70 | 80 | 99 |
| AP2 | B | $179.97 | 5 | 70 | 80 | 99 |
| AP2 | C | $137.85 | 5 | 60 | 80 | 99 |
| AP2 | D | $129.17 | 5 | 50 | 80 | 99 |
| BN1 | 0 | $292.17 | 5 | 60 | 80 | 99 |
| BN1 | A | $354.46 | 5 | 70 | 80 | 99 |
| BN1 | B | $338.55 | 5 | 70 | 80 | 99 |
| BN1 | C | $292.17 | 5 | 60 | 80 | 99 |
| BN1 | D | $269.11 | 5 | 50 | 80 | 99 |
| BN1 | S | $250.65 | 5 | 50 | 80 | 99 |
| BS1 | 0 | $197.31 | 5 | 60 | 80 | 99 |
| BS1 | A | $257.22 | 5 | 70 | 80 | 99 |
| BS1 | B | $229.03 | 5 | 70 | 80 | 99 |
| BS1 | C | $197.31 | 5 | 60 | 80 | 99 |
| BS1 | D | $179.70 | 5 | 50 | 80 | 99 |
| BS1 | S | $70.47 | 5 | 50 | 80 | 99 |
| CD | R | $132.13 | 5 | 99 | 80 | 99 |
| CND | 0 | $294.88 | 5 | 50 | 80 | 99 |
| CND | A | $294.88 | 5 | 50 | 80 | 99 |
| CND | B | $294.88 | 5 | 50 | 80 | 99 |
| CND | C | $294.88 | 5 | 50 | 80 | 99 |
| CND | D | $294.88 | 5 | 50 | 80 | 99 |
| CND | R | $294.88 | 5 | 50 | 80 | 99 |
| CND | S | $294.88 | 5 | 50 | 80 | 99 |
| CW1 | 0 | $162.08 | 5 | 60 | 80 | 99 |
| CW1 | A | $192.04 | 5 | 70 | 80 | 99 |
| CW1 | B | $183.22 | 5 | 70 | 80 | 99 |
| CW1 | C | $162.08 | 5 | 60 | 80 | 99 |
| CW1 | D | $144.47 | 5 | 50 | 80 | 99 |
| CW1 | S | $144.47 | 5 | 50 | 80 | 99 |
| ED1 | 0 | $184.20 | 5 | 60 | 80 | 99 |
| ED1 | A | $253.42 | 5 | 70 | 80 | 99 |
| ED1 | B | $243.13 | 5 | 70 | 80 | 99 |
| ED1 | C | $184.20 | 5 | 60 | 80 | 99 |
| ED1 | D | $175.58 | 5 | 50 | 80 | 99 |
| ED1 | S | $175.71 | 5 | 50 | 80 | 99 |
| GEN | 0 | $169.13 | 5 | 60 | 80 | 99 |
| GEN | A | $234.47 | 5 | 70 | 80 | 99 |
| GEN | B | $215.25 | 5 | 70 | 80 | 99 |
| GEN | C | $169.13 | 5 | 60 | 80 | 99 |
| GEN | D | $144.14 | 5 | 50 | 80 | 99 |
| GEN | S | $144.14 | 5 | 50 | 80 | 99 |
| GS1 | 0 | $204.95 | 5 | 60 | 80 | 99 |
| GS1 | A | $212.72 | 5 | 70 | 80 | 99 |
| GS1 | B | $214.74 | 5 | 70 | 80 | 99 |
| GS1 | C | $204.95 | 5 | 60 | 80 | 99 |
| GS1 | D | $195.18 | 5 | 50 | 80 | 99 |
| GS1 | S | $136.56 | 5 | 50 | 80 | 99 |
| GS2 | 0 | $184.33 | 5 | 60 | 80 | 99 |

# 2017 Base Cost Rates

| Cost Group | Class | Base Rate | Depr. Table | Econ. Life | Max. Depr. | Max. Age |
|---|---|---|---|---|---|---|
| GS2 | A | $292.72 | 5 | 70 | 80 | 99 |
| GS2 | B | $276.38 | 5 | 70 | 80 | 99 |
| GS2 | C | $184.33 | 5 | 60 | 80 | 99 |
| GS2 | D | $172.29 | 5 | 50 | 80 | 99 |
| GS2 | S | $167.81 | 5 | 50 | 80 | 99 |
| GS3 | 0 | $211.51 | 5 | 60 | 80 | 99 |
| GS3 | A | $302.47 | 5 | 70 | 80 | 99 |
| GS3 | B | $290.45 | 5 | 70 | 80 | 99 |
| GS3 | C | $211.51 | 5 | 60 | 80 | 99 |
| GS3 | D | $197.34 | 5 | 50 | 80 | 99 |
| GS3 | S | $189.10 | 5 | 50 | 80 | 99 |
| HT1 | 0 | $142.81 | 5 | 60 | 80 | 99 |
| HT1 | A | $172.37 | 5 | 70 | 80 | 99 |
| HT1 | B | $167.48 | 5 | 70 | 80 | 99 |
| HT1 | C | $142.81 | 5 | 60 | 80 | 99 |
| HT1 | D | $134.47 | 5 | 50 | 80 | 99 |
| HT1 | S | $105.79 | 5 | 50 | 80 | 99 |
| HT2 | 0 | $228.59 | 5 | 60 | 80 | 99 |
| HT2 | A | $234.80 | 5 | 70 | 80 | 99 |
| HT2 | B | $228.59 | 5 | 70 | 80 | 99 |
| HT2 | C | $178.32 | 5 | 60 | 80 | 99 |
| HT2 | D | $167.24 | 5 | 50 | 80 | 99 |
| HT2 | S | $224.45 | 5 | 50 | 80 | 99 |
| MC1 | 0 | $325.12 | 5 | 60 | 80 | 99 |
| MC1 | A | $430.51 | 5 | 70 | 80 | 99 |
| MC1 | B | $418.34 | 5 | 70 | 80 | 99 |
| MC1 | C | $325.12 | 5 | 60 | 80 | 99 |
| MC1 | D | $300.58 | 5 | 50 | 80 | 99 |
| MC1 | S | $168.86 | 5 | 50 | 80 | 99 |
| MC2 | 0 | $204.82 | 5 | 60 | 80 | 99 |
| MC2 | A | $270.18 | 5 | 70 | 80 | 99 |
| MC2 | B | $264.82 | 5 | 70 | 80 | 99 |
| MC2 | C | $204.82 | 5 | 60 | 80 | 99 |
| MC2 | D | $194.06 | 5 | 50 | 80 | 99 |
| MC2 | S | $204.82 | 5 | 50 | 80 | 99 |
| MLT | R | $96.34 | 5 | 70 | 80 | 70 |
| MN1 | 0 | $79.43 | 5 | 60 | 80 | 99 |
| MN1 | A | $91.42 | 5 | 70 | 80 | 99 |
| MN1 | B | $87.95 | 5 | 70 | 80 | 99 |
| MN1 | C | $79.43 | 5 | 60 | 80 | 99 |
| MN1 | D | $72.00 | 5 | 50 | 80 | 99 |
| MN1 | S | $71.47 | 5 | 50 | 80 | 99 |
| MN2 | 0 | $171.95 | 5 | 60 | 80 | 99 |
| MN2 | A | $226.85 | 5 | 70 | 80 | 99 |
| MN2 | B | $223.07 | 5 | 70 | 80 | 99 |
| MN2 | C | $171.95 | 5 | 60 | 80 | 99 |
| MN2 | D | $112.60 | 5 | 50 | 80 | 99 |
| MN2 | S | $160.63 | 5 | 50 | 80 | 99 |
| MN4 | 0 | $186.75 | 5 | 60 | 80 | 99 |
| MN4 | A | $237.84 | 5 | 70 | 80 | 99 |
| MN4 | B | $204.36 | 5 | 70 | 80 | 99 |
| MN4 | C | $186.75 | 5 | 60 | 80 | 99 |
| MN4 | D | $172.65 | 5 | 50 | 80 | 99 |
| MN4 | S | $172.65 | 5 | 50 | 80 | 99 |
| MRC | 0 | $139.73 | 5 | 75 | 40 | 75 |
| MRC | A | $139.73 | 5 | 75 | 40 | 75 |

# 2017 Base Cost Rates

| Cost Group | Class | Base Rate | Depr. Table | Econ. Life | Max. Depr. | Max. Age |
|---|---|---|---|---|---|---|
| MRC | B | $139.73 | 5 | 75 | 40 | 75 |
| MRC | C | $139.73 | 5 | 75 | 40 | 75 |
| MRC | D | $139.73 | 5 | 75 | 40 | 75 |
| MRC | S | $139.73 | 5 | 75 | 40 | 75 |
| OF1 | 0 | $198.42 | 5 | 60 | 80 | 99 |
| OF1 | A | $273.30 | 5 | 70 | 80 | 99 |
| OF1 | B | $262.15 | 5 | 70 | 80 | 99 |
| OF1 | C | $198.42 | 5 | 60 | 80 | 99 |
| OF1 | D | $183.82 | 5 | 50 | 80 | 99 |
| OF1 | S | $176.83 | 5 | 50 | 80 | 99 |
| OF2 | 0 | $198.42 | 5 | 60 | 80 | 99 |
| OF2 | A | $273.30 | 5 | 70 | 80 | 99 |
| OF2 | B | $262.15 | 5 | 70 | 80 | 99 |
| OF2 | C | $198.42 | 5 | 60 | 80 | 99 |
| OF2 | D | $183.34 | 5 | 50 | 80 | 99 |
| OF2 | S | $176.83 | 5 | 50 | 80 | 99 |
| OF3 | 0 | $236.17 | 5 | 60 | 80 | 99 |
| OF3 | A | $246.22 | 5 | 70 | 80 | 99 |
| OF3 | B | $236.17 | 5 | 70 | 80 | 99 |
| OF3 | C | $178.76 | 5 | 60 | 80 | 99 |
| OF3 | D | $165.17 | 5 | 50 | 80 | 99 |
| OF3 | S | $159.31 | 5 | 50 | 80 | 99 |
| OFF | 0 | $128.93 | 5 | 60 | 80 | 99 |
| OFF | A | $169.46 | 5 | 70 | 80 | 99 |
| OFF | B | $158.39 | 5 | 70 | 80 | 99 |
| OFF | C | $128.93 | 5 | 60 | 80 | 99 |
| OFF | D | $117.88 | 5 | 50 | 80 | 99 |
| OFF | S | $117.88 | 5 | 50 | 80 | 99 |
| PK1 | 0 | $115.20 | 5 | 60 | 80 | 99 |
| PK1 | A | $116.16 | 5 | 70 | 80 | 99 |
| PK1 | B | $119.55 | 5 | 70 | 80 | 99 |
| PK1 | C | $115.20 | 5 | 60 | 80 | 99 |
| PK1 | D | $105.54 | 5 | 50 | 80 | 99 |
| PK1 | S | $83.03 | 5 | 50 | 80 | 99 |
| PK2 | 0 | $79.25 | 5 | 60 | 80 | 99 |
| PK2 | A | $81.85 | 5 | 70 | 80 | 99 |
| PK2 | B | $79.25 | 5 | 70 | 80 | 99 |
| PK2 | C | $76.36 | 5 | 60 | 80 | 99 |
| PK2 | D | $70.18 | 5 | 50 | 80 | 99 |
| PK2 | S | $42.85 | 5 | 50 | 80 | 90 |
| PS1 | 0 | $212.27 | 5 | 60 | 80 | 99 |
| PS1 | A | $296.41 | 5 | 70 | 80 | 99 |
| PS1 | B | $281.50 | 5 | 70 | 80 | 99 |
| PS1 | C | $212.27 | 5 | 60 | 80 | 99 |
| PS1 | D | $199.85 | 5 | 50 | 80 | 99 |
| PS1 | S | $182.90 | 5 | 50 | 80 | 99 |
| PS2 | 0 | $220.38 | 5 | 60 | 80 | 99 |
| PS2 | A | $289.92 | 5 | 70 | 80 | 99 |
| PS2 | B | $278.01 | 5 | 70 | 80 | 99 |
| PS2 | C | $220.38 | 5 | 60 | 80 | 99 |
| PS2 | D | $206.50 | 5 | 50 | 80 | 99 |
| PS2 | S | $144.73 | 5 | 50 | 80 | 99 |
| R11 | R | $134.18 | 6 | 75 | 80 | 75 |
| R12 | R | $156.49 | 6 | 75 | 80 | 75 |
| R13 | R | $133.26 | 6 | 75 | 80 | 75 |
| R15 | R | $134.18 | 6 | 75 | 80 | 75 |

# 2017 Base Cost Rates

| Cost Group | Class | Base Rate | Depr. Table | Econ. Life | Max. Depr. | Max. Age |
|---|---|---|---|---|---|---|
| R19 | R | $134.18 | 6 | 75 | 80 | 75 |
| R23 | R | $104.63 | 6 | 75 | 80 | 75 |
| R24 | R | $139.73 | 6 | 75 | 80 | 75 |
| RB1 | 0 | $189.63 | 5 | 60 | 80 | 99 |
| RB1 | A | $250.75 | 5 | 70 | 80 | 99 |
| RB1 | B | $248.32 | 5 | 70 | 80 | 99 |
| RB1 | C | $189.63 | 5 | 60 | 80 | 99 |
| RB1 | D | $180.03 | 5 | 50 | 80 | 99 |
| RB1 | S | $175.02 | 5 | 50 | 80 | 99 |
| RES | R | $96.10 | 5 | 70 | 80 | 70 |
| RH1 | 0 | $148.94 | 5 | 70 | 80 | 99 |
| RH1 | A | $148.94 | 5 | 70 | 80 | 99 |
| RH1 | B | $148.94 | 5 | 70 | 80 | 99 |
| RH1 | C | $148.94 | 5 | 70 | 80 | 99 |
| RH1 | D | $148.94 | 5 | 70 | 80 | 99 |
| RH1 | S | $148.94 | 5 | 70 | 80 | 99 |
| RH2 | 0 | $186.82 | 5 | 60 | 80 | 99 |
| RH2 | A | $244.70 | 5 | 70 | 80 | 99 |
| RH2 | B | $237.63 | 5 | 70 | 80 | 99 |
| RH2 | C | $186.82 | 5 | 60 | 80 | 99 |
| RH2 | D | $172.49 | 5 | 50 | 80 | 99 |
| RH2 | S | $128.27 | 5 | 50 | 80 | 99 |
| RS1 | 0 | $201.96 | 5 | 60 | 80 | 99 |
| RS1 | A | $267.24 | 5 | 70 | 80 | 99 |
| RS1 | B | $267.24 | 5 | 70 | 80 | 99 |
| RS1 | C | $201.96 | 5 | 60 | 80 | 99 |
| RS1 | D | $186.29 | 5 | 50 | 80 | 99 |
| RS1 | S | $186.26 | 5 | 50 | 80 | 99 |
| RS2 | 0 | $217.84 | 5 | 60 | 80 | 99 |
| RS2 | A | $294.94 | 5 | 70 | 80 | 99 |
| RS2 | B | $294.94 | 5 | 70 | 80 | 99 |
| RS2 | C | $217.84 | 5 | 60 | 80 | 99 |
| RS2 | D | $200.65 | 5 | 50 | 80 | 99 |
| RS2 | S | $201.63 | 5 | 50 | 80 | 99 |
| RT1 | 0 | $135.88 | 5 | 60 | 80 | 99 |
| RT1 | A | $173.00 | 5 | 70 | 80 | 99 |
| RT1 | B | $165.88 | 5 | 70 | 80 | 99 |
| RT1 | C | $135.88 | 5 | 60 | 80 | 99 |
| RT1 | D | $126.40 | 5 | 50 | 80 | 99 |
| RT1 | S | $125.77 | 5 | 50 | 80 | 99 |
| RT2 | 0 | $131.32 | 5 | 60 | 80 | 99 |
| RT2 | A | $153.19 | 5 | 70 | 80 | 99 |
| RT2 | B | $153.19 | 5 | 70 | 80 | 99 |
| RT2 | C | $131.32 | 5 | 60 | 80 | 99 |
| RT2 | D | $120.93 | 5 | 50 | 80 | 99 |
| RT2 | S | $120.27 | 5 | 50 | 80 | 99 |
| RT3 | 0 | $208.32 | 5 | 60 | 80 | 99 |
| RT3 | A | $216.85 | 5 | 70 | 80 | 99 |
| RT3 | B | $208.32 | 5 | 70 | 80 | 99 |
| RT3 | C | $170.30 | 5 | 60 | 80 | 99 |
| RT3 | D | $200.74 | 5 | 50 | 80 | 99 |
| RT3 | S | $204.58 | 5 | 50 | 80 | 99 |
| RT4 | 0 | $129.75 | 5 | 60 | 80 | 99 |
| RT4 | A | $129.60 | 5 | 70 | 80 | 99 |
| RT4 | B | $129.60 | 5 | 70 | 80 | 99 |
| RT4 | C | $129.75 | 5 | 60 | 80 | 99 |

