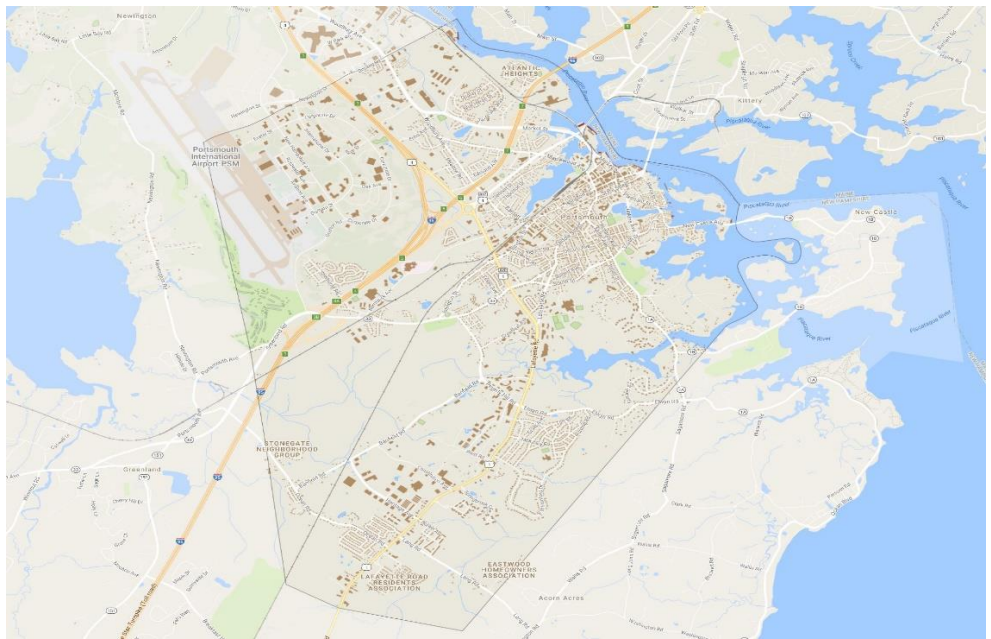


COMMERCIAL AND RESIDENTIAL MASS APPRAISAL REVIEW REPORT



November 13,
2017

City of Portsmouth, NH, 2017 Mass Revaluation Review

Review Appraiser:

David M. Cornell, MAI, CAE, CNHA

NH License Number – NHCG-863

President, Cornell Consultants, LLC

Reports under Review: Vision Government Solutions
(Residential Reports) and Property Valuation Advisors
(Commercial Reports)

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Letter of Transmittal

November 13, 2017

2017 Mass Revaluation Review - City of Portsmouth, NH
Appraisal Review File #402

Rosann Maurice-Lentz
Assessor
1 Junkins Avenue
Portsmouth, NH 03801

RE: Review of Appraisals

Vision Government Solutions (All residential properties located in Portsmouth, NH)
Property Valuation Advisors (All commercial properties located in Portsmouth, NH)

Dear Rosann:

In accordance with your request, I have completed a review of the appraisal prepared by Vision Government Solutions (Vision) and Property Valuation Advisors (PVA). The purpose of this review is to evaluate the appraisals for compliance with the Uniform Standards of Professional Appraisal Practice (USPAP), make sure the appraisals meet NH assessing standards and determine if the results of the work under review are credible for their intended use.

Consolidation of Data, Analysis and Conclusions in One Report

This report is a consolidated review of the Vision and PVA mass revaluation appraisals. The analysis of each mass appraisal report was conducted independently. Once the data and analyses were assembled, it was clear the findings should be consolidated in a single report. This results in a more concise document that is intended to simplify communication of the underlying concepts, better illustrate the findings and more efficiently report the analysis of the reports under review. Throughout the report, each major section is labeled with the name of the appraisal firm that section pertains to. If a section only contains one name, that section was not relevant to the other firm's revaluation effort.