# 2017 Base Cost Rates

| Cost Group | Class | Base Rate | Depr. Table | Econ. Life | Max. Depr. | Max. Age |
|---|---|---|---|---|---|---|
| RT4 | D | $118.69 | 5 | 50 | 80 | 99 |
| RT4 | S | $116.42 | 5 | 50 | 80 | 99 |
| SIN | R | $154.17 | 5 | 70 | 80 | 70 |
| SS1 | 0 | $265.91 | 5 | 70 | 80 | 99 |
| SS1 | A | $268.30 | 5 | 70 | 80 | 99 |
| SS1 | B | $270.64 | 5 | 70 | 80 | 99 |
| SS1 | C | $265.91 | 5 | 70 | 80 | 99 |
| SS1 | D | $260.79 | 5 | 70 | 80 | 99 |
| SS1 | S | $265.91 | 5 | 70 | 80 | 99 |
| SS2 | 0 | $215.48 | 5 | 60 | 80 | 99 |
| SS2 | A | $219.41 | 5 | 70 | 80 | 99 |
| SS2 | B | $219.41 | 5 | 70 | 80 | 99 |
| SS2 | C | $215.48 | 5 | 60 | 80 | 99 |
| SS2 | D | $203.61 | 5 | 50 | 80 | 99 |
| SS2 | S | $211.27 | 5 | 50 | 80 | 99 |
| SV1 | 0 | $96.50 | 5 | 60 | 80 | 99 |
| SV1 | A | $104.45 | 5 | 70 | 80 | 99 |
| SV1 | B | $107.49 | 5 | 70 | 80 | 99 |
| SV1 | C | $96.50 | 5 | 60 | 80 | 99 |
| SV1 | D | $83.35 | 5 | 50 | 80 | 99 |
| SV1 | S | $80.36 | 5 | 50 | 80 | 99 |
| TM1 | 0 | $91.61 | 5 | 60 | 80 | 99 |
| TM1 | A | $112.75 | 5 | 70 | 80 | 99 |
| TM1 | B | $102.18 | 5 | 70 | 80 | 99 |
| TM1 | C | $91.61 | 5 | 60 | 80 | 99 |
| TM1 | D | $84.57 | 5 | 50 | 80 | 99 |
| TM1 | S | $84.57 | 5 | 50 | 80 | 99 |
| UT1 | 0 | $160.32 | 5 | 60 | 80 | 99 |
| UT1 | A | $181.47 | 5 | 70 | 80 | 99 |
| UT1 | B | $169.13 | 5 | 70 | 80 | 99 |
| UT1 | C | $160.32 | 5 | 60 | 80 | 99 |
| UT1 | D | $137.42 | 5 | 50 | 80 | 99 |
| UT1 | S | $137.42 | 5 | 50 | 80 | 99 |
| WH1 | 0 | $81.62 | 5 | 60 | 80 | 99 |
| WH1 | A | $120.89 | 5 | 70 | 80 | 99 |
| WH1 | B | $117.57 | 5 | 70 | 80 | 99 |
| WH1 | C | $81.62 | 5 | 60 | 80 | 99 |
| WH1 | D | $72.15 | 5 | 50 | 80 | 99 |
| WH1 | S | $72.33 | 5 | 50 | 80 | 99 |
| WH2 | 0 | $68.73 | 5 | 60 | 80 | 99 |
| WH2 | A | $103.08 | 5 | 70 | 80 | 99 |
| WH2 | B | $99.35 | 5 | 70 | 80 | 99 |
| WH2 | C | $68.73 | 5 | 60 | 80 | 99 |
| WH2 | D | $60.96 | 5 | 50 | 80 | 99 |
| WH2 | S | $61.04 | 5 | 50 | 80 | 99 |
| WH3 | 0 | $94.90 | 5 | 60 | 80 | 99 |
| WH3 | A | $96.62 | 5 | 70 | 80 | 99 |
| WH3 | B | $99.44 | 5 | 70 | 80 | 99 |
| WH3 | C | $107.75 | 5 | 60 | 80 | 99 |
| WH3 | D | $66.74 | 5 | 50 | 80 | 99 |
| WH3 | S | $94.90 | 5 | 50 | 80 | 99 |

Real Property Assessment Division
2017 Base Change
ALL PROPERTIES

| Neighborhood | Name | Total Base | | | |
|---|---|---|---|---|---|
| | | 2016 | 2017 | Difference | % Change |
| 001 | American University Park | $3,355,671,046 | $3,495,682,982 | $140,011,936 | 4.17% |
| 002 | Anacostia | $738,718,357 | $826,873,997 | $88,155,640 | 11.93% |
| 003 | Barry Farms | $413,416,328 | $440,240,088 | $26,823,760 | 6.49% |
| 004 | Berkley | $1,588,865,840 | $1,622,837,050 | $33,971,210 | 2.14% |
| 005 | Brentwood | $1,301,206,526 | $1,418,466,154 | $117,259,628 | 9.01% |
| 006 | Brightwood | $2,355,755,338 | $2,572,224,292 | $216,468,954 | 9.19% |
| 007 | Brookland | $6,030,043,040 | $6,476,090,858 | $446,047,818 | 7.40% |
| 008 | Burleith | $898,595,390 | $920,713,730 | $22,118,340 | 2.46% |
| 009 | Capitol Hill | $4,192,622,889 | $4,415,249,383 | $222,626,494 | 5.31% |
| 010 | Central | $62,143,610,451 | $64,932,291,488 | $2,788,681,037 | 4.49% |
| 011 | Chevy Chase | $6,298,560,131 | $6,565,800,865 | $267,240,734 | 4.24% |
| 012 | Chillum | $550,553,629 | $579,452,804 | $28,899,175 | 5.25% |
| 013 | Cleveland Park | $3,398,203,580 | $3,499,504,536 | $101,300,956 | 2.98% |
| 014 | Colonial Village | $607,035,050 | $627,772,700 | $20,737,650 | 3.42% |
| 015 | Columbia Heights | $7,999,755,308 | $8,664,893,247 | $665,137,939 | 8.31% |
| 016 | Congress Heights | $1,851,335,343 | $2,006,616,135 | $155,280,792 | 8.39% |
| 017 | Crestwood | $771,478,070 | $799,597,560 | $28,119,490 | 3.64% |
| 018 | Deanwood | $1,921,644,983 | $2,069,293,844 | $147,648,861 | 7.68% |
| 019 | Eckington | $1,999,838,372 | $2,257,098,705 | $257,260,333 | 12.86% |
| 020 | Foggy Bottom | $9,403,568,355 | $9,630,461,156 | $226,892,801 | 2.41% |
| 021 | Forest Hills | $3,952,349,942 | $3,984,193,422 | $31,843,480 | 0.81% |
| 022 | Fort Dupont Park | $958,855,190 | $1,061,119,140 | $102,263,950 | 10.67% |
| 023 | Foxhall | $306,120,870 | $317,218,400 | $11,097,530 | 3.63% |
| 024 | Garfield | $2,044,906,289 | $2,075,036,348 | $30,130,059 | 1.47% |
| 025 | Georgetown | $9,302,472,515 | $9,776,982,152 | $474,509,637 | 5.10% |
| 026 | Glover Park | $1,468,901,140 | $1,520,989,120 | $52,087,980 | 3.55% |
| 027 | Hawthorne | $277,639,290 | $288,517,950 | $10,878,660 | 3.92% |
| 028 | Hillcrest | $1,188,815,700 | $1,268,844,222 | $80,028,522 | 6.73% |
| 029 | Kalorama | $5,136,390,739 | $5,325,332,128 | $188,941,389 | 3.68% |
| 030 | Kent | $1,434,577,710 | $1,469,621,030 | $35,043,320 | 2.44% |
| 031 | LeDroit Park | $1,537,650,315 | $1,834,365,490 | $296,715,175 | 19.30% |
| 032 | Lily Ponds | $557,063,996 | $616,014,550 | $58,950,554 | 10.58% |
| 033 | Marshall Heights | $478,000,100 | $499,457,550 | $21,457,450 | 4.49% |
| 034 | Massachusetts Av Heights | $1,551,152,914 | $1,589,132,595 | $37,979,681 | 2.45% |
| 035 | Michigan Park | $410,362,100 | $455,736,770 | $45,374,670 | 11.06% |
| 036 | Mount Pleasant | $4,058,186,085 | $4,370,016,120 | $311,830,035 | 7.68% |
| 037 | North Cleveland Park | $1,353,198,877 | $1,419,598,834 | $66,399,957 | 4.91% |
| 038 | Observatory Circle | $2,510,201,983 | $2,607,309,280 | $97,107,297 | 3.87% |
| 039 | Old City I | $15,349,292,471 | $16,213,549,524 | $864,257,053 | 5.63% |
| 040 | Old City II | $20,756,780,068 | $22,630,268,497 | $1,873,488,429 | 9.03% |
| 041 | Palisades | $1,191,402,160 | $1,239,795,030 | $48,392,870 | 4.06% |
| 042 | Petworth | $2,950,269,068 | $3,215,366,769 | $265,097,701 | 8.99% |
| 043 | Randle Heights | $1,274,069,975 | $1,373,696,135 | $99,626,160 | 7.82% |
| 044 | NoMa | $5,133,705,812 | $5,221,736,750 | $88,030,938 | 1.71% |
| 046 | SW Waterfront | $8,552,889,506 | $9,027,465,855 | $474,576,349 | 5.55% |
| 047 | Riggs Park | $1,065,802,325 | $1,200,153,245 | $134,350,920 | 12.61% |
| 048 | Shepherd Park | $740,377,070 | $771,861,840 | $31,484,770 | 4.25% |
| 049 | Sixteenth Street Heights | $1,480,004,790 | $1,616,498,070 | $136,493,280 | 9.22% |
| 050 | Spring Valley | $2,010,617,664 | $2,045,429,220 | $34,811,556 | 1.73% |
| 051 | Takoma | $569,704,830 | $584,832,490 | $15,127,660 | 2.66% |
| 052 | Trinidad | $1,259,776,812 | $1,458,296,339 | $198,519,527 | 15.76% |
| 053 | Wakefield | $771,251,190 | $799,110,600 | $27,859,410 | 3.61% |
| 054 | Wesley Heights | $1,810,944,979 | $1,861,429,619 | $50,484,640 | 2.79% |
| 055 | Woodley | $404,639,570 | $409,701,480 | $5,061,910 | 1.25% |
| 056 | Woodridge | $1,712,986,676 | $1,913,180,722 | $200,194,046 | 11.69% |
| 059 | Rail Road Tracks | $2,527,390 | $2,527,390 | $0 | 0.00% |
| 063 | North Anacostia Park | $3,368,540 | $3,438,620 | $70,080 | 2.08% |
| 064 | Anacostia Park | $219,000 | $219,000 | $0 | 0.00% |
| 066 | Fort Lincoln | $531,448,386 | $575,122,650 | $43,674,264 | 8.22% |
| 068 | Bolling AFB & Naval Research | $39,193,150 | $28,377,030 | -$10,816,120 | -27.60% |
| 069 | D.C. Village | $5,763,810 | $5,757,420 | -$6,390 | -0.11% |
| 073 | Washington Navy Yard | $1,010,991,490 | $1,033,035,500 | $22,044,010 | 2.18% |
| | Totals: | $224,975,350,513 | $237,531,496,470 | $12,556,145,957 | 5.58% |

Real Property Assessment Division
2017 Base Change
RESIDENTIAL (Class 1)

| Neighborhood | Name | Total Base | | | |
|---|---|---|---|---|---|
| | | 2016 | 2017 | Difference | % Change |
| 001 | American University Park | $2,243,700,960 | $2,332,233,600 | $88,532,640 | 3.95% |
| 002 | Anacostia | $476,439,380 | $538,134,300 | $61,694,920 | 12.95% |
| 003 | Barry Farms | $239,444,200 | $262,057,590 | $22,613,390 | 9.44% |
| 004 | Berkley | $1,257,250,710 | $1,287,545,830 | $30,295,120 | 2.41% |
| 005 | Brentwood | $312,788,910 | $365,068,940 | $52,280,030 | 16.71% |
| 006 | Brightwood | $2,089,969,781 | $2,288,589,450 | $198,619,669 | 9.50% |
| 007 | Brookland | $3,027,511,968 | $3,407,452,240 | $379,940,272 | 12.55% |
| 008 | Burleith | $811,338,490 | $832,428,340 | $21,089,850 | 2.60% |
| 009 | Capitol Hill | $3,360,148,080 | $3,538,023,390 | $177,875,310 | 5.29% |
| 010 | Central | $5,416,833,825 | $5,677,043,778 | $260,209,953 | 4.80% |
| 011 | Chevy Chase | $5,202,557,605 | $5,391,625,490 | $189,067,885 | 3.63% |
| 012 | Chillum | $396,168,705 | $420,855,380 | $24,686,675 | 6.23% |
| 013 | Cleveland Park | $2,598,781,647 | $2,639,905,170 | $41,123,523 | 1.58% |
| 014 | Colonial Village | $548,744,240 | $569,453,640 | $20,709,400 | 3.77% |
| 015 | Columbia Heights | $5,833,118,899 | $6,353,310,583 | $520,191,684 | 8.92% |
| 016 | Congress Heights | $1,222,508,778 | $1,371,220,490 | $148,711,712 | 12.16% |
| 017 | Crestwood | $716,385,080 | $744,070,980 | $27,685,900 | 3.86% |
| 018 | Deanwood | $1,356,132,248 | $1,465,772,594 | $109,640,346 | 8.08% |
| 019 | Eckington | $1,324,406,800 | $1,561,964,400 | $237,557,600 | 17.94% |
| 020 | Foggy Bottom | $1,356,467,072 | $1,418,330,680 | $61,863,608 | 4.56% |
| 021 | Forest Hills | $2,884,872,739 | $2,912,904,770 | $28,032,031 | 0.97% |
| 022 | Fort Dupont Park | $801,818,850 | $894,410,870 | $92,592,020 | 11.55% |
| 023 | Foxhall | $302,686,120 | $313,827,680 | $11,141,560 | 3.68% |
| 024 | Garfield | $1,595,000,090 | $1,610,146,140 | $15,146,050 | 0.95% |
| 025 | Georgetown | $5,257,895,728 | $5,500,048,968 | $242,153,240 | 4.61% |
| 026 | Glover Park | $1,367,961,980 | $1,412,489,900 | $44,527,920 | 3.26% |
| 027 | Hawthorne | $276,826,770 | $287,671,930 | $10,845,160 | 3.92% |
| 028 | Hillcrest | $1,041,927,150 | $1,118,607,360 | $76,680,210 | 7.36% |
| 029 | Kalorama | $3,255,634,210 | $3,397,849,040 | $142,214,830 | 4.37% |
| 030 | Kent | $1,253,421,160 | $1,282,010,470 | $28,589,310 | 2.28% |
| 031 | LeDroit Park | $1,061,285,595 | $1,208,351,690 | $147,066,095 | 13.86% |
| 032 | Lily Ponds | $301,793,590 | $343,187,070 | $41,393,480 | 13.72% |
| 033 | Marshall Heights | $364,141,020 | $382,564,630 | $18,423,610 | 5.06% |
| 034 | Massachusetts Av Heights | $651,094,220 | $679,397,260 | $28,303,040 | 4.35% |
| 035 | Michigan Park | $363,505,500 | $391,044,130 | $27,538,630 | 7.58% |
| 036 | Mount Pleasant | $3,332,844,560 | $3,606,764,680 | $273,920,120 | 8.22% |
| 037 | North Cleveland Park | $895,654,066 | $944,814,760 | $49,160,694 | 5.49% |
| 038 | Observatory Circle | $1,480,711,990 | $1,548,302,010 | $67,590,020 | 4.56% |
| 039 | Old City I | $10,037,722,450 | $10,724,088,630 | $686,366,180 | 6.84% |
| 040 | Old City II | $12,965,201,690 | $14,032,863,823 | $1,067,662,133 | 8.23% |
| 041 | Palisades | $1,114,072,350 | $1,158,071,320 | $43,998,970 | 3.95% |
| 042 | Petworth | $2,723,949,997 | $2,972,732,840 | $248,782,843 | 9.13% |
| 043 | Randle Heights | $1,006,819,970 | $1,093,997,090 | $87,177,120 | 8.66% |
| 044 | NoMa | $576,281,020 | $653,119,330 | $76,838,310 | 13.33% |
| 046 | SW Waterfront | $1,747,656,292 | $1,842,345,829 | $94,689,537 | 5.42% |
| 047 | Riggs Park | $859,818,860 | $987,239,350 | $127,420,490 | 14.82% |
| 048 | Shepherd Park | $664,146,010 | $691,829,400 | $27,683,390 | 4.17% |
| 049 | Sixteenth Street Heights | $1,253,399,050 | $1,378,095,940 | $124,696,890 | 9.95% |
| 050 | Spring Valley | $1,508,555,724 | $1,537,360,910 | $28,805,186 | 1.91% |
| 051 | Takoma | $378,906,350 | $385,532,010 | $6,625,660 | 1.75% |
| 052 | Trinidad | $1,083,626,930 | $1,241,652,290 | $158,025,360 | 14.58% |
| 053 | Wakefield | $751,792,110 | $778,624,790 | $26,832,680 | 3.57% |
| 054 | Wesley Heights | $1,638,038,320 | $1,683,961,350 | $45,923,030 | 2.80% |
| 055 | Woodley | $298,145,240 | $303,172,210 | $5,026,970 | 1.69% |
| 056 | Woodridge | $1,052,809,018 | $1,175,994,880 | $123,185,862 | 11.70% |
| 059 | Rail Road Tracks | $0 | $0 | $0 | 0.00% |
| 063 | North Anacostia Park | $0 | $0 | $0 | 0.00% |
| 064 | Anacostia Park | $0 | $0 | $0 | 0.00% |
| 066 | Fort Lincoln | $454,103,350 | $490,220,010 | $36,116,660 | 7.95% |
| 068 | Bolling AFB & Naval Research | $9,787,120 | $10,496,680 | $709,560 | 7.25% |
| 069 | D.C. Village | $0 | $0 | $0 | 0.00% |
| 073 | Washington Navy Yard | $151,192,560 | $152,246,100 | $1,053,540 | 0.70% |
| | Totals: | $106,555,797,127 | $113,593,125,005 | $7,037,327,878 | 6.60% |

Real Property Assessment Division
2017 Base Change
COMMERCIAL (Class 2)

| Neighborhood | Name | Total Base | | | |
|---|---|---|---|---|---|
| | | 2016 | 2017 | Difference | % Change |
| 001 | American University Park | $616,494,153 | $660,239,859 | $43,745,706 | 7.10% |
| 002 | Anacostia | $191,592,837 | $216,090,727 | $24,497,890 | 12.79% |
| 003 | Barry Farms | $31,225,135 | $31,993,585 | $768,450 | 2.46% |
| 004 | Berkley | $16,539,320 | $17,664,560 | $1,125,240 | 6.80% |
| 005 | Brentwood | $740,735,256 | $795,910,744 | $55,175,488 | 7.45% |
| 006 | Brightwood | $171,148,707 | $187,241,662 | $16,092,955 | 9.40% |
| 007 | Brookland | $559,917,040 | $597,761,556 | $37,844,516 | 6.76% |
| 008 | Burleith | $0 | $0 | $0 | 0.00% |
| 009 | Capitol Hill | $621,180,959 | $664,193,163 | $43,012,204 | 6.92% |
| 010 | Central | $52,621,221,945 | $55,023,209,352 | $2,401,987,407 | 4.56% |
| 011 | Chevy Chase | $635,543,760 | $711,446,959 | $75,903,199 | 11.94% |
| 012 | Chillum | $92,738,263 | $95,897,113 | $3,158,850 | 3.41% |
| 013 | Cleveland Park | $594,560,803 | $652,994,026 | $58,433,223 | 9.83% |
| 014 | Colonial Village | $0 | $0 | $0 | 0.00% |
| 015 | Columbia Heights | $849,644,499 | $925,494,874 | $75,850,375 | 8.93% |
| 016 | Congress Heights | $87,370,901 | $86,828,261 | -$542,640 | -0.62% |
| 017 | Crestwood | $776,750 | $803,960 | $27,210 | 3.50% |
| 018 | Deanwood | $219,359,885 | $244,170,070 | $24,810,185 | 11.31% |
| 019 | Eckington | $566,414,389 | $582,100,802 | $15,686,413 | 2.77% |
| 020 | Foggy Bottom | $3,766,826,043 | $3,874,956,376 | $108,130,333 | 2.87% |
| 021 | Forest Hills | $469,633,597 | $483,047,036 | $13,413,439 | 2.86% |
| 022 | Fort Dupont Park | $26,256,720 | $31,804,860 | $5,548,140 | 21.13% |
| 023 | Foxhall | $3,009,370 | $2,926,700 | -$82,670 | -2.75% |
| 024 | Garfield | $257,117,699 | $268,376,938 | $11,259,239 | 4.38% |
| 025 | Georgetown | $3,425,676,337 | $3,626,831,352 | $201,155,015 | 5.87% |
| 026 | Glover Park | $72,263,280 | $79,612,020 | $7,348,740 | 10.17% |
| 027 | Hawthorne | $0 | $0 | $0 | 0.00% |
| 028 | Hillcrest | $79,585,250 | $81,744,762 | $2,159,512 | 2.71% |
| 029 | Kalorama | $783,658,329 | $821,911,278 | $38,252,949 | 4.88% |
| 030 | Kent | $92,696,980 | $98,467,850 | $5,770,870 | 6.23% |
| 031 | LeDroit Park | $21,757,380 | $23,922,570 | $2,165,190 | 9.95% |
| 032 | Lily Ponds | $97,794,706 | $109,272,390 | $11,477,684 | 11.74% |
| 033 | Marshall Heights | $12,424,870 | $12,833,300 | $408,430 | 3.29% |
| 034 | Massachusetts Av Heights | $128,696,184 | $132,056,795 | $3,360,611 | 2.61% |
| 035 | Michigan Park | $6,898,840 | $7,589,660 | $690,820 | 10.01% |
| 036 | Mount Pleasant | $464,366,030 | $495,652,310 | $31,286,280 | 6.74% |
| 037 | North Cleveland Park | $284,982,631 | $299,695,794 | $14,713,163 | 5.16% |
| 038 | Observatory Circle | $454,718,843 | $480,920,910 | $26,202,067 | 5.76% |
| 039 | Old City I | $4,730,057,216 | $4,889,908,629 | $159,851,413 | 3.38% |
| 040 | Old City II | $5,872,337,254 | $6,547,684,302 | $675,347,048 | 11.50% |
| 041 | Palisades | $41,351,430 | $45,769,700 | $4,418,270 | 10.68% |
| 042 | Petworth | $116,657,221 | $130,028,379 | $13,371,158 | 11.46% |
| 043 | Randle Heights | $83,643,095 | $89,437,735 | $5,794,640 | 6.93% |
| 044 | NoMa | $4,396,483,722 | $4,406,940,680 | $10,456,958 | 0.24% |
| 046 | SW Waterfront | $6,596,873,574 | $6,964,143,786 | $367,270,212 | 5.57% |
| 047 | Riggs Park | $121,195,455 | $126,310,525 | $5,115,070 | 4.22% |
| 048 | Shepherd Park | $31,299,240 | $33,308,400 | $2,009,160 | 6.42% |
| 049 | Sixteenth Street Heights | $78,808,750 | $84,409,770 | $5,601,020 | 7.11% |
| 050 | Spring Valley | $89,692,820 | $95,872,430 | $6,179,610 | 6.89% |
| 051 | Takoma | $156,144,130 | $164,450,380 | $8,306,250 | 5.32% |
| 052 | Trinidad | $119,212,562 | $153,932,439 | $34,719,877 | 29.12% |
| 053 | Wakefield | $11,173,320 | $12,133,370 | $960,050 | 8.59% |
| 054 | Wesley Heights | $90,931,320 | $95,408,740 | $4,477,420 | 4.92% |
| 055 | Woodley | $11,250 | $11,250 | $0 | 0.00% |
| 056 | Woodridge | $440,638,568 | $513,937,252 | $73,298,684 | 16.63% |
| 059 | Rail Road Tracks | $1,585,680 | $1,585,680 | $0 | 0.00% |
| 063 | North Anacostia Park | $1,774,380 | $1,844,460 | $70,080 | 3.95% |
| 064 | Anacostia Park | $219,000 | $219,000 | $0 | 0.00% |
| 066 | Fort Lincoln | $70,533,516 | $77,723,550 | $7,190,034 | 10.19% |
| 068 | Bolling AFB & Naval Research | $29,406,030 | $17,880,350 | -$11,525,680 | -39.19% |
| 069 | D.C. Village | $452,600 | $446,210 | -$6,390 | -1.41% |
| 073 | Washington Navy Yard | $859,798,930 | $880,789,400 | $20,990,470 | 2.44% |
| | Totals: | $93,005,108,754 | $97,759,840,591 | $4,754,731,837 | 5.11% |

Real Property Assessment Division
2017 Base Change
EXEMPT

| Neighborhood | Name | Total Base | | | |
|---|---|---|---|---|---|
| | | 2016 | 2017 | Difference | % Change |
| 001 | American University Park | $495,475,933 | $503,209,523 | $7,733,590 | 1.56% |
| 002 | Anacostia | $70,686,140 | $72,648,970 | $1,962,830 | 2.78% |
| 003 | Barry Farms | $142,746,993 | $146,188,913 | $3,441,920 | 2.41% |
| 004 | Berkley | $315,075,810 | $317,626,660 | $2,550,850 | 0.81% |
| 005 | Brentwood | $247,682,360 | $257,486,470 | $9,804,110 | 3.96% |
| 006 | Brightwood | $94,636,850 | $96,393,180 | $1,756,330 | 1.86% |
| 007 | Brookland | $2,442,614,032 | $2,470,877,062 | $28,263,030 | 1.16% |
| 008 | Burleith | $87,256,900 | $88,285,390 | $1,028,490 | 1.18% |
| 009 | Capitol Hill | $211,293,850 | $213,032,830 | $1,738,980 | 0.82% |
| 010 | Central | $4,105,554,681 | $4,232,038,358 | $126,483,677 | 3.08% |
| 011 | Chevy Chase | $460,458,766 | $462,728,416 | $2,269,650 | 0.49% |
| 012 | Chillum | $61,646,661 | $62,700,311 | $1,053,650 | 1.71% |
| 013 | Cleveland Park | $204,861,130 | $206,605,340 | $1,744,210 | 0.85% |
| 014 | Colonial Village | $58,290,810 | $58,319,060 | $28,250 | 0.05% |
| 015 | Columbia Heights | $1,316,991,910 | $1,386,087,790 | $69,095,880 | 5.25% |
| 016 | Congress Heights | $541,455,664 | $548,567,384 | $7,111,720 | 1.31% |
| 017 | Crestwood | $54,316,240 | $54,722,620 | $406,380 | 0.75% |
| 018 | Deanwood | $346,152,850 | $359,351,180 | $13,198,330 | 3.81% |
| 019 | Eckington | $109,017,183 | $113,033,503 | $4,016,320 | 3.68% |
| 020 | Foggy Bottom | $4,280,275,240 | $4,337,174,100 | $56,898,860 | 1.33% |
| 021 | Forest Hills | $597,843,606 | $588,241,616 | -$9,601,990 | -1.61% |
| 022 | Fort Dupont Park | $130,779,620 | $134,903,410 | $4,123,790 | 3.15% |
| 023 | Foxhall | $425,380 | $464,020 | $38,640 | 9.08% |
| 024 | Garfield | $192,788,500 | $196,513,270 | $3,724,770 | 1.93% |
| 025 | Georgetown | $618,900,450 | $650,101,832 | $31,201,382 | 5.04% |
| 026 | Glover Park | $28,675,880 | $28,887,200 | $211,320 | 0.74% |
| 027 | Hawthorne | $812,520 | $846,020 | $33,500 | 4.12% |
| 028 | Hillcrest | $67,303,300 | $68,492,100 | $1,188,800 | 1.77% |
| 029 | Kalorama | $1,097,098,200 | $1,105,571,810 | $8,473,610 | 0.77% |
| 030 | Kent | $88,459,570 | $89,142,710 | $683,140 | 0.77% |
| 031 | LeDroit Park | $454,607,340 | $602,091,230 | $147,483,890 | 32.44% |
| 032 | Lily Ponds | $157,475,700 | $163,555,090 | $6,079,390 | 3.86% |
| 033 | Marshall Heights | $101,434,210 | $104,059,620 | $2,625,410 | 2.59% |
| 034 | Massachusetts Av Heights | $771,362,510 | $777,678,540 | $6,316,030 | 0.82% |
| 035 | Michigan Park | $39,957,760 | $57,102,980 | $17,145,220 | 42.91% |
| 036 | Mount Pleasant | $260,975,495 | $267,599,130 | $6,623,635 | 2.54% |
| 037 | North Cleveland Park | $172,562,180 | $175,088,280 | $2,526,100 | 1.46% |
| 038 | Observatory Circle | $574,771,150 | $578,086,360 | $3,315,210 | 0.58% |
| 039 | Old City I | $581,512,805 | $599,552,265 | $18,039,460 | 3.10% |
| 040 | Old City II | $1,919,241,124 | $2,049,720,372 | $130,479,248 | 6.80% |
| 041 | Palisades | $35,978,380 | $35,954,010 | -$24,370 | -0.07% |
| 042 | Petworth | $109,661,850 | $112,605,550 | $2,943,700 | 2.68% |
| 043 | Randle Heights | $183,606,910 | $190,261,310 | $6,654,400 | 3.62% |
| 044 | NoMa | $160,941,070 | $161,676,740 | $735,670 | 0.46% |
| 046 | SW Waterfront | $208,359,640 | $220,976,240 | $12,616,600 | 6.06% |
| 047 | Riggs Park | $84,788,010 | $86,603,370 | $1,815,360 | 2.14% |
| 048 | Shepherd Park | $44,931,820 | $46,724,040 | $1,792,220 | 3.99% |
| 049 | Sixteenth Street Heights | $147,796,990 | $153,992,360 | $6,195,370 | 4.19% |
| 050 | Spring Valley | $412,369,120 | $412,195,880 | -$173,240 | -0.04% |
| 051 | Takoma | $34,654,350 | $34,850,100 | $195,750 | 0.56% |
| 052 | Trinidad | $56,937,320 | $62,711,610 | $5,774,290 | 10.14% |
| 053 | Wakefield | $8,285,760 | $8,352,440 | $66,680 | 0.80% |
| 054 | Wesley Heights | $81,975,339 | $82,059,529 | $84,190 | 0.10% |
| 055 | Woodley | $106,483,080 | $106,518,020 | $34,940 | 0.03% |
| 056 | Woodridge | $219,539,090 | $223,248,590 | $3,709,500 | 1.69% |
| 059 | Rail Road Tracks | $941,710 | $941,710 | $0 | 0.00% |
| 063 | North Anacostia Park | $1,594,160 | $1,594,160 | $0 | 0.00% |
| 064 | Anacostia Park | $0 | $0 | $0 | 0.00% |
| 066 | Fort Lincoln | $6,811,520 | $7,179,090 | $367,570 | 5.40% |
| 068 | Bolling AFB & Naval Research | $0 | $0 | $0 | 0.00% |
| 069 | D.C. Village | $5,311,210 | $5,311,210 | $0 | 0.00% |
| 073 | Washington Navy Yard | $0 | $0 | $0 | 0.00% |
| | Totals: | $25,414,444,632 | $26,178,530,874 | $764,086,242 | 3.01% |

Real Property Assessment Division
2017 Base Change
RESIDENTIAL/COMMERCIAL (Classes 1 and 2)

| Neighborhood | Name | Total Base | | | |
|---|---|---|---|---|---|
| | | 2016 | 2017 | Difference | % Change |
| 001 | American University Park | $2,860,195,113 | $2,992,473,459 | $132,278,346 | 4.62% |
| 002 | Anacostia | $668,032,217 | $754,225,027 | $86,192,810 | 12.90% |
| 003 | Barry Farms | $270,669,335 | $294,051,175 | $23,381,840 | 8.64% |
| 004 | Berkley | $1,273,790,030 | $1,305,210,390 | $31,420,360 | 2.47% |
| 005 | Brentwood | $1,053,524,166 | $1,160,979,684 | $107,455,518 | 10.20% |
| 006 | Brightwood | $2,261,118,488 | $2,475,831,112 | $214,712,624 | 9.50% |
| 007 | Brookland | $3,587,429,008 | $4,005,213,796 | $417,784,788 | 11.65% |
| 008 | Burleith | $811,338,490 | $832,428,340 | $21,089,850 | 2.60% |
| 009 | Capitol Hill | $3,981,329,039 | $4,202,216,553 | $220,887,514 | 5.55% |
| 010 | Central | $58,038,055,770 | $60,700,253,130 | $2,662,197,360 | 4.59% |
| 011 | Chevy Chase | $5,838,101,365 | $6,103,072,449 | $264,971,084 | 4.54% |
| 012 | Chillum | $488,906,968 | $516,752,493 | $27,845,525 | 5.70% |
| 013 | Cleveland Park | $3,193,342,450 | $3,292,899,196 | $99,556,746 | 3.12% |
| 014 | Colonial Village | $548,744,240 | $569,453,640 | $20,709,400 | 3.77% |
| 015 | Columbia Heights | $6,682,763,398 | $7,278,805,457 | $596,042,059 | 8.92% |
| 016 | Congress Heights | $1,309,879,679 | $1,458,048,751 | $148,169,072 | 11.31% |
| 017 | Crestwood | $717,161,830 | $744,874,940 | $27,713,110 | 3.86% |
| 018 | Deanwood | $1,575,492,133 | $1,709,942,664 | $134,450,531 | 8.53% |
| 019 | Eckington | $1,890,821,189 | $2,144,065,202 | $253,244,013 | 13.39% |
| 020 | Foggy Bottom | $5,123,293,115 | $5,293,287,056 | $169,993,941 | 3.32% |
| 021 | Forest Hills | $3,354,506,336 | $3,395,951,806 | $41,445,470 | 1.24% |
| 022 | Fort Dupont Park | $828,075,570 | $926,215,730 | $98,140,160 | 11.85% |
| 023 | Foxhall | $305,695,490 | $316,754,380 | $11,058,890 | 3.62% |
| 024 | Garfield | $1,852,117,789 | $1,878,523,078 | $26,405,289 | 1.43% |
| 025 | Georgetown | $8,683,572,065 | $9,126,880,320 | $443,308,255 | 5.11% |
| 026 | Glover Park | $1,440,225,260 | $1,492,101,920 | $51,876,660 | 3.60% |
| 027 | Hawthorne | $276,826,770 | $287,671,930 | $10,845,160 | 3.92% |
| 028 | Hillcrest | $1,121,512,400 | $1,200,352,122 | $78,839,722 | 7.03% |
| 029 | Kalorama | $4,039,292,539 | $4,219,760,318 | $180,467,779 | 4.47% |
| 030 | Kent | $1,346,118,140 | $1,380,478,320 | $34,360,180 | 2.55% |
| 031 | LeDroit Park | $1,083,042,975 | $1,232,274,260 | $149,231,285 | 13.78% |
| 032 | Lily Ponds | $399,588,296 | $452,459,460 | $52,871,164 | 13.23% |
| 033 | Marshall Heights | $376,565,890 | $395,397,930 | $18,832,040 | 5.00% |
| 034 | Massachusetts Av Heights | $779,790,404 | $811,454,055 | $31,663,651 | 4.06% |
| 035 | Michigan Park | $370,404,340 | $398,633,790 | $28,229,450 | 7.62% |
| 036 | Mount Pleasant | $3,797,210,590 | $4,102,416,990 | $305,206,400 | 8.04% |
| 037 | North Cleveland Park | $1,180,636,697 | $1,244,510,554 | $63,873,857 | 5.41% |
| 038 | Observatory Circle | $1,935,430,833 | $2,029,222,920 | $93,792,087 | 4.85% |
| 039 | Old City I | $14,767,779,666 | $15,613,997,259 | $846,217,593 | 5.73% |
| 040 | Old City II | $18,837,538,944 | $20,580,548,125 | $1,743,009,181 | 9.25% |
| 041 | Palisades | $1,155,423,780 | $1,203,841,020 | $48,417,240 | 4.19% |
| 042 | Petworth | $2,840,607,218 | $3,102,761,219 | $262,154,001 | 9.23% |
| 043 | Randle Heights | $1,090,463,065 | $1,183,434,825 | $92,971,760 | 8.53% |
| 044 | NoMa | $4,972,764,742 | $5,060,060,010 | $87,295,268 | 1.76% |
| 046 | SW Waterfront | $8,344,529,866 | $8,806,489,615 | $461,959,749 | 5.54% |
| 047 | Riggs Park | $981,014,315 | $1,113,549,875 | $132,535,560 | 13.51% |
| 048 | Shepherd Park | $695,445,250 | $725,137,800 | $29,692,550 | 4.27% |
| 049 | Sixteenth Street Heights | $1,332,207,800 | $1,462,505,710 | $130,297,910 | 9.78% |
| 050 | Spring Valley | $1,598,248,544 | $1,633,233,340 | $34,984,796 | 2.19% |
| 051 | Takoma | $535,050,480 | $549,982,390 | $14,931,910 | 2.79% |
| 052 | Trinidad | $1,202,839,492 | $1,395,584,729 | $192,745,237 | 16.02% |
| 053 | Wakefield | $762,965,430 | $790,758,160 | $27,792,730 | 3.64% |
| 054 | Wesley Heights | $1,728,969,640 | $1,779,370,090 | $50,400,450 | 2.92% |
| 055 | Woodley | $298,156,490 | $303,183,460 | $5,026,970 | 1.69% |
| 056 | Woodridge | $1,493,447,586 | $1,689,932,132 | $196,484,546 | 13.16% |
| 059 | Rail Road Tracks | $1,585,680 | $1,585,680 | $0 | 0.00% |
| 063 | North Anacostia Park | $1,774,380 | $1,844,460 | $70,080 | 3.95% |
| 064 | Anacostia Park | $219,000 | $219,000 | $0 | 0.00% |
| 066 | Fort Lincoln | $524,636,866 | $567,943,560 | $43,306,694 | 8.25% |
| 068 | Bolling AFB & Naval Research | $39,193,150 | $28,377,030 | -$10,816,120 | -27.60% |
| 069 | D.C. Village | $452,600 | $446,210 | -$6,390 | -1.41% |
| 073 | Washington Navy Yard | $1,010,991,490 | $1,033,035,500 | $22,044,010 | 2.18% |
| | Totals: | $199,560,905,881 | $211,352,965,596 | $11,792,059,715 | 5.91% |