I have developed an opinion as to the completeness of the reports under review, the adequacy and relevance of the data presented in the reports and the reasonableness of the conclusions. I have not developed my own opinion of value; this review should not be construed as an appraisal of the subject properties. I have not made a personal inspection of the above-referenced properties; this is a technical desk review.

The intended users of this appraisal are the Portsmouth Assessor and the Portsmouth City Council. There are no other intended users and no third parties are authorized to rely on this report without the

review appraiser's written permission. This letter must remain attached to the enclosed review report for the opinions set forth herein to be considered valid.

This is an Appraisal Review which is intended to comply with the appraisal review, development and reporting requirements set forth under Standard Rule 3 of the Uniform Standards of Professional Appraisal Practice (USPAP). Supporting documentation concerning the data, reasoning and analyses is retained in the review appraiser's file. The information in this report is specific to the needs of the client and for the intended use stated in this report.

The reported analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute.

This is a retrospective review appraisal. It is assumed that all factual and financial data provided by the appraisers in the reports under review are accurate, unless otherwise stated. This is what USPAP refers to as an extraordinary assumption; if found to be incorrect, it could affect the review conclusions. This report cannot be understood properly without information contained in the Vision Government Solutions and Property Valuation Advisors mass appraisal reports and must be used in conjunction with their appraisal reports.

This appraisal review is qualified by certain definitions, assumptions and limiting conditions, and certifications that are set forth in the attached report.

Respectfully Submitted,

A handwritten signature in black ink that reads "David Cornell". The signature is written in a cursive, flowing style.

David Cornell, MAI, CAE, CNHA

Enclosure

Commercial and Residential Mass Appraisal Review Report

CITY OF PORTSMOUTH, NH, 2017 MASS REVALUATION REVIEW

SALIENT FACTS

Date of this Review Report:

November 13, 2017

Client:

Rosann Maurice-Lentz
Assessor
1 Junkins Avenue
Portsmouth, NH 03801

Effective Date of the Review Assignment:

November 13, 2017

Effective Date of Value of Revaluations Under Review:

Both the Vision Government Solutions (Vision) and Property Valuation Advisors (PVA) revaluations were effective April 1, 2017.

Date of Reports Under Review:

The date of the Vision report was October 12, 2017, and the date of the PVA report was August 15, 2017

PVA and Vision Appraisers:

Stephen Traub, ASA, CNHA, NHCG-350, is the sole signer of the commercial report completed by PVA.

J. Michael Tarello, Director of Appraisal and June Perry, Project Manager signed the revaluation report prepared by Vision.

Appraisal Firms of Work Under Review:

Mass Appraisal Residential Report:

Vision Government Solutions
44 Bearfoot Road
Northboro, MA 01532

Mass Appraisal Commercial Report

Property Valuation Advisors
63 Hill Street
Newburyport, MA 01950

Intended Use of the Review Assignment:

The purpose of this appraisal review report is to evaluate the appraisals for compliance with the Uniform Standards of Professional Appraisal Practice (USPAP), ensure the results meet NH assessing standards, and to determine if the results of the work under review are credible for their intended use. The intended use of this review is to assist the client in understanding the quality and credibility of the work under review to ensure the 2017 reappraisals were completed in accordance with industry standard using sound mass appraisal techniques.

Intended Users of the Review Assignment:

The intended users of this appraisal review are Rosann Maurice-Lentz, Portsmouth Assessor and the Portsmouth City Council.

Interest Valued:

Fee simple estate for ad valorem taxation.

Fee simple estate¹. Absolute ownership unencumbered by any other interest or estate, subject only to the limitations imposed by the governmental powers of taxation, eminent domain, police power, and escheat.

Type of Value Estimated:

New Hampshire State Statutes provide important definitions and outlines the general framework of how assessors should appraise property in New Hampshire. RSA 75:1 outlines how to appraise property for assessment purposes. As can be seen by the definition below, except for a few types of properties, the law instructs assessors to appraise all properties at market value.