Parcel Count per Neighborhood - 2017

| NBHD | NAME | Residential | Commercial | Exempt | Total |
|---|---|---|---|---|---|
| 001 | AMERICAN UNIV. PARK | 2,688 | 93 | 34 | 2,815 |
| 002 | ANACOSTIA | 2,075 | 178 | 81 | 2,334 |
| 003 | BARRY FARMS | 889 | 44 | 92 | 1,025 |
| 004 | BERKLEY | 816 | 7 | 43 | 866 |
| 005 | BRENTWOOD | 930 | 343 | 140 | 1,413 |
| 006 | BRIGHTWOOD | 4,352 | 142 | 110 | 4,604 |
| 007 | BROOKLAND | 7,278 | 298 | 400 | 7,976 |
| 008 | BURLEITH | 855 | | 5 | 860 |
| 009 | CAPITOL HILL | 4,125 | 334 | 69 | 4,528 |
| 010 | CENTRAL | 6,927 | 1,262 | 182 | 8,371 |
| 011 | CHEVY CHASE | 5,771 | 146 | 60 | 5,977 |
| 012 | CHILLUM | 1,027 | 64 | 73 | 1,164 |
| 013 | CLEVELAND PARK | 3,226 | 55 | 43 | 3,324 |
| 014 | COLONIAL VILLAGE | 644 | | 20 | 664 |
| 015 | COLUMBIA HEIGHTS | 10,570 | 538 | 395 | 11,503 |
| 016 | CONGRESS HEIGHTS | 5,422 | 163 | 259 | 5,844 |
| 017 | CRESTWOOD | 820 | 1 | 25 | 846 |
| 018 | DEANWOOD | 6,866 | 290 | 558 | 7,714 |
| 019 | ECKINGTON | 2,364 | 141 | 51 | 2,556 |
| 020 | FOGGY BOTTOM | 2,176 | 147 | 119 | 2,442 |
| 021 | FOREST HILLS | 3,335 | 54 | 55 | 3,444 |
| 022 | FORT DUPONT PARK | 3,579 | 53 | 147 | 3,779 |
| 023 | FOXHALL | 370 | 1 | 1 | 372 |
| 024 | GARFIELD | 1,375 | 54 | 225 | 1,654 |
| 025 | GEORGETOWN | 4,644 | 618 | 175 | 5,437 |
| 026 | GLOVER PARK | 2,601 | 58 | 29 | 2,688 |
| 027 | HAWTHORNE | 313 | | 1 | 314 |
| 028 | HILLCREST | 4,470 | 94 | 89 | 4,653 |
| 029 | KALORAMA | 3,727 | 129 | 220 | 4,076 |
| 030 | KENT | 901 | 30 | 22 | 953 |
| 031 | LEDROIT PARK | 1,879 | 33 | 45 | 1,957 |
| 032 | LILY PONDS | 1,597 | 54 | 90 | 1,741 |
| 033 | MARSHALL HEIGHTS | 1,903 | 18 | 187 | 2,108 |
| 034 | MASS. AVE. HEIGHTS | 193 | 2 | 54 | 249 |
| 035 | MICHIGAN PARK | 938 | 12 | 11 | 961 |
| 036 | MOUNT PLEASANT | 4,593 | 225 | 116 | 4,934 |
| 037 | N. CLEVELAND PARK | 881 | 42 | 9 | 932 |
| 038 | OBSERVATORY CIRCLE | 1,754 | 40 | 78 | 1,872 |
| 039 | OLD CITY I | 16,496 | 941 | 198 | 17,635 |
| 040 | OLD CITY II | 20,389 | 1,210 | 356 | 21,955 |
| 041 | PALISADES | 1,412 | 54 | 23 | 1,489 |
| 042 | PETWORTH | 6,522 | 258 | 80 | 6,860 |
| 043 | RANDLE HEIGHTS | 3,917 | 70 | 241 | 4,228 |
| 044 | NOMA | 493 | 177 | 21 | 691 |
| 046 | SW WATERFRONT | 3,670 | 126 | 67 | 3,863 |
| 047 | RIGGS PARK | 2,808 | 21 | 47 | 2,876 |
| 048 | SHEPHERD PARK | 1,001 | 34 | 15 | 1,050 |
| 049 | 16TH ST. HEIGHTS | 2,300 | 120 | 86 | 2,506 |
| 050 | SPRING VALLEY | 937 | 10 | 37 | 984 |
| 051 | TAKOMA | 910 | 55 | 82 | 1,047 |
| 052 | TRINIDAD | 3,137 | 115 | 66 | 3,318 |
| 053 | WAKEFIELD | 971 | 15 | 4 | 990 |
| 054 | WESLEY HEIGHTS | 3,031 | 4 | 21 | 3,056 |
| 055 | WOODLEY | 209 | 1 | 3 | 213 |
| 056 | WOODRIDGE | 3,056 | 395 | 82 | 3,533 |
| 059 | RAIL ROAD TRACKS | | 3 | 4 | 7 |
| 060 | N. ROCK CREEK PARK | | | | |
| 061 | NATL. ZOO | | | | |
| 062 | S. ROCK CREEK PARK | | | | |
| 063 | N. ANACOSTIA PARK | | 4 | 10 | 14 |
| 064 | S. ANACOSTIA PARK | | 1 | | 1 |
| 065 | NATIONAL ARBORETUM | | | | |
| 066 | FORT LINCOLN | 1,231 | 6 | 21 | 1,258 |
| 067 | ST. ELIZABETHS HOSPITAL | | | | |
| 068 | BOLLING AFB & NAVAL RES | 9 | 20 | | 29 |
| 069 | D.C. VILLAGE | | 1 | 1 | 2 |
| 070 | FORT DRIVE | | | | |
| 071 | GLOVER-ARCHBOLD PWY | | | | |
| 072 | MALL | | | | |
| 073 | WASHINGTON NAVY YARD | 15 | 14 | | 29 |
| | TOTALS: | 181,388 | 9,418 | 5,778 | 196,584 |

*DC and US (5,337) not included in Base Report Statistics
**PI accounts (308) not included in Base Report Statistics

# Preliminary 2017 Performance Report

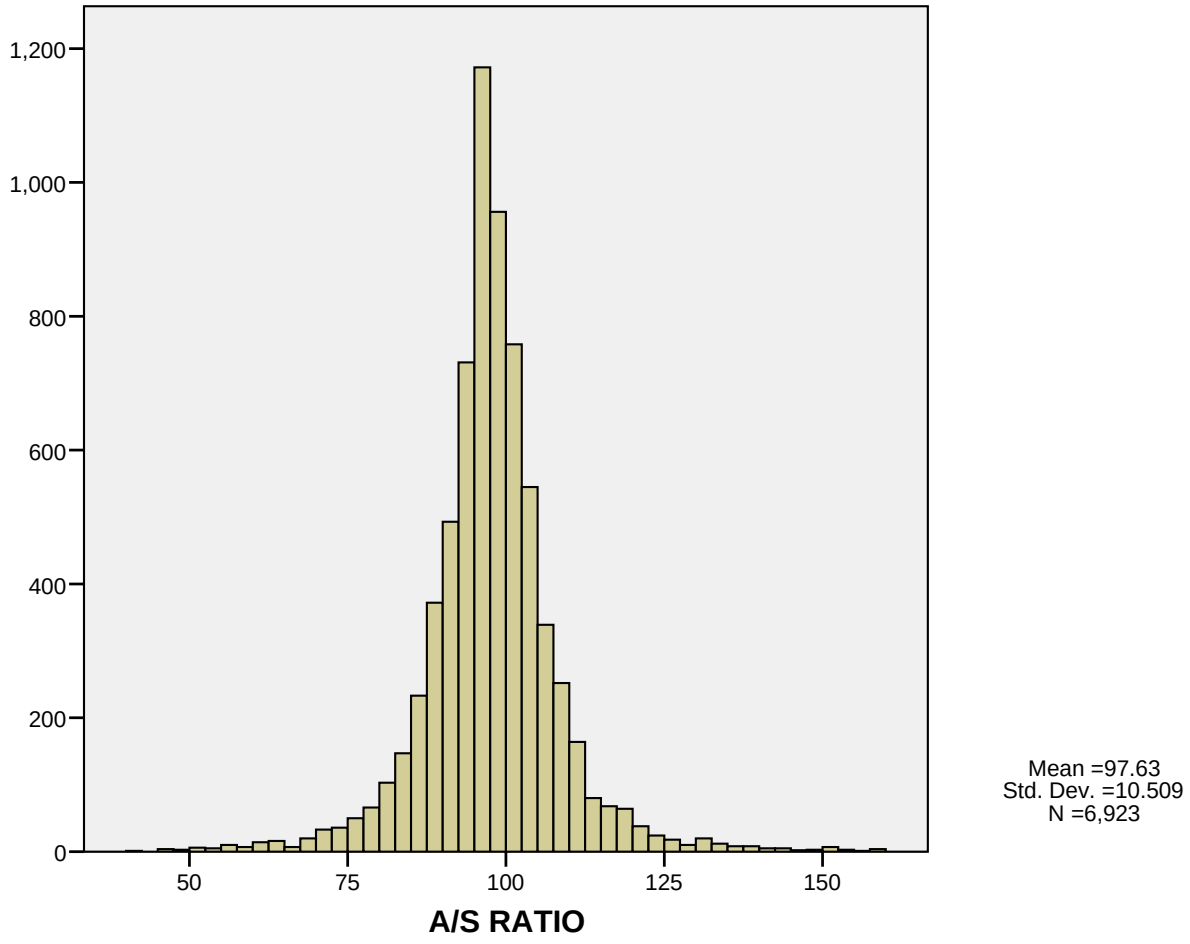
2015 SALES RATIOS CITY-WIDE

| PROPERTY TYPE | SALES | AVE PRICE | MED PRICE | MEDIAN | MEAN | WEIGHTED | COD | < 105 | > 105 | PRD |
|---|---|---|---|---|---|---|---|---|---|---|
| All | 7,177 | 1,076,985 | 555,000 | 97.2 | 97.4 | 95.0 | 7.5 | 6,014 | 1,163 | 1.02 |

2015 SALES RATIOS BY PROPERTY TYPE: CITY-WIDE

| PROPERTY TYPE | SALES | AVE PRICE | MED PRICE | MEDIAN | MEAN | WEIGHTED | COD | < 105 | > 105 | PRD |
|---|---|---|---|---|---|---|---|---|---|---|
| Residential | 6,923 | 664,641 | 545,000 | 97.3 | 97.6 | 97.1 | 7.3 | 5,789 | 1,134 | 1.01 |
| Commercial | 254 | 12,315,797 | 1,525,000 | 94.2 | 90.6 | 92.0 | 12.8 | 225 | 29 | .98 |

## CITY-WIDE RESIDENTIAL SALES RATIOS



# Sales Ratio Report Using Current 2016 Values

2015 SALES RATIOS BY NEIGHBORHOOD: SINGLE-FAMILY

| NB | NAME | SALES | AVE PRICE | MED PRICE | MEDIAN | MEAN | WEIGHTED | COD | < 105 | > 105 | PRD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | AMERICAN UNIVERSITY | 92 | 1,040,326 | 987,250 | 88.1 | 88.7 | 87.7 | 11.0 | 83 | 9 | 1.01 |
| 2 | ANACOSTIA | 33 | 329,419 | 310,000 | 81.1 | 78.6 | 78.7 | 15.1 | 33 | 0 | 1.00 |
| 3 | BARRY FARMS | 8 | 275,531 | 292,000 | 79.8 | 79.8 | 79.4 | 14.4 | 8 | 0 | 1.00 |
| 4 | BERKELEY | 29 | 2,120,747 | 1,820,000 | 95.1 | 95.7 | 95.0 | 9.5 | 22 | 7 | 1.01 |
| 5 | BRENTWOOD | 19 | 429,142 | 435,000 | 77.5 | 73.9 | 73.1 | 12.4 | 19 | 0 | 1.01 |
| 6 | BRIGHTWOOD | 141 | 550,816 | 524,000 | 87.0 | 86.0 | 85.3 | 11.3 | 136 | 5 | 1.01 |
| 7 | BROOKLAND | 177 | 599,985 | 585,000 | 89.3 | 88.0 | 87.7 | 12.1 | 165 | 12 | 1.00 |
| 8 | BURLEITH | 41 | 1,225,928 | 1,195,000 | 94.5 | 95.0 | 95.4 | 8.0 | 36 | 5 | 1.00 |
| 9 | CAPITOL HILL | 140 | 1,036,520 | 949,850 | 90.9 | 91.1 | 89.6 | 9.9 | 128 | 12 | 1.02 |
| 10 | CENTRAL | 6 | 1,494,833 | 1,580,000 | 94.1 | 92.9 | 92.6 | 5.1 | 6 | 0 | 1.00 |
| 11 | CHEVY CHASE | 170 | 1,083,285 | 1,000,440 | 91.5 | 90.3 | 90.0 | 9.0 | 162 | 8 | 1.00 |
| 12 | CHILLUM | 23 | 499,550 | 510,000 | 94.8 | 92.5 | 92.6 | 10.2 | 22 | 1 | 1.00 |
| 13 | CLEVELAND PARK | 52 | 1,761,549 | 1,485,000 | 92.8 | 92.6 | 88.6 | 12.0 | 41 | 11 | 1.05 |
| 14 | COLONIAL VILLAGE | 17 | 937,900 | 835,000 | 93.1 | 93.9 | 94.1 | 10.1 | 15 | 2 | 1.00 |
| 15 | COLUMBIA HEIGHTS | 170 | 728,542 | 705,000 | 85.0 | 83.9 | 83.6 | 11.8 | 161 | 9 | 1.00 |
| 16 | CONGRESS HEIGHTS | 98 | 301,809 | 280,753 | 77.9 | 81.0 | 80.5 | 14.8 | 93 | 5 | 1.01 |
| 17 | CRESTWOOD | 27 | 1,037,059 | 950,000 | 93.3 | 92.0 | 92.4 | 8.2 | 25 | 2 | 1.00 |
| 18 | DEANWOOD | 147 | 264,607 | 264,900 | 87.0 | 87.4 | 84.7 | 20.2 | 116 | 31 | 1.03 |
| 19 | ECKINGTON | 67 | 723,975 | 725,000 | 81.5 | 82.7 | 82.2 | 8.9 | 64 | 3 | 1.01 |
| 20 | FOGGY BOTTOM | 12 | 888,263 | 730,000 | 103.2 | 98.4 | 95.4 | 9.2 | 8 | 4 | 1.03 |
| 21 | FOREST HILLS | 15 | 3,069,900 | 1,710,000 | 95.8 | 93.9 | 77.1 | 10.8 | 11 | 4 | 1.22 |
| 22 | FORT DUPONT PARK | 88 | 275,732 | 271,450 | 79.3 | 81.4 | 80.3 | 16.4 | 77 | 11 | 1.01 |
| 23 | FOXHALL | 17 | 930,794 | 862,500 | 88.7 | 90.3 | 89.4 | 9.1 | 15 | 2 | 1.01 |
| 24 | GARFIELD | 13 | 1,197,077 | 1,195,000 | 93.0 | 89.3 | 88.2 | 14.3 | 11 | 2 | 1.01 |
| 25 | GEORGETOWN | 119 | 1,750,028 | 1,535,000 | 86.6 | 88.4 | 86.9 | 12.7 | 104 | 15 | 1.02 |
| 26 | GLOVER PARK | 41 | 922,501 | 872,000 | 88.7 | 87.4 | 85.4 | 8.4 | 40 | 1 | 1.02 |
| 27 | HAWTHORNE | 6 | 879,470 | 846,250 | 91.2 | 93.8 | 92.9 | 6.5 | 5 | 1 | 1.01 |
| 28 | HILLCREST | 52 | 367,610 | 349,500 | 87.5 | 85.9 | 85.3 | 15.4 | 46 | 6 | 1.01 |
| 29 | KALORAMA | 26 | 2,313,385 | 2,100,000 | 85.4 | 86.2 | 88.0 | 11.8 | 24 | 2 | .98 |
| 30 | KENT | 36 | 1,438,686 | 1,267,500 | 92.8 | 92.9 | 92.8 | 11.4 | 31 | 5 | 1.00 |
| 31 | LEDROIT PARK | 44 | 859,604 | 806,000 | 82.3 | 81.9 | 80.8 | 9.1 | 44 | 0 | 1.01 |
| 32 | LILY PONDS | 73 | 266,308 | 274,900 | 87.2 | 84.5 | 83.2 | 11.6 | 69 | 4 | 1.02 |
| 33 | MARSHALL HEIGHTS | 37 | 264,136 | 250,500 | 90.8 | 89.0 | 87.6 | 14.8 | 34 | 3 | 1.02 |
| 34 | MASS. AVE. HEIGHTS | 4 | 5,062,500 | 3,000,000 | 96.2 | 95.3 | 91.0 | 5.1 | 4 | 0 | 1.05 |
| 35 | MICHIGAN PARK | 31 | 485,291 | 480,000 | 88.3 | 88.8 | 88.7 | 9.0 | 29 | 2 | 1.00 |
| 36 | MOUNT PLEASANT | 62 | 987,635 | 962,278 | 81.6 | 82.7 | 82.1 | 8.7 | 62 | 0 | 1.01 |
| 37 | N. CLEVELAND PARK | 27 | 1,143,552 | 1,036,000 | 89.9 | 87.5 | 87.9 | 9.9 | 26 | 1 | 1.00 |
| 38 | OBSERVATORY CIRCLE | 12 | 1,478,500 | 1,230,000 | 88.4 | 86.9 | 86.5 | 14.6 | 10 | 2 | 1.00 |
| 39 | OLD CITY #1 | 561 | 743,678 | 711,000 | 88.9 | 88.7 | 88.0 | 9.6 | 527 | 34 | 1.01 |
| 40 | OLD CITY #2 | 196 | 1,061,591 | 899,000 | 86.7 | 85.3 | 84.1 | 12.4 | 187 | 9 | 1.01 |
| 41 | PALISADES | 30 | 1,285,267 | 1,211,000 | 89.7 | 91.6 | 93.2 | 10.1 | 26 | 4 | .98 |
| 42 | PETWORTH | 222 | 575,369 | 574,500 | 89.3 | 88.9 | 88.0 | 11.5 | 204 | 18 | 1.01 |
| 43 | RANDLE HEIGHTS | 48 | 282,421 | 269,950 | 88.1 | 87.4 | 85.6 | 12.8 | 45 | 3 | 1.02 |
| 46 | SW WATERFRONT | 14 | 846,471 | 889,950 | 92.4 | 88.2 | 86.6 | 12.0 | 13 | 1 | 1.02 |
| 47 | RIGGS PARK | 90 | 403,735 | 385,000 | 83.9 | 83.0 | 83.1 | 10.1 | 89 | 1 | 1.00 |
| 48 | SHEPHERD PARK | 28 | 772,554 | 764,000 | 86.3 | 87.7 | 87.2 | 11.0 | 26 | 2 | 1.01 |
| 49 | 16TH STREET HEIGHTS | 66 | 755,506 | 738,950 | 85.6 | 86.4 | 84.4 | 14.4 | 63 | 3 | 1.02 |
| 50 | SPRING VALLEY | 33 | 1,612,470 | 1,407,000 | 93.4 | 93.4 | 93.0 | 9.3 | 27 | 6 | 1.00 |
| 51 | TAKOMA PARK | 60 | 517,839 | 523,000 | 95.4 | 92.7 | 93.4 | 8.4 | 56 | 4 | .99 |
| 52 | TRINIDAD | 152 | 486,378 | 480,000 | 84.7 | 84.5 | 83.2 | 12.6 | 143 | 9 | 1.02 |
| 53 | WAKEFIELD | 13 | 1,179,615 | 1,195,000 | 91.5 | 92.7 | 93.3 | 6.1 | 12 | 1 | .99 |
| 54 | WESLEY HEIGHTS | 32 | 1,206,609 | 920,000 | 92.0 | 91.6 | 90.8 | 7.3 | 30 | 2 | 1.01 |
| 55 | WOODLEY | 11 | 1,658,545 | 1,450,000 | 95.1 | 96.0 | 97.1 | 11.6 | 9 | 2 | .99 |
| 56 | WOODRIDGE | 76 | 553,010 | 559,500 | 86.7 | 84.1 | 83.5 | 10.7 | 75 | 1 | 1.01 |
| 66 | FORT LINCOLN | 82 | 537,195 | 527,800 | 92.7 | 92.4 | 92.2 | 4.0 | 82 | 0 | 1.00 |