75:1 How Appraised. – The selectmen shall appraise open space land pursuant to RSA 79-A:5, open space land with conservation restrictions pursuant to RSA 79-B:3, land with discretionary easements pursuant to RSA 79-C:7, residences on commercial or industrial zoned land pursuant to RSA 75:11, earth and excavations pursuant to RSA 72-B, land

¹ *The Dictionary of Real Estate Appraisal*, 5th ed. Chicago: Appraisal Institute, 2010.

classified as land under qualifying farm structures pursuant to RSA 79-F, buildings and land appraised under RSA 79-G as qualifying historic buildings, qualifying chartered public school property appraised under RSA 79-H, residential rental property subject to a housing covenant under the low-income housing tax credit program pursuant to RSA 75:1-a, renewable generation facility property subject to a voluntary payment in lieu of taxes agreement under RSA 72:74 as determined under said agreement, telecommunications poles and conduits pursuant to RSA 72:8-c, and all other taxable property at its market value. Market value means the property's full and true value as the same would be appraised in payment of a just debt due from a solvent debtor. The selectmen shall receive and consider all evidence that may be submitted to them relative to the value of property, the value of which cannot be determined by personal examination.

RSA 75:1 is similar to a common definition of **market value** which is defined as "the most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller, each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition are the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

- a. The buyer and seller are typically motivated;
- b. Both parties are well informed or well advised, and acting in what they consider their own best interests;
- c. A reasonable time is allowed for exposure in the open market;
- d. Payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable, thereto; and
- e. The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale."

Type of Value Stated in the Vision and PVA Appraisal

Both Vision and PVA reports quotes the value definition in RSA 75:1. Additionally, the report quotes the market value definition by NH Department of Revenue "600 rules" as a further explanation.

- (a) Is the most probable price, not the highest, lowest or average price;
 - (b) Is expressed in terms of money;
 - (c) Implies a reasonable time for exposure to the market;
 - (d) Implies that both buyer and seller are informed of the uses to which the property may be put;
 - (e) Assumes an arm's length transaction in the open market;
 - (f) Assumes a willing buyer and a willing seller, with no advantage being taken by either buyer or seller;
- and

(g) Recognizes both the present use and the potential use of the property.²

Formats of Revaluation Reports Under Review:

The revaluation reports produced by PVA and Vision are considered mass valuation reports.

Extraordinary Assumptions:

An extraordinary assumption is defined as “an assumption, directly related to a specific assignment, which, if found to be false, could alter the appraiser’s opinions or conclusions. Extraordinary assumptions presume as fact otherwise uncertain information about physical, legal or economic characteristics of the subject property; or about conditions external to the property, such as market conditions or trends; or about the integrity of data used in an analysis.”³

Neither the PVA or Vision mass valuations reports were subject to extraordinary assumptions.

Hypothetical Conditions:

A hypothetical condition is defined by USPAP as *an assumption, which is contrary to what exists but is supposed for the purpose of analysis*⁴.

Neither the PVA or Vision mass valuations reports were subject to unusual hypothetical conditions.

This Review Appraisal Report does not include any hypothetical conditions.

SCOPE OF WORK IN THE REVIEW OF THE VISION AND PVA REVALUATION REPORTS

Scope of work defined: “The type and extent of research and analyses in an assignment.”⁵

Unless otherwise stated, in the preparation of this review analysis and reports, the review appraiser:

- Reviewed the entire mass appraisal reports provided by and Property Valuation Advisors PVA.
- Reviewed the revaluation contracts, and verified whether the terms of the contract were followed.
- Developed an opinion whether the data used in the analysis was appropriate, adequate, and internally consistent.
- Developed an opinion as to the appropriateness of the methods and techniques used in the revaluation.