TOTALS:

| PROPERTY TYPE | SALES | AVE PRICE | MED PRICE | MEDIAN | MEAN | WEIGHTED | COD | < 105 | > 105 | PRD |
|---|---|---|---|---|---|---|---|---|---|---|
| Single-Family | 3,886 | 794,366 | 685,000 | 88.1 | 87.5 | 87.4 | 11.8 | 3,599 | 287 | 1.00 |

# Sales Ratio Report Using Proposed 2017 Values

2015 SALES RATIOS BY NEIGHBORHOOD: SINGLE-FAMILY

| NB | NAME | SALES | AVE PRICE | MED PRICE | MEDIAN | MEAN | WEIGHTED | COD | < 105 | > 105 | PRD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | AMERICAN UNIVERSITY | 92 | 1,040,326 | 987,250 | 97.8 | 98.8 | 98.5 | 5.7 | 77 | 15 | 1.00 |
| 2 | ANACOSTIA | 33 | 329,419 | 310,000 | 97.8 | 91.9 | 91.5 | 11.4 | 29 | 4 | 1.00 |
| 3 | BARRY FARMS | 8 | 275,531 | 292,000 | 94.5 | 92.9 | 91.8 | 10.6 | 7 | 1 | 1.01 |
| 4 | BERKELEY | 29 | 2,120,747 | 1,820,000 | 99.4 | 100 | 99.0 | 6.4 | 22 | 7 | 1.01 |
| 5 | BRENTWOOD | 19 | 429,142 | 435,000 | 94.4 | 93.3 | 92.8 | 4.9 | 19 | 0 | 1.01 |
| 6 | BRIGHTWOOD | 141 | 550,816 | 524,000 | 97.1 | 96.4 | 95.4 | 8.8 | 114 | 27 | 1.01 |
| 7 | BROOKLAND | 177 | 599,985 | 585,000 | 98.7 | 98.2 | 97.6 | 8.8 | 134 | 43 | 1.01 |
| 8 | BURLEITH | 41 | 1,225,928 | 1,195,000 | 99.0 | 100 | 99.6 | 5.6 | 34 | 7 | 1.00 |
| 9 | CAPITOL HILL | 140 | 1,036,520 | 949,850 | 99.0 | 99.0 | 97.8 | 7.9 | 101 | 39 | 1.01 |
| 10 | CENTRAL | 6 | 1,494,833 | 1,580,000 | 98.9 | 98.9 | 98.7 | 1.8 | 6 | 0 | 1.00 |
| 11 | CHEVY CHASE | 170 | 1,083,285 | 1,000,440 | 98.9 | 98.7 | 98.4 | 4.2 | 151 | 19 | 1.00 |
| 12 | CHILLUM | 23 | 499,550 | 510,000 | 101.6 | 100 | 99.8 | 7.8 | 18 | 5 | 1.00 |
| 13 | CLEVELAND PARK | 52 | 1,761,549 | 1,485,000 | 98.4 | 98.0 | 96.5 | 5.6 | 46 | 6 | 1.02 |
| 14 | COLONIAL VILLAGE | 17 | 937,900 | 835,000 | 98.1 | 99.5 | 99.7 | 6.6 | 14 | 3 | 1.00 |
| 15 | COLUMBIA HEIGHTS | 170 | 728,542 | 705,000 | 97.1 | 97.1 | 96.3 | 7.7 | 143 | 27 | 1.01 |
| 16 | CONGRESS HEIGHTS | 98 | 301,809 | 280,753 | 96.7 | 95.8 | 95.5 | 12.3 | 74 | 24 | 1.00 |
| 17 | CRESTWOOD | 27 | 1,037,059 | 950,000 | 99.3 | 99.0 | 99.0 | 5.3 | 23 | 4 | 1.00 |
| 18 | DEANWOOD | 147 | 264,607 | 264,900 | 97.3 | 98.7 | 96.2 | 13.4 | 106 | 41 | 1.03 |
| 19 | ECKINGTON | 67 | 723,975 | 725,000 | 95.0 | 95.1 | 94.8 | 3.7 | 67 | 0 | 1.00 |
| 20 | FOGGY BOTTOM | 12 | 888,263 | 730,000 | 99.5 | 98.1 | 96.8 | 3.4 | 11 | 1 | 1.01 |
| 21 | FOREST HILLS | 15 | 3,069,900 | 1,710,000 | 99.6 | 99.0 | 96.3 | 4.9 | 13 | 2 | 1.03 |
| 22 | FORT DUPONT PARK | 88 | 275,732 | 271,450 | 96.0 | 100 | 99.8 | 12.7 | 64 | 24 | 1.01 |
| 23 | FOXHALL | 17 | 930,794 | 862,500 | 98.6 | 98.9 | 98.5 | 3.9 | 15 | 2 | 1.00 |
| 24 | GARFIELD | 13 | 1,197,077 | 1,195,000 | 98.0 | 95.5 | 95.3 | 4.6 | 13 | 0 | 1.00 |
| 25 | GEORGETOWN | 119 | 1,750,028 | 1,535,000 | 97.6 | 97.0 | 96.4 | 4.7 | 111 | 8 | 1.01 |
| 26 | GLOVER PARK | 41 | 922,501 | 872,000 | 98.2 | 97.4 | 95.3 | 3.5 | 40 | 1 | 1.02 |
| 27 | HAWTHORNE | 6 | 879,470 | 846,250 | 98.6 | 100 | 100.1 | 3.0 | 5 | 1 | 1.00 |
| 28 | HILLCREST | 52 | 367,610 | 349,500 | 99.0 | 99.0 | 98.6 | 9.6 | 38 | 14 | 1.00 |
| 29 | KALORAMA | 26 | 2,313,385 | 2,100,000 | 97.8 | 97.9 | 98.5 | 3.9 | 24 | 2 | .99 |
| 30 | KENT | 36 | 1,438,686 | 1,267,500 | 98.2 | 98.0 | 97.5 | 6.4 | 29 | 7 | 1.00 |
| 31 | LEDROIT PARK | 44 | 859,604 | 806,000 | 96.8 | 95.4 | 94.7 | 4.0 | 44 | 0 | 1.01 |
| 32 | LILY PONDS | 73 | 266,308 | 274,900 | 97.6 | 97.5 | 96.5 | 6.9 | 64 | 9 | 1.01 |
| 33 | MARSHALL HEIGHTS | 37 | 264,136 | 250,500 | 97.3 | 96.9 | 95.8 | 9.6 | 29 | 8 | 1.01 |
| 34 | MASS. AVE. HEIGHTS | 4 | 5,062,500 | 3,000,000 | 99.0 | 101 | 99.0 | 2.8 | 3 | 1 | 1.02 |
| 35 | MICHIGAN PARK | 31 | 485,291 | 480,000 | 96.4 | 97.1 | 97.0 | 6.7 | 25 | 6 | 1.00 |
| 36 | MOUNT PLEASANT | 62 | 987,635 | 962,278 | 99.4 | 100 | 99.7 | 6.0 | 48 | 14 | 1.00 |
| 37 | N. CLEVELAND PARK | 27 | 1,143,552 | 1,036,000 | 99.0 | 100 | 100.4 | 4.2 | 23 | 4 | 1.00 |
| 38 | OBSERVATORY CIRCLE | 12 | 1,478,500 | 1,230,000 | 97.8 | 93.9 | 91.3 | 6.2 | 12 | 0 | 1.03 |
| 39 | OLD CITY #1 | 561 | 743,678 | 711,000 | 97.9 | 98.0 | 97.2 | 6.8 | 465 | 96 | 1.01 |
| 40 | OLD CITY #2 | 196 | 1,061,591 | 899,000 | 97.0 | 96.1 | 95.0 | 9.8 | 153 | 43 | 1.01 |
| 41 | PALISADES | 30 | 1,285,267 | 1,211,000 | 98.9 | 99.8 | 100.7 | 6.3 | 26 | 4 | .99 |
| 42 | PETWORTH | 222 | 575,369 | 574,500 | 97.7 | 97.6 | 96.5 | 9.6 | 169 | 53 | 1.01 |
| 43 | RANDLE HEIGHTS | 48 | 282,421 | 269,950 | 98.7 | 100 | 99.2 | 8.7 | 34 | 14 | 1.01 |
| 46 | SW WATERFRONT | 14 | 846,471 | 889,950 | 98.8 | 99.0 | 97.9 | 7.4 | 11 | 3 | 1.01 |
| 47 | RIGGS PARK | 90 | 403,735 | 385,000 | 96.1 | 95.6 | 95.5 | 8.4 | 76 | 14 | 1.00 |
| 48 | SHEPHERD PARK | 28 | 772,554 | 764,000 | 99.7 | 97.9 | 97.8 | 5.9 | 24 | 4 | 1.00 |
| 49 | 16TH STREET HEIGHTS | 66 | 755,506 | 738,950 | 96.6 | 97.5 | 97.4 | 8.8 | 49 | 17 | 1.00 |
| 50 | SPRING VALLEY | 33 | 1,612,470 | 1,407,000 | 99.2 | 99.1 | 99.0 | 5.0 | 29 | 4 | 1.00 |
| 51 | TAKOMA PARK | 60 | 517,839 | 523,000 | 99.4 | 97.8 | 97.5 | 7.4 | 51 | 9 | 1.00 |
| 52 | TRINIDAD | 152 | 486,378 | 480,000 | 94.8 | 95.8 | 94.1 | 11.8 | 114 | 38 | 1.02 |
| 53 | WAKEFIELD | 13 | 1,179,615 | 1,195,000 | 98.4 | 97.3 | 97.2 | 2.8 | 13 | 0 | 1.00 |
| 54 | WESLEY HEIGHTS | 32 | 1,206,609 | 920,000 | 98.4 | 97.9 | 96.4 | 4.0 | 31 | 1 | 1.01 |
| 55 | WOODLEY | 11 | 1,658,545 | 1,450,000 | 98.1 | 102 | 103.0 | 8.3 | 8 | 3 | .99 |
| 56 | WOODRIDGE | 76 | 553,010 | 559,500 | 95.6 | 93.9 | 93.4 | 4.9 | 76 | 0 | 1.01 |
| 66 | FORT LINCOLN | 82 | 537,195 | 527,800 | 97.6 | 97.6 | 97.3 | 4.1 | 76 | 6 | 1.00 |

TOTALS:

| PROPERTY TYPE | SALES | AVE PRICE | MED PRICE | MEDIAN | MEAN | WEIGHTED | COD | < 105 | > 105 | PRD |
|---|---|---|---|---|---|---|---|---|---|---|
| Single-Family | 3,886 | 794,366 | 685,000 | 97.7 | 97.6 | 97.1 | 7.7 | 3,201 | 685 | 1.01 |

# Sales Ratio Report Using Current 2016 Values

2015 SALES RATIOS BY NEIGHBORHOOD: CONDOMINIUMS

| NB | NAME | SALES | AVE PRICE | MED PRICE | MEDIAN | MEAN | WEIGHTED | COD | < 105 | > 105 | PRD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | AMERICAN UNIVERSITY | 12 | 554,375 | 478,500 | 95.2 | 94.4 | 92.1 | 8.5 | 10 | 2 | 1.03 |
| 2 | ANACOSTIA | 13 | 177,830 | 158,542 | 112.4 | 104 | 99.2 | 24.7 | 5 | 8 | 1.05 |
| 3 | BARRY FARMS | 8 | 318,063 | 314,400 | 90.8 | 93.9 | 94.2 | 11.3 | 6 | 2 | 1.00 |
| 4 | BERKELEY | 10 | 438,200 | 374,500 | 97.3 | 96.0 | 96.5 | 5.8 | 9 | 1 | .99 |
| 5 | BRENTWOOD | 14 | 257,518 | 287,950 | 85.0 | 83.8 | 81.9 | 14.8 | 13 | 1 | 1.02 |
| 6 | BRIGHTWOOD | 20 | 317,730 | 308,500 | 94.4 | 97.5 | 97.8 | 9.3 | 14 | 6 | 1.00 |
| 7 | BROOKLAND | 46 | 286,320 | 300,950 | 89.9 | 86.4 | 87.5 | 11.2 | 45 | 1 | .99 |
| 9 | CAPITOL HILL | 53 | 572,456 | 435,000 | 95.0 | 95.2 | 94.0 | 7.5 | 43 | 10 | 1.01 |
| 10 | CENTRAL | 347 | 711,561 | 560,000 | 94.2 | 93.2 | 90.9 | 8.2 | 313 | 34 | 1.03 |
| 11 | CHEVY CHASE | 26 | 621,794 | 463,500 | 99.8 | 100 | 96.3 | 7.4 | 19 | 7 | 1.04 |
| 12 | CHILLUM | 4 | 217,500 | 217,500 | 84.9 | 84.6 | 84.6 | 1.9 | 4 | 0 | 1.00 |
| 13 | CLEVELAND PARK | 101 | 402,222 | 407,000 | 96.6 | 96.1 | 95.6 | 6.7 | 94 | 7 | 1.01 |
| 15 | COLUMBIA HEIGHTS | 378 | 472,887 | 453,700 | 95.0 | 93.2 | 93.1 | 7.3 | 349 | 29 | 1.00 |
| 16 | CONGRESS HEIGHTS | 13 | 192,252 | 261,720 | 97.0 | 107 | 98.1 | 13.7 | 10 | 3 | 1.09 |
| 18 | DEANWOOD | 4 | 110,475 | 98,450 | 100.0 | 96.4 | 95.5 | 14.1 | 2 | 2 | 1.01 |
| 19 | ECKINGTON | 46 | 523,141 | 540,000 | 93.6 | 91.0 | 92.1 | 8.6 | 44 | 2 | .99 |
| 20 | FOGGY BOTTOM | 47 | 280,953 | 247,000 | 92.9 | 94.1 | 94.7 | 10.5 | 37 | 10 | .99 |
| 21 | FOREST HILLS | 46 | 289,190 | 270,000 | 94.8 | 96.5 | 93.5 | 8.2 | 38 | 8 | 1.03 |
| 24 | GARFIELD | 33 | 398,542 | 399,995 | 97.5 | 99.9 | 98.9 | 10.3 | 23 | 10 | 1.01 |
| 25 | GEORGETOWN | 57 | 1,160,100 | 632,850 | 96.9 | 95.9 | 98.5 | 9.7 | 48 | 9 | .97 |
| 26 | GLOVER PARK | 39 | 369,356 | 320,000 | 97.0 | 99.5 | 99.5 | 7.9 | 28 | 11 | 1.00 |
| 28 | HILLCREST | 12 | 99,971 | 95,000 | 98.2 | 101 | 96.7 | 10.0 | 10 | 2 | 1.05 |
| 29 | KALORAMA | 144 | 583,795 | 485,450 | 93.3 | 92.6 | 91.0 | 7.9 | 132 | 12 | 1.02 |
| 31 | LEDROIT PARK | 40 | 569,227 | 584,500 | 93.6 | 89.8 | 90.8 | 7.4 | 39 | 1 | .99 |
| 32 | LILY PONDS | 1 | 213,100 | 213,100 | 52.2 | 52.2 | 52.2 | .0 | 1 | 0 | 1.00 |
| 33 | MARSHALL HEIGHTS | 1 | 69,000 | 69,000 | 110.6 | 111 | 110.6 | .0 | 0 | 1 | 1.00 |
| 36 | MOUNT PLEASANT | 193 | 482,474 | 473,900 | 97.0 | 95.7 | 95.5 | 4.1 | 183 | 10 | 1.00 |
| 37 | N. CLEVELAND PARK | 4 | 426,750 | 437,500 | 89.6 | 91.7 | 91.5 | 3.2 | 4 | 0 | 1.00 |
| 38 | OBSERVATORY CIRCLE | 45 | 534,580 | 449,000 | 92.6 | 92.2 | 89.5 | 9.4 | 40 | 5 | 1.03 |
| 39 | OLD CITY #1 | 320 | 469,062 | 442,950 | 95.1 | 92.6 | 92.4 | 7.8 | 295 | 25 | 1.00 |
| 40 | OLD CITY #2 | 676 | 501,989 | 467,251 | 93.9 | 92.7 | 92.1 | 8.0 | 620 | 56 | 1.01 |
| 41 | PALISADES | 9 | 273,106 | 260,000 | 90.6 | 93.6 | 92.7 | 12.6 | 7 | 2 | 1.01 |
| 42 | PETWORTH | 33 | 337,656 | 299,000 | 88.3 | 89.2 | 90.0 | 8.8 | 32 | 1 | .99 |
| 43 | RANDLE HEIGHTS | 8 | 62,234 | 61,000 | 141.3 | 128 | 126.4 | 15.2 | 3 | 5 | 1.02 |
| 46 | SW WATERFRONT | 113 | 354,170 | 321,000 | 86.4 | 86.6 | 86.4 | 8.0 | 110 | 3 | 1.00 |
| 49 | 16TH STREET HEIGHTS | 16 | 277,102 | 265,450 | 93.7 | 93.3 | 93.8 | 9.5 | 14 | 2 | 1.00 |
| 50 | SPRING VALLEY | 1 | 305,000 | 305,000 | 95.8 | 95.8 | 95.8 | .0 | 1 | 0 | 1.00 |
| 52 | TRINIDAD | 33 | 274,677 | 243,000 | 95.0 | 91.0 | 90.5 | 6.4 | 32 | 1 | 1.01 |
| 53 | WAKEFIELD | 14 | 423,534 | 424,750 | 96.2 | 97.4 | 95.6 | 10.1 | 10 | 4 | 1.02 |
| 54 | WESLEY HEIGHTS | 49 | 450,739 | 470,000 | 93.0 | 91.7 | 92.8 | 7.1 | 46 | 3 | .99 |
| 56 | WOODRIDGE | 1 | 295,000 | 295,000 | 72.9 | 72.9 | 72.9 | .0 | 1 | 0 | 1.00 |
| 66 | FORT LINCOLN | 7 | 234,826 | 227,000 | 88.1 | 89.8 | 87.6 | 8.4 | 6 | 1 | 1.03 |

TOTALS:

| PROPERTY TYPE | SALES | AVE PRICE | MED PRICE | MEDIAN | MEAN | WEIGHTED | COD | < 105 | > 105 | PRD |
|---|---|---|---|---|---|---|---|---|---|---|
| Condominium | 3,037 | 498,650 | 439,000 | 94.9 | 93.3 | 92.6 | 8.3 | 2,740 | 297 | 1.01 |

# Sales Ratio Report Using Proposed 2017 Values

2015 SALES RATIOS BY NEIGHBORHOOD: CONDOMINIUMS

| NB | NAME | SALES | AVE PRICE | MED PRICE | MEDIAN | MEAN | WEIGHTED | COD | < 105 | > 105 | PRD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | AMERICAN UNIVERSITY | 12 | 554,375 | 478,500 | 97.8 | 97.0 | 94.7 | 8.3 | 9 | 3 | 1.02 |
| 2 | ANACOSTIA | 13 | 177,830 | 158,542 | 112.0 | 114 | 108.8 | 18.5 | 5 | 8 | 1.05 |
| 3 | BARRY FARMS | 8 | 318,063 | 314,400 | 101.3 | 103 | 102.3 | 6.0 | 5 | 3 | 1.00 |
| 4 | BERKELEY | 10 | 438,200 | 374,500 | 96.5 | 95.3 | 95.6 | 4.5 | 10 | 0 | 1.00 |
| 5 | BRENTWOOD | 14 | 257,518 | 287,950 | 94.3 | 94.0 | 93.5 | 9.2 | 13 | 1 | 1.01 |
| 6 | BRIGHTWOOD | 20 | 317,730 | 308,500 | 98.8 | 98.6 | 98.9 | 5.3 | 19 | 1 | 1.00 |
| 7 | BROOKLAND | 46 | 286,320 | 300,950 | 96.6 | 95.3 | 95.8 | 5.0 | 43 | 3 | .99 |
| 9 | CAPITOL HILL | 53 | 572,456 | 435,000 | 95.0 | 97.5 | 95.5 | 6.5 | 44 | 9 | 1.02 |
| 10 | CENTRAL | 347 | 711,561 | 560,000 | 98.7 | 98.1 | 97.0 | 7.3 | 278 | 69 | 1.01 |
| 11 | CHEVY CHASE | 26 | 621,794 | 463,500 | 102.4 | 101 | 96.4 | 8.2 | 16 | 10 | 1.05 |
| 12 | CHILLUM | 4 | 217,500 | 217,500 | 94.9 | 94.6 | 94.6 | 1.9 | 4 | 0 | 1.00 |
| 13 | CLEVELAND PARK | 101 | 402,222 | 407,000 | 98.0 | 98.6 | 98.2 | 5.6 | 91 | 10 | 1.00 |
| 15 | COLUMBIA HEIGHTS | 378 | 472,887 | 453,700 | 97.7 | 97.7 | 97.5 | 7.1 | 314 | 64 | 1.00 |
| 16 | CONGRESS HEIGHTS | 13 | 192,252 | 261,720 | 97.0 | 108 | 100.0 | 12.2 | 10 | 3 | 1.08 |
| 18 | DEANWOOD | 4 | 110,475 | 98,450 | 104.6 | 104 | 103.3 | 7.4 | 2 | 2 | 1.01 |
| 19 | ECKINGTON | 46 | 523,141 | 540,000 | 96.5 | 96.5 | 97.2 | 7.3 | 41 | 5 | .99 |
| 20 | FOGGY BOTTOM | 47 | 280,953 | 247,000 | 97.7 | 96.2 | 97.2 | 9.2 | 38 | 9 | .99 |
| 21 | FOREST HILLS | 46 | 289,190 | 270,000 | 97.8 | 99.5 | 96.8 | 8.1 | 36 | 10 | 1.03 |
| 24 | GARFIELD | 33 | 398,542 | 399,995 | 98.1 | 99.2 | 98.2 | 8.4 | 26 | 7 | 1.01 |
| 25 | GEORGETOWN | 57 | 1,160,100 | 632,850 | 97.0 | 98.9 | 101.8 | 6.3 | 50 | 7 | .97 |
| 26 | GLOVER PARK | 39 | 369,356 | 320,000 | 97.5 | 99.2 | 99.6 | 6.4 | 30 | 9 | 1.00 |
| 28 | HILLCREST | 12 | 99,971 | 95,000 | 100.0 | 104 | 101.5 | 7.7 | 9 | 3 | 1.03 |
| 29 | KALORAMA | 144 | 583,795 | 485,450 | 97.3 | 97.7 | 96.4 | 5.2 | 129 | 15 | 1.01 |
| 31 | LEDROIT PARK | 40 | 569,227 | 584,500 | 95.0 | 95.3 | 95.6 | 5.0 | 35 | 5 | 1.00 |
| 32 | LILY PONDS | 1 | 213,100 | 213,100 | 95.5 | 95.5 | 95.5 | .0 | 1 | 0 | 1.00 |
| 33 | MARSHALL HEIGHTS | 1 | 69,000 | 69,000 | 110.7 | 111 | 110.7 | .0 | 0 | 1 | 1.00 |
| 36 | MOUNT PLEASANT | 193 | 482,474 | 473,900 | 97.0 | 97.3 | 97.2 | 3.1 | 184 | 9 | 1.00 |
| 37 | N. CLEVELAND PARK | 4 | 426,750 | 437,500 | 95.7 | 95.6 | 95.5 | 3.4 | 4 | 0 | 1.00 |
| 38 | OBSERVATORY CIRCLE | 45 | 534,580 | 449,000 | 97.7 | 97.4 | 96.6 | 5.8 | 41 | 4 | 1.01 |
| 39 | OLD CITY #1 | 320 | 469,062 | 442,950 | 96.0 | 96.3 | 95.8 | 5.8 | 289 | 31 | 1.00 |
| 40 | OLD CITY #2 | 676 | 501,989 | 467,251 | 97.4 | 98.0 | 97.2 | 6.0 | 572 | 104 | 1.01 |
| 41 | PALISADES | 9 | 273,106 | 260,000 | 91.4 | 94.4 | 93.7 | 9.9 | 7 | 2 | 1.01 |
| 42 | PETWORTH | 33 | 337,656 | 299,000 | 95.9 | 96.0 | 96.2 | 6.7 | 29 | 4 | 1.00 |
| 43 | RANDLE HEIGHTS | 8 | 62,234 | 61,000 | 140.8 | 129 | 127.3 | 14.6 | 3 | 5 | 1.01 |
| 46 | SW WATERFRONT | 113 | 354,170 | 321,000 | 95.0 | 94.3 | 94.7 | 6.9 | 103 | 10 | 1.00 |
| 49 | 16TH STREET HEIGHTS | 16 | 277,102 | 265,450 | 98.6 | 98.9 | 98.6 | 6.7 | 13 | 3 | 1.00 |
| 50 | SPRING VALLEY | 1 | 305,000 | 305,000 | 98.2 | 98.2 | 98.2 | .0 | 1 | 0 | 1.00 |
| 52 | TRINIDAD | 33 | 274,677 | 243,000 | 100.0 | 99.4 | 98.4 | 8.6 | 22 | 11 | 1.01 |
| 53 | WAKEFIELD | 14 | 423,534 | 424,750 | 99.9 | 100 | 98.2 | 9.5 | 10 | 4 | 1.02 |
| 54 | WESLEY HEIGHTS | 49 | 450,739 | 470,000 | 95.2 | 93.1 | 94.4 | 7.3 | 45 | 4 | .99 |
| 56 | WOODRIDGE | 1 | 295,000 | 295,000 | 73.3 | 73.3 | 73.3 | .0 | 1 | 0 | 1.00 |
| 66 | FORT LINCOLN | 7 | 234,826 | 227,000 | 93.1 | 95.7 | 93.1 | 9.9 | 6 | 1 | 1.03 |

TOTALS:

| PROPERTY TYPE | SALES | AVE PRICE | MED PRICE | MEDIAN | MEAN | WEIGHTED | COD | < 105 | > 105 | PRD |
|---|---|---|---|---|---|---|---|---|---|---|
| Condominium | 3,037 | 498,650 | 439,000 | 97.0 | 97.7 | 97.1 | 6.6 | 2,588 | 449 | 1.01 |

# Sales Ratio Report Using Current 2016 Values

2015 SALES RATIOS BY NEIGHBORHOOD: MULTI-FAMILY

| NB | NAME | SALES | AVE PRICE | MED PRICE | MEDIAN | MEAN | WEIGHTED | COD | < 105 | > 105 | PRD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | ANACOSTIA | 4 | 1,481,750 | 1,037,500 | 67.1 | 68.6 | 62.2 | 26.9 | 4 | 0 | 1.10 |
| 3 | BARRY FARMS | 1 | 4,150,000 | 4,150,000 | 38.1 | 38.1 | 38.1 | .0 | 1 | 0 | 1.00 |
| 6 | BRIGHTWOOD | 4 | 3,587,250 | 2,374,500 | 72.0 | 72.3 | 71.6 | 6.2 | 4 | 0 | 1.01 |
| 7 | BROOKLAND | 1 | 7,600,000 | 7,600,000 | 75.4 | 75.4 | 75.4 | .0 | 1 | 0 | 1.00 |
| 12 | CHILLUM | 1 | 670,000 | 670,000 | 95.6 | 95.6 | 95.6 | .0 | 1 | 0 | 1.00 |
| 15 | COLUMBIA HEIGHTS | 3 | 7,200,000 | 4,000,000 | 80.0 | 82.3 | 82.4 | 32.0 | 2 | 1 | 1.00 |
| 16 | CONGRESS HEIGHTS | 4 | 749,728 | 762,500 | 87.9 | 88.9 | 89.6 | 3.9 | 4 | 0 | .99 |
| 19 | ECKINGTON | 1 | 800,000 | 800,000 | 56.4 | 56.4 | 56.4 | .0 | 1 | 0 | 1.00 |
| 21 | FOREST HILLS | 2 | 44,150,000 | 44150000 | 93.5 | 93.5 | 100.9 | 11.3 | 2 | 0 | .93 |
| 22 | FORT DUPONT PARK | 1 | 2,250,000 | 2,250,000 | 85.9 | 85.9 | 85.9 | .0 | 1 | 0 | 1.00 |
| 25 | GEORGETOWN | 2 | 2,600,000 | 2,600,000 | 57.8 | 57.8 | 57.3 | 21.9 | 2 | 0 | 1.01 |
| 28 | HILLCREST | 4 | 761,373 | 492,745 | 92.5 | 93.0 | 89.3 | 8.9 | 4 | 0 | 1.04 |
| 29 | KALORAMA | 4 | 8,563,250 | 2,760,500 | 83.6 | 79.4 | 67.7 | 7.5 | 4 | 0 | 1.17 |
| 31 | LEDROIT PARK | 2 | 1,775,000 | 1,775,000 | 50.1 | 50.1 | 50.4 | 13.6 | 2 | 0 | .99 |
| 33 | MARSHALL HEIGHTS | 3 | 873,333 | 720,000 | 105.8 | 98.9 | 100.4 | 7.4 | 1 | 2 | .98 |
| 36 | MOUNT PLEASANT | 4 | 5,974,987 | 4,362,474 | 60.7 | 61.1 | 64.8 | 16.7 | 4 | 0 | .94 |
| 39 | OLD CITY #1 | 1 | 1,400,000 | 1,400,000 | 66.0 | 66.0 | 66.0 | .0 | 1 | 0 | 1.00 |
| 40 | OLD CITY #2 | 4 | 36,600,000 | 2,200,000 | 65.4 | 69.0 | 65.9 | 30.3 | 3 | 1 | 1.05 |
| 42 | PETWORTH | 2 | 794,000 | 794,000 | 109.2 | 109 | 109.6 | 3.0 | 0 | 2 | 1.00 |
| 43 | RANDLE HEIGHTS | 6 | 9,683,046 | 600,000 | 86.7 | 89.1 | 71.4 | 11.0 | 5 | 1 | 1.25 |
| 44 | NOMA | 1 | 650,000 | 650,000 | 35.9 | 35.9 | 35.9 | .0 | 1 | 0 | 1.00 |
| 49 | 16TH STREET HEIGHTS | 1 | 900,000 | 900,000 | 77.4 | 77.4 | 77.4 | .0 | 1 | 0 | 1.00 |
| 51 | TAKOMA PARK | 1 | 5,230,307 | 5,230,307 | 98.7 | 98.7 | 98.7 | .0 | 1 | 0 | 1.00 |
| 52 | TRINIDAD | 3 | 612,667 | 608,000 | 52.5 | 57.5 | 55.6 | 13.9 | 3 | 0 | 1.03 |

TOTALS:

| PROPERTY TYPE | SALES | AVE PRICE | MED PRICE | MEDIAN | MEAN | WEIGHTED | COD | < 105 | > 105 | PRD |
|---|---|---|---|---|---|---|---|---|---|---|
| Multi-Family | 60 | 7,288,632 | 1,600,000 | 80.4 | 77.2 | 75.6 | 21.6 | 53 | 7 | 1.02 |