² NH Department of Revenue, Property Appraisal Division, “600 Rules”; Rev 601.14

³ *The Dictionary of Real Estate Appraisal*, 5th ed. Chicago: Appraisal Institute, 2010.

⁴ Ibid

⁵ Ibid

-
- Developed an opinion as to the completeness, accuracy, relevance and reasonableness of the values and whether the opinions and conclusions expressed in the revaluation reports are credible and adequately supported.
 - Determined if the mass appraisals were completed in compliance with the version of USPAP in effect as of the date of the appraisal report under review.
 - Computed the following: the overall assessment ratio (which measures the overall ratio), Coefficient of Dispersion (which measures the accuracy of the new values), and the Price Related Differential (which measures if lower valued properties are assessed at the same level as higher valued properties), and determined if the statistics meet NH's Assessing Standards Board's (ASB) standards.
 - Analyzed sales by neighborhood, property type, size, year built, and construction grade to measure assessment consistency across Portsmouth.
 - Communicated my findings in a summary Review Appraisal Report which is intended to comply with the appraisal review, development and reporting requirements set forth under Standard Rule 3 of the Uniform Standards of Professional Appraisal Practice (USPAP).

The review appraiser has not done the following:

- Inspected the subject properties or any comparable sales.
- Conducted significant additional market research, beyond what is found in the reports under review
- Developed independent opinions of value of individual properties or the overall population.

Format of Review Reports:

This is a *Review Appraisal Report*, which is intended to comply with the reporting requirements set forth under Standards Rule 3-4, 3-5 and 3-6 of the Uniform Standards of Professional Appraisal Practice (USPAP) for an appraisal review report. The depth of discussion contained in this report is specific to the needs of the client and for the intended use stated previously.

Competency:

The appraiser has years of experience and is competent in the appraisal of residential, commercial, industrial, utility, mass appraisals, and special purpose properties, including the appraisal of numerous properties for ad valorem taxation purposes. My experience, background and education (see attached qualifications at the end of this report) qualifies me to review appraisals for the type of property being analyzed in this assignment.

Property and Highest and Best Use- Explanation:

Highest and best use may be defined as:

The reasonably probable and legal use of vacant land or an improved property, which is physically possible, appropriately supported, financially feasible, and that results in the highest value.

In the analysis of pertinent data, four criteria are applied in the following order to develop adequate support for the appraiser's highest and best use determination:

- 1.) Legally permissible

-
- 2.) Physically possible
 - 3.) Financially feasible
 - 4.) Maximally productive

These criteria are generally considered sequentially; however, the tests of physical possibility and legal permissibility can be applied in either order, but they both must be applied before the tests of financial feasibility and maximum productivity.

The process for determining the highest and best use of a property has four main steps. The first two are applied in the analysis of highest and best use of the land or site as though vacant; the third and fourth steps are applied in the analysis of the highest and best use of the property as improved.

- 1.) Determine the highest and best use of the site as though vacant.
- 2.) Determine the ideal improvement for development of the site.
- 3.) Compare the ideal improvement and the existing improvement.
- 4.) Conclude whether the improvements should be maintained, renovated, converted, or demolished.

Property and Highest and Best Use - Vision Report:

The Vision report, on page 12, states that a property's existing use, in most cases, will reflect the highest and best use. In limited cases, the highest and best use differed from the existing use. These properties were valued based on their highest and best use using the above criteria.

Property and Highest and Best Use – PVA Report

PVA states on Page 8 of their report "in most cases the existing use is already at its highest and best use, and will be evaluated and assessed accordingly." In limited cases, the highest and best use differed from the existing use. These properties were valued based on their highest and best use using the above criteria.

Both reports met USPAP Standards for mass appraisal highest and best use analysis.