# Sales Ratio Report Using Proposed 2017 Values

2015 SALES RATIOS BY NEIGHBORHOOD: MULTI-FAMILY

| NB | NAME | SALES | AVE PRICE | MED PRICE | MEDIAN | MEAN | WEIGHTED | COD | < 105 | > 105 | PRD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | ANACOSTIA | 4 | 1,481,750 | 1,037,500 | 100.8 | 94.1 | 86.2 | 9.8 | 3 | 1 | 1.09 |
| 3 | BARRY FARMS | 1 | 4,150,000 | 4,150,000 | 97.5 | 97.5 | 97.5 | .0 | 1 | 0 | 1.00 |
| 6 | BRIGHTWOOD | 4 | 3,587,250 | 2,374,500 | 97.7 | 96.8 | 93.2 | 4.1 | 4 | 0 | 1.04 |
| 7 | BROOKLAND | 1 | 7,600,000 | 7,600,000 | 93.1 | 93.1 | 93.1 | .0 | 1 | 0 | 1.00 |
| 12 | CHILLUM | 1 | 670,000 | 670,000 | 96.5 | 96.5 | 96.5 | .0 | 1 | 0 | 1.00 |
| 15 | COLUMBIA HEIGHTS | 3 | 7,200,000 | 4,000,000 | 85.1 | 95.9 | 91.9 | 33.1 | 2 | 1 | 1.04 |
| 16 | CONGRESS HEIGHTS | 4 | 749,728 | 762,500 | 97.5 | 98.9 | 99.4 | 1.8 | 4 | 0 | 1.00 |
| 19 | ECKINGTON | 1 | 800,000 | 800,000 | 101.1 | 101 | 101.1 | .0 | 1 | 0 | 1.00 |
| 21 | FOREST HILLS | 2 | 44,150,000 | 44150000 | 98.0 | 98.0 | 99.7 | 2.5 | 2 | 0 | .98 |
| 22 | FORT DUPONT PARK | 1 | 2,250,000 | 2,250,000 | 108.6 | 109 | 108.6 | .0 | 0 | 1 | 1.00 |
| 25 | GEORGETOWN | 2 | 2,600,000 | 2,600,000 | 95.3 | 95.3 | 95.3 | .2 | 2 | 0 | 1.00 |
| 28 | HILLCREST | 4 | 761,373 | 492,745 | 98.8 | 107 | 102.4 | 10.3 | 3 | 1 | 1.05 |
| 29 | KALORAMA | 4 | 8,563,250 | 2,760,500 | 96.7 | 98.2 | 96.1 | 2.6 | 4 | 0 | 1.02 |
| 31 | LEDROIT PARK | 2 | 1,775,000 | 1,775,000 | 86.2 | 86.2 | 86.5 | 9.2 | 2 | 0 | 1.00 |
| 33 | MARSHALL HEIGHTS | 3 | 873,333 | 720,000 | 108.0 | 108 | 107.6 | .7 | 0 | 3 | 1.00 |
| 36 | MOUNT PLEASANT | 4 | 5,974,987 | 4,362,474 | 96.1 | 96.5 | 94.7 | 2.9 | 4 | 0 | 1.02 |
| 39 | OLD CITY #1 | 1 | 1,400,000 | 1,400,000 | 98.9 | 98.9 | 98.9 | .0 | 1 | 0 | 1.00 |
| 40 | OLD CITY #2 | 4 | 36,600,000 | 2,200,000 | 93.6 | 103 | 91.7 | 13.7 | 3 | 1 | 1.13 |
| 42 | PETWORTH | 2 | 794,000 | 794,000 | 130.6 | 131 | 132.7 | 14.2 | 0 | 2 | .98 |
| 43 | RANDLE HEIGHTS | 6 | 9,683,046 | 600,000 | 102.6 | 101 | 102.5 | 1.5 | 6 | 0 | .99 |
| 44 | NOMA | 1 | 650,000 | 650,000 | 97.9 | 97.9 | 97.9 | .0 | 1 | 0 | 1.00 |
| 49 | 16TH STREET HEIGHTS | 1 | 900,000 | 900,000 | 88.3 | 88.3 | 88.3 | .0 | 1 | 0 | 1.00 |
| 51 | TAKOMA PARK | 1 | 5,230,307 | 5,230,307 | 71.5 | 71.5 | 71.5 | .0 | 1 | 0 | 1.00 |
| 52 | TRINIDAD | 3 | 612,667 | 608,000 | 96.3 | 97.7 | 97.2 | 2.0 | 3 | 0 | 1.00 |

TOTALS:

| PROPERTY TYPE | SALES | AVE PRICE | MED PRICE | MEDIAN | MEAN | WEIGHTED | COD | < 105 | > 105 | PRD |
|---|---|---|---|---|---|---|---|---|---|---|
| Multi-Family | 60 | 7,288,632 | 1,600,000 | 97.8 | 99.4 | 95.6 | 8.5 | 50 | 10 | 1.04 |

# Sales Ratio Report Using Current 2016 Values

2015 SALES RATIOS BY NEIGHBORHOOD: COMMERCIAL

| NB | NAME | SALES | AVE PRICE | MED PRICE | MEDIAN | MEAN | WEIGHTED | COD | < 105 | > 105 | PRD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | AMERICAN UNIVERSITY | 1 | 1,700,000 | 1,700,000 | 62.9 | 62.9 | 62.9 | .0 | 1 | 0 | 1.00 |
| 2 | ANACOSTIA | 4 | 758,750 | 692,500 | 80.6 | 75.5 | 72.1 | 28.3 | 3 | 1 | 1.05 |
| 5 | BRENTWOOD | 11 | 2,961,657 | 2,125,727 | 64.2 | 69.1 | 69.0 | 26.5 | 11 | 0 | 1.00 |
| 6 | BRIGHTWOOD | 6 | 2,491,667 | 822,500 | 49.3 | 59.1 | 75.9 | 35.5 | 6 | 0 | .78 |
| 7 | BROOKLAND | 9 | 1,172,764 | 750,000 | 59.5 | 60.8 | 71.8 | 20.7 | 9 | 0 | .85 |
| 9 | CAPITOL HILL | 6 | 2,733,689 | 2,238,566 | 58.2 | 60.2 | 47.2 | 29.8 | 6 | 0 | 1.28 |
| 10 | CENTRAL | 27 | 62,502,712 | 39000000 | 81.3 | 79.2 | 81.1 | 21.1 | 26 | 1 | .98 |
| 11 | CHEVY CHASE | 1 | 2,270,000 | 2,270,000 | 95.2 | 95.2 | 95.2 | .0 | 1 | 0 | 1.00 |
| 12 | CHILLUM | 1 | 225,000 | 225,000 | 99.0 | 99.0 | 99.0 | .0 | 1 | 0 | 1.00 |
| 15 | COLUMBIA HEIGHTS | 16 | 1,864,192 | 787,500 | 54.1 | 60.5 | 53.3 | 33.0 | 16 | 0 | 1.14 |
| 16 | CONGRESS HEIGHTS | 1 | 210,000 | 210,000 | 58.8 | 58.8 | 58.8 | .0 | 1 | 0 | 1.00 |
| 18 | DEANWOOD | 5 | 8,066,380 | 310,000 | 82.8 | 74.5 | 38.2 | 27.2 | 4 | 1 | 1.95 |
| 19 | ECKINGTON | 2 | 450,000 | 450,000 | 62.5 | 62.5 | 56.7 | 24.0 | 2 | 0 | 1.10 |
| 20 | FOGGY BOTTOM | 2 | 1,845,000 | 1,845,000 | 68.0 | 68.0 | 67.7 | 27.5 | 2 | 0 | 1.00 |
| 21 | FOREST HILLS | 1 | 6,764,000 | 6,764,000 | 62.3 | 62.3 | 62.3 | .0 | 1 | 0 | 1.00 |
| 25 | GEORGETOWN | 6 | 3,238,333 | 3,557,500 | 61.3 | 64.8 | 55.6 | 37.7 | 6 | 0 | 1.16 |
| 26 | GLOVER PARK | 2 | 1,600,000 | 1,600,000 | 62.3 | 62.3 | 60.5 | 15.3 | 2 | 0 | 1.03 |
| 29 | KALORAMA | 3 | 7,208,333 | 1,725,000 | 68.9 | 76.3 | 94.0 | 17.2 | 3 | 0 | .81 |
| 30 | KENT | 1 | 1,100,000 | 1,100,000 | 64.1 | 64.1 | 64.1 | .0 | 1 | 0 | 1.00 |
| 31 | LEDROIT PARK | 1 | 925,000 | 925,000 | 28.3 | 28.3 | 28.3 | .0 | 1 | 0 | 1.00 |
| 33 | MARSHALL HEIGHTS | 1 | 250,000 | 250,000 | 109.6 | 110 | 109.6 | .0 | 0 | 1 | 1.00 |
| 36 | MOUNT PLEASANT | 6 | 3,728,617 | 881,250 | 59.2 | 64.0 | 45.6 | 26.2 | 6 | 0 | 1.40 |
| 39 | OLD CITY #1 | 27 | 4,437,379 | 1,385,000 | 84.3 | 80.3 | 81.6 | 20.5 | 24 | 3 | .98 |
| 40 | OLD CITY #2 | 20 | 27,630,533 | 2,675,000 | 62.7 | 64.5 | 79.0 | 25.3 | 20 | 0 | .82 |
| 41 | PALISADES | 1 | 1,460,000 | 1,460,000 | 80.5 | 80.5 | 80.5 | .0 | 1 | 0 | 1.00 |
| 42 | PETWORTH | 10 | 823,600 | 478,750 | 65.0 | 67.5 | 57.2 | 22.3 | 10 | 0 | 1.18 |
| 43 | RANDLE HEIGHTS | 1 | 7,900,000 | 7,900,000 | 98.2 | 98.2 | 98.2 | .0 | 1 | 0 | 1.00 |
| 44 | NOMA | 4 | 13,516,154 | 14659308 | 92.4 | 86.1 | 98.0 | 25.5 | 3 | 1 | .88 |
| 49 | 16TH STREET HEIGHTS | 2 | 492,500 | 492,500 | 76.0 | 76.0 | 79.9 | 23.9 | 2 | 0 | .95 |
| 52 | TRINIDAD | 5 | 1,493,469 | 1,170,346 | 49.3 | 57.5 | 34.5 | 49.8 | 4 | 1 | 1.67 |
| 56 | WOODRIDGE | 11 | 1,677,129 | 1,273,417 | 79.4 | 73.1 | 70.9 | 28.5 | 10 | 1 | 1.03 |

TOTALS:

| PROPERTY TYPE | SALES | AVE PRICE | MED PRICE | MEDIAN | MEAN | WEIGHTED | COD | < 105 | > 105 | PRD |
|---|---|---|---|---|---|---|---|---|---|---|
| Commercial | 194 | 13,870,590 | 1,497,500 | 69.3 | 70.5 | 78.9 | 28.6 | 184 | 10 | .89 |

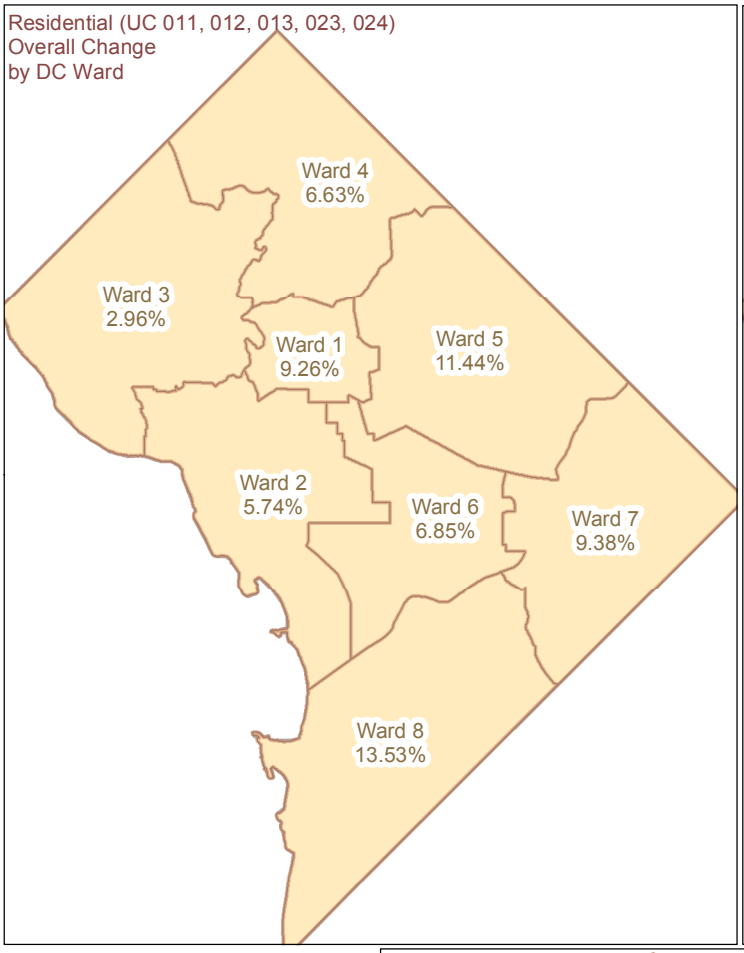
# Sales Ratio Report Using Proposed 2017 Values

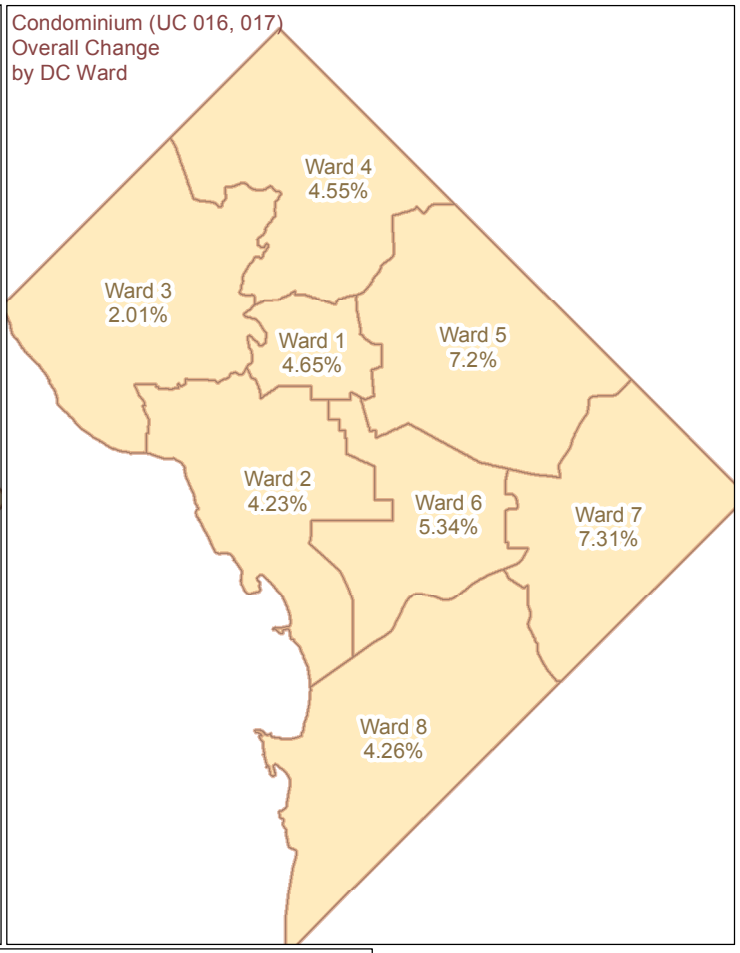
2015 SALES RATIOS BY NEIGHBORHOOD: COMMERCIAL

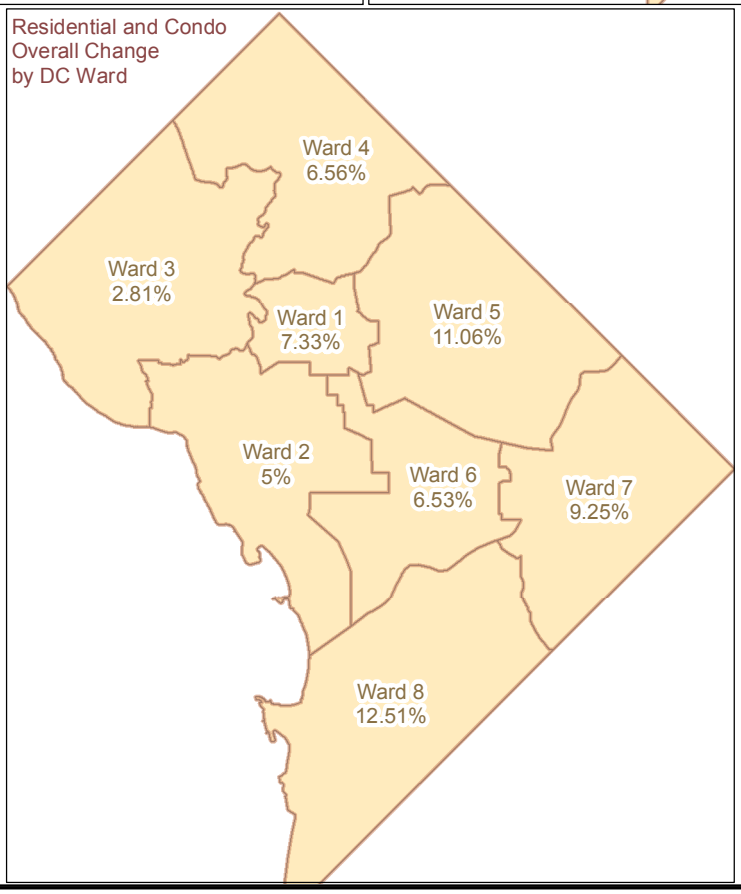
| NB | NAME | SALES | AVE PRICE | MED PRICE | MEDIAN | MEAN | WEIGHTED | COD | < 105 | > 105 | PRD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | AMERICAN UNIVERSITY | 1 | 1,700,000 | 1,700,000 | 80.3 | 80.3 | 80.3 | .0 | 1 | 0 | 1.00 |
| 2 | ANACOSTIA | 4 | 758,750 | 692,500 | 97.2 | 92.5 | 91.8 | 11.0 | 3 | 1 | 1.01 |
| 5 | BRENTWOOD | 11 | 2,961,657 | 2,125,727 | 84.9 | 79.6 | 80.7 | 21.0 | 10 | 1 | .99 |
| 6 | BRIGHTWOOD | 6 | 2,491,667 | 822,500 | 98.2 | 90.4 | 101.7 | 12.8 | 5 | 1 | .89 |
| 7 | BROOKLAND | 9 | 1,172,764 | 750,000 | 85.4 | 82.0 | 87.0 | 11.3 | 9 | 0 | .94 |
| 9 | CAPITOL HILL | 6 | 2,733,689 | 2,238,566 | 75.2 | 78.1 | 71.2 | 10.7 | 6 | 0 | 1.10 |
| 10 | CENTRAL | 27 | 62,502,712 | 39000000 | 94.5 | 92.2 | 91.7 | 7.8 | 24 | 3 | 1.01 |
| 11 | CHEVY CHASE | 1 | 2,270,000 | 2,270,000 | 104.3 | 104 | 104.3 | .0 | 1 | 0 | 1.00 |
| 12 | CHILLUM | 1 | 225,000 | 225,000 | 103.0 | 103 | 103.0 | .0 | 1 | 0 | 1.00 |
| 15 | COLUMBIA HEIGHTS | 16 | 1,864,192 | 787,500 | 90.0 | 85.2 | 84.2 | 10.0 | 16 | 0 | 1.01 |
| 16 | CONGRESS HEIGHTS | 1 | 210,000 | 210,000 | 95.6 | 95.6 | 95.6 | .0 | 1 | 0 | 1.00 |
| 18 | DEANWOOD | 5 | 8,066,380 | 310,000 | 90.0 | 89.1 | 69.6 | 24.2 | 4 | 1 | 1.28 |
| 19 | ECKINGTON | 2 | 450,000 | 450,000 | 106.8 | 107 | 86.9 | 48.0 | 1 | 1 | 1.23 |
| 20 | FOGGY BOTTOM | 2 | 1,845,000 | 1,845,000 | 74.5 | 74.5 | 74.1 | 33.8 | 2 | 0 | 1.01 |
| 21 | FOREST HILLS | 1 | 6,764,000 | 6,764,000 | 98.9 | 98.9 | 98.9 | .0 | 1 | 0 | 1.00 |
| 25 | GEORGETOWN | 6 | 3,238,333 | 3,557,500 | 93.8 | 93.3 | 92.4 | 2.0 | 6 | 0 | 1.01 |
| 26 | GLOVER PARK | 2 | 1,600,000 | 1,600,000 | 94.5 | 94.5 | 93.7 | 4.5 | 2 | 0 | 1.01 |
| 29 | KALORAMA | 3 | 7,208,333 | 1,725,000 | 98.4 | 99.5 | 98.8 | 2.6 | 3 | 0 | 1.01 |
| 30 | KENT | 1 | 1,100,000 | 1,100,000 | 74.8 | 74.8 | 74.8 | .0 | 1 | 0 | 1.00 |
| 31 | LEDROIT PARK | 1 | 925,000 | 925,000 | 63.0 | 63.0 | 63.0 | .0 | 1 | 0 | 1.00 |
| 33 | MARSHALL HEIGHTS | 1 | 250,000 | 250,000 | 105.5 | 106 | 105.5 | .0 | 0 | 1 | 1.00 |
| 36 | MOUNT PLEASANT | 6 | 3,728,617 | 881,250 | 100.8 | 92.8 | 59.2 | 12.5 | 5 | 1 | 1.57 |
| 39 | OLD CITY #1 | 27 | 4,437,379 | 1,385,000 | 93.0 | 91.0 | 89.4 | 11.7 | 22 | 5 | 1.02 |
| 40 | OLD CITY #2 | 20 | 27,630,533 | 2,675,000 | 89.6 | 84.0 | 94.8 | 13.5 | 20 | 0 | .89 |
| 41 | PALISADES | 1 | 1,460,000 | 1,460,000 | 90.7 | 90.7 | 90.7 | .0 | 1 | 0 | 1.00 |
| 42 | PETWORTH | 10 | 823,600 | 478,750 | 78.8 | 77.1 | 72.9 | 16.7 | 10 | 0 | 1.06 |
| 43 | RANDLE HEIGHTS | 1 | 7,900,000 | 7,900,000 | 99.3 | 99.3 | 99.3 | .0 | 1 | 0 | 1.00 |
| 44 | NOMA | 4 | 13,516,154 | 14659308 | 99.9 | 102 | 102.6 | 12.5 | 2 | 2 | .99 |
| 49 | 16TH STREET HEIGHTS | 2 | 492,500 | 492,500 | 98.9 | 98.9 | 98.7 | 1.1 | 2 | 0 | 1.00 |
| 52 | TRINIDAD | 5 | 1,493,469 | 1,170,346 | 91.0 | 88.2 | 87.0 | 11.2 | 4 | 1 | 1.01 |
| 56 | WOODRIDGE | 11 | 1,677,129 | 1,273,417 | 79.1 | 82.8 | 80.1 | 19.5 | 10 | 1 | 1.03 |

TOTALS:

| PROPERTY TYPE | SALES | AVE PRICE | MED PRICE | MEDIAN | MEAN | WEIGHTED | COD | < 105 | > 105 | PRD |
|---|---|---|---|---|---|---|---|---|---|---|
| Commercial | 194 | 13,870,590 | 1,497,500 | 90.7 | 87.8 | 91.5 | 13.8 | 175 | 19 | .96 |



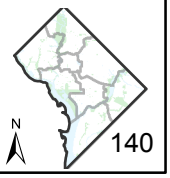

# TY *2017 Residential Change by DC Ward

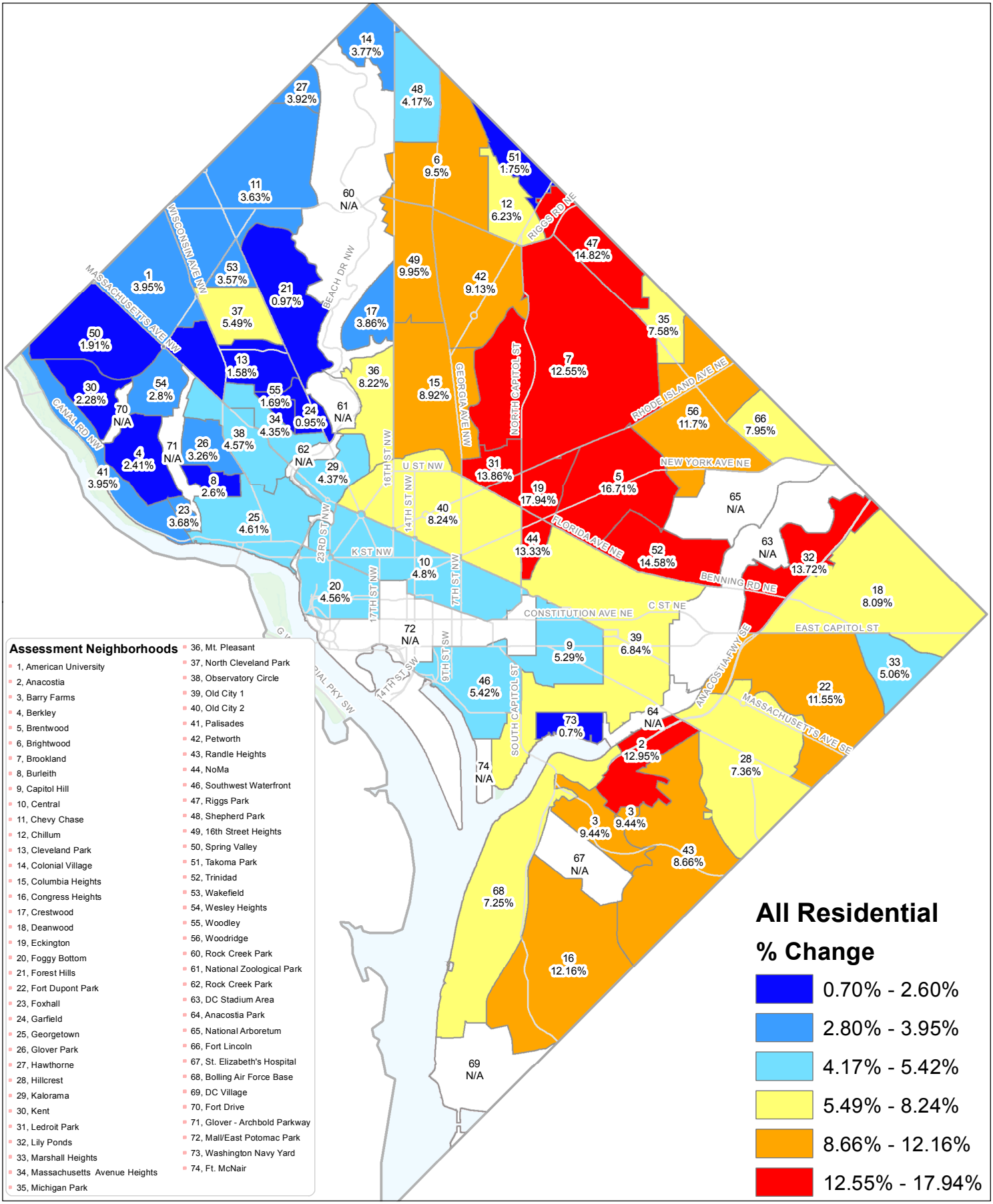
0 0.5 1 2
Miles

Office of Tax and Revenue
OTR Real Property Assessment Division
GIS Geographic Information Systems

Date: 2/26/2016

* Proposed 2017 Assessment Values






# TY *2017 All Residential %Change by Assessment Neighborhood

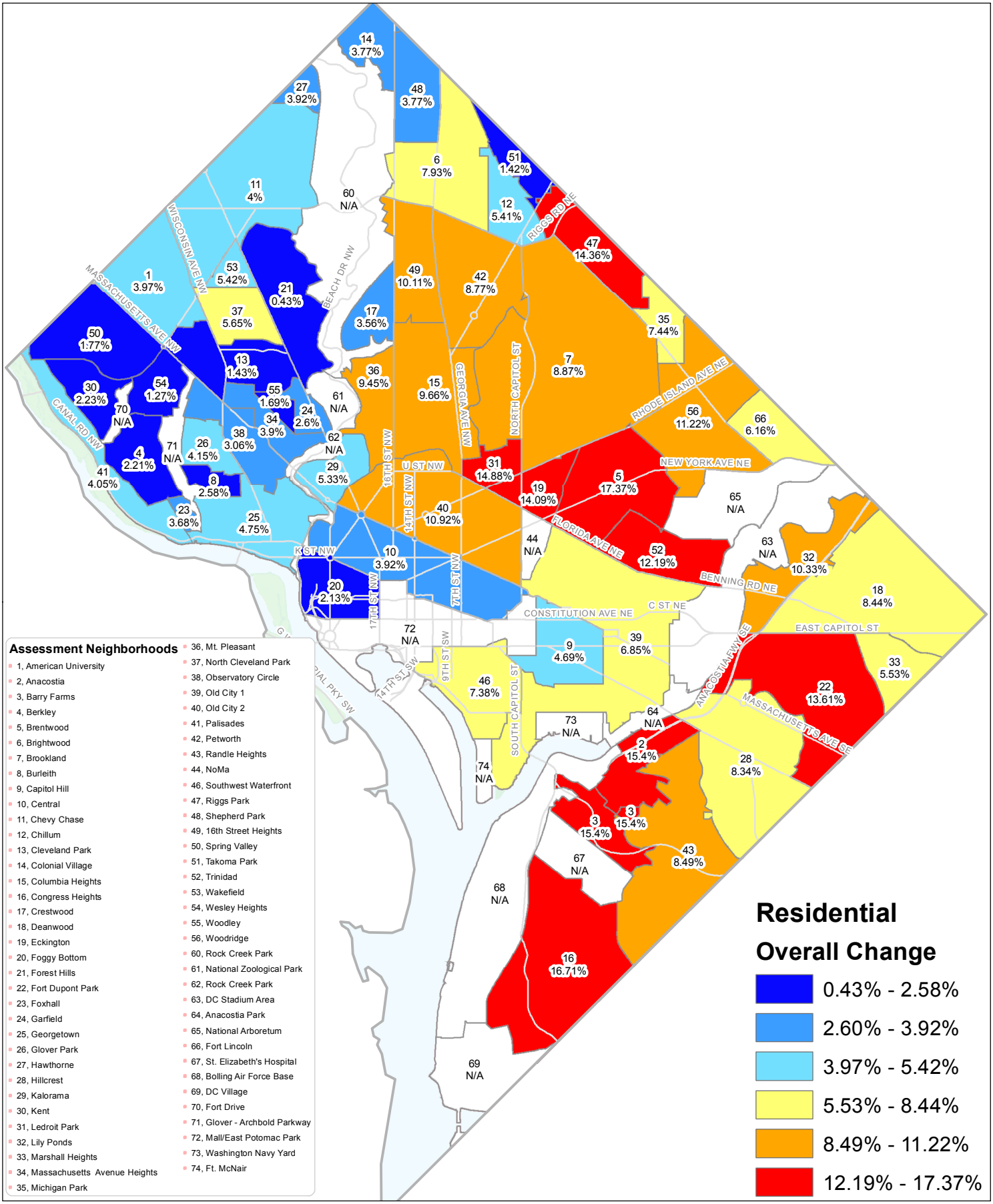
0 0.5 1 2 Miles

Office of Tax and Revenue
Real Property Assessment Division
Geographic Information Systems

Date: 2/20/2016

* Proposed 2017 Assessment Values

N




# TY *2017 Single Family Residential Overall Change by Assessment Neighborhood

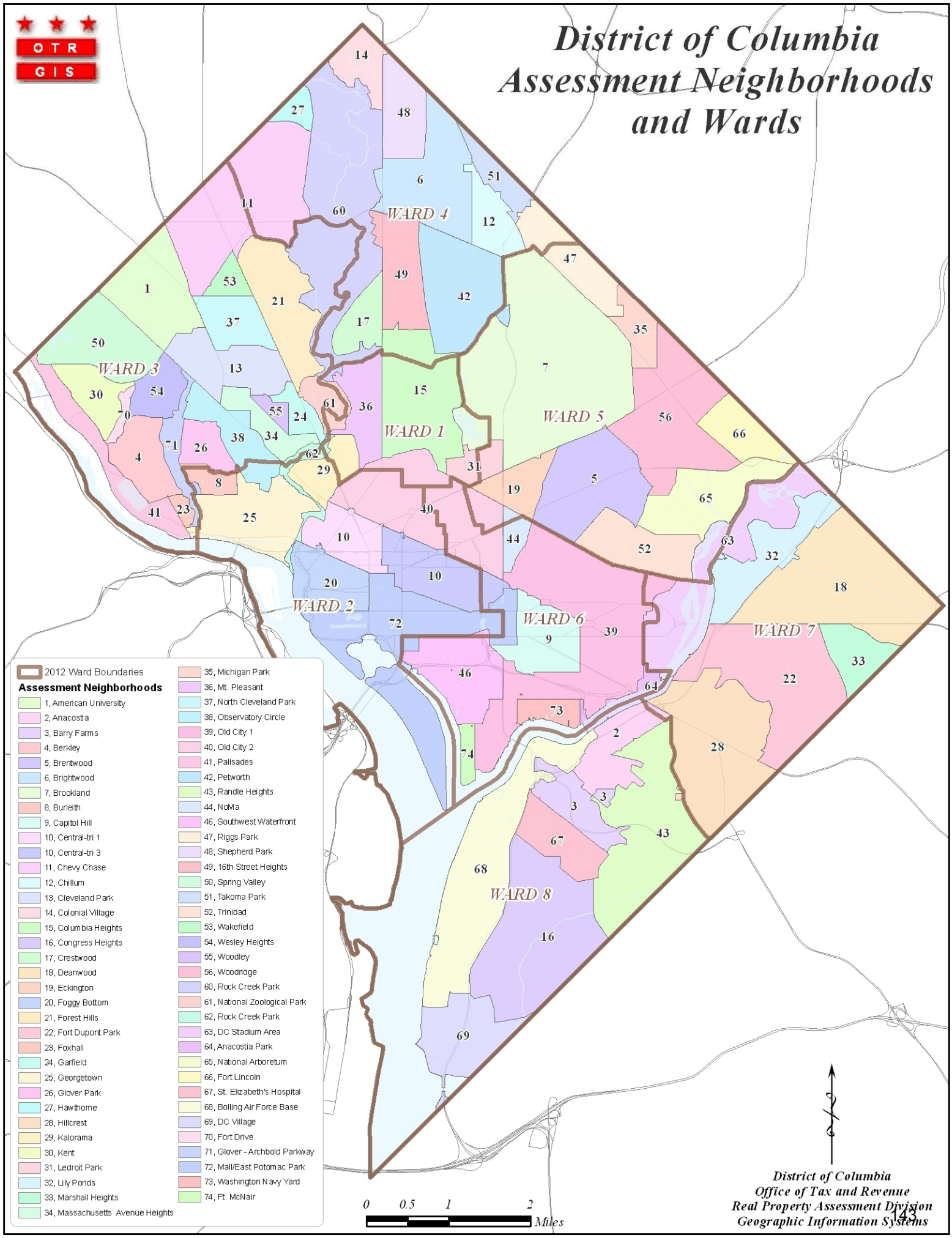
0 0.5 1 2 Miles

Office of Tax and Revenue
Real Property Assessment Division
Geographic Information Systems

Date: 2/20/2016

* Proposed 2017 Assessment Values

N


District of Columbia
Assessment Neighborhoods
and Wards
OTR
GIS
WARD 1
WARD 2
WARD 3
WARD 4
WARD 5
WARD 6
WARD 7
WARD 8
2012 Ward Boundaries
Assessment Neighborhoods
1, American University
2, Anacostia
3, Barry Farms
4, Berkley
5, Brentwood
6, Brightwood
7, Brookland
8, Burleith
9, Capitol Hill
10, Central-tri 1
10, Central-tri 3
11, Chevy Chase
12, Chillum
13, Cleveland Park
14, Colonial Village
15, Columbia Heights
16, Congress Heights
17, Crestwood
18, Deanwood
19, Eckington
20, Foggy Bottom
21, Forest Hills
22, Fort Dupont Park
23, Foxhall
24, Garfield
25, Georgetown
26, Glover Park
27, Hawthorne
28, Hillcrest
29, Kalorama
30, Kent
31, Ledroit Park
32, Lily Ponds
33, Marshall Heights
34, Massachusetts Avenue Heights
35, Michigan Park
36, Mt. Pleasant
37, North Cleveland Park
38, Observatory Circle
39, Old City 1
40, Old City 2
41, Palisades
42, Petworth
43, Randle Heights
44, NoMa
46, Southwest Waterfront
47, Riggs Park
48, Shepherd Park
49, 16th Street Heights
50, Spring Valley
51, Takoma Park
52, Trinidad
53, Wakefield
54, Wesley Heights
55, Woodley
56, Woodridge
60, Rock Creek Park
61, National Zoological Park
62, Rock Creek Park
63, DC Stadium Area
64, Anacostia Park
65, National Arboretum
66, Fort Lincoln
67, St. Elizabeth's Hospital
68, Bolling Air Force Base
69, DC Village
70, Fort Drive
71, Glover - Archbold Parkway
72, Mall/East Potomac Park
73, Washington Navy Yard
74, Ft. McNair
0 0.5 1 2
Miles
District of Columbia
Office of Tax and Revenue
Real Property Assessment Division
Geographic Information Systems