OVERVIEW OF VALUATION MODELING (VISION AND PVA REVALUATION REPORTS)

Unlike single property appraisals, where appraisers value one property at a time, assessors rely on valuation models to value groups of properties, utilizing computer assisted mass appraisal systems (CAMA). Valuation models utilize one or more of the valuation approaches to be discussed and often use statistics in developing and testing models. Well-designed models replicate the actions of buyers and sellers and produce accurate values.

Mass appraisal models have two primary categories: model specification and model calibration. Model specification determines what data elements to include in the model and model calibration assigns a value, or factor, to the data elements. Model specification starts with identifying the data elements that drive value. For example, the type of property, size, age, condition, location, neighborhood characteristics, water views and access, along with other property characteristics will typically

influence value. Through model specification, all features that drive value should be considered. After data is collected, the market is analyzed to determine the value contribution of each data element. This is referred to as model calibration. Naturally, the model can only be as accurate as the data collected. Missing or incorrect data will impact the reliability of the model.

In addition to the physical characteristics, income modeling requires a substantial amount of income and expense data for all types of properties located within the jurisdiction.

Accurate valuation modeling depends on 1) determining what data to collect, 2) accurately collecting data, 3) correctly analyzing how each characteristic influence value through model calibration 4) testing the model and as necessary 5) refining the model through recalibration by repeating steps 3 and 4.

Essentially, the goal of the model is to reasonably predict the market value of each property through assigning value (through calibration) to the relevant characteristics that drive value.

PROCEDURE FOR REVIEWING MASS APPRAISALS

The procedure for reviewing mass appraisals is summarized as follows:

1. The first step reviews the data elements included in the model. This is known as the appraiser's model specification.
2. The second step reviews the relative uniformity of the data elements that drive value⁶.
3. The third step reviews the general model calibration. Model calibration applies a value or factor to the relevant characteristics that drive value.
4. The fourth step tests the results of the model. Properly specified and calibrated models should produce values within State of New Hampshire and International Association of Assessing Officers (IAAO) Standards.

The first three steps are combined in the following section of the report.

SPECIFICATION AND CALIBRATION REVIEW (VISION AND PVA REVALUATION REPORTS)

UNDERLYING ECONOMIC PRINCIPLES

Mass Appraisal models estimate market values for a large group of properties. Like single property appraisals, a solid understanding of economic principles is essential to produce accurate mass appraisals. Understanding the underlying economic principles is also essential in reviewing mass appraisals.

⁶ Vision and PVA both signed "full statistical revaluation" contracts. Full statistical revaluation is the process of valuation of all property in the municipality using existing property data and limited data collection was required. Statistical valuation is a very common scope of revaluation assignments in New Hampshire.

Anticipation, supply and demand, balance, substitution and change are the central economic concepts and principles that influence value.

- The principle of anticipation is based on the expectation of future benefits provided by a property.
- The principle of supply and demand asserts that the price of real property varies directly, but not necessarily proportionately with demand. This principle also states price varies inversely, but not necessarily proportionately with supply.
- The principle of balance affirms that land value is created and sustained when contrasting, opposing, or interacting elements are in equilibrium.
- The principle of substitution is based on the premise a buyer will pay no more for a site than another that is equal.
- Change is a result of the cause and effect relationship among the forces that influence land value.

Approaches to Value

The three methods typically used to estimate the value of properties are briefly summarized as follows.

Residential property buyers typically rely on the sales comparison and cost approaches, with little consideration given to the income approach. Commercial buyers and sellers rely on all three approaches, but often prefer the income approach.

Cost Approach: In the cost approach, an estimated reproduction or replacement cost of the building and land improvements as of the date of the appraisal is developed together with an estimate of the losses in value that have taken place due to wear and tear, design and plan, or neighborhood influences. To the depreciated building cost estimate, entrepreneurial profit and the estimated value of the land are added. The total represents the value indicated by the cost approach.

Sales Comparison Approach: In the sales comparison approach, the subject property is compared with similar properties sold recently or for which listing prices or offering figures are known. Data for generally comparable properties are used and comparisons are made to demonstrate a probable price at which the subject property would be sold if offered on the market.

Income Capitalization Approach: In the income capitalization approach, the current rental income to the property is calculated with deductions for vacancy and collection loss and expenses. The prospective net operating income of the property is then estimated. To support this estimate, operating statements for the subject property in previous years and for comparable properties are reviewed along with available operating cost estimates. An applicable capitalization method and appropriate capitalization rates are developed and used in computations that lead to an indication of value.

In this section, a greater explanation of each approach is given and the relative strengths and weaknesses of each approach are analyzed.

Land/Site Valuation

The first step in the cost approach is to estimate the value of the site as though vacant. Site valuation is performed to derive a value of the underlying land associated with the subject property.

The following methods are commonly used in site valuation

1. Sales comparison
2. Allocation
3. Extraction
4. Income capitalization

Sales comparison is the most common technique for valuing the underlying site (as though vacant) and is the preferred method when comparable sales are available. To apply this method, data on sales of similar parcels of land is collected, analyzed, compared, and adjusted to provide a value indication for the site being appraised. Both Vision and PVA utilized sales comparison approaches in estimating land values.

The allocation method is based on the principle of balance and the related concept of contribution. Both affirm there is a normal, or typical ratio of site value to property value for specific categories of real estate in specific locations. The allocation method has its greatest benefit and accuracy when estimating the value of residential lots.

Market extraction is a technique in which site value is extracted from the sale price of an improved property by deducting the contributory value of the improvements, usually at their depreciated cost. The remaining value is the value of the site. The market extraction method is commonly used when few vacant land sales exist. Both Vision and PVA utilized market extraction in estimating land values.

The various income capitalization procedures used to estimate land or site values rely on information that is often difficult for an appraiser to obtain. Therefore, these techniques are generally not used as primary valuation techniques except in special situations such as subdivision development analysis.

SITE VALUATION - (VISION AND PVA REVALUATION REPORTS)

Both Vision and PVA utilized sales comparison approaches in estimating land values. To apply the sales comparison approach, the following steps and procedures are followed.

1. Research the market for recent sales of similar vacant lots.
2. Verify the data with one or more principals involved in the transactions for details regarding the sales.
3. Select the relevant unit(s) of comparison and apply adjustments to the sale prices of the comparable sales for significant differences with the subject.
4. Analyze the data and conclude the most probable market value of the subject site (as though vacant).

LAND VALUATION REVIEW (PVA AND VISION REVALUATION REPORTS)

In estimating market values, the value of the underlying land is added to the depreciated improvement values.

Base Land Values

Base land values were developed from market studies. Portsmouth is nearly fully developed and few vacant land sales exist. PVA and Vision had few sales to analyze and both relied on market extraction and sales comparison approaches

Land Analysis- Vision

To estimate land value, Vision analyzed the few available sales and primarily relied on a land residual technique. The land residual technique measures land value by deducting the value of improvements from total sale price. The “residual” is the land value once improvement value is deducted. Vision calculated the land residual from 145 sales. This analysis provided the basis for base land values and land adjustments.

Land Analysis- PVA

To estimate land value, PVA analyzed the available sales and relied on a land residual technique. PVA calculated the land residual from 21 sales. This analysis provided the basis for base land values and land adjustments. Jurisdictions usually have less commercial than residential sales.

If present and readily available, vacant land sales are preferred. However, when sales are few, the land residual technique produces credible value indications. The land residual is an acceptable technique and is used extensively in mass appraisal.

Land Analysis- Condos (Vision and PVA)

The exception to the above is condominiums. For condominiums, land is considered a common element and the contributory value of land is essentially part of the sale price and value of condominium units. There is not normally a separate land value for condominiums. This is an acceptable technique and is used extensively in mass appraisal. This applies to both the Vision and PVA appraisals.

Adjustments Made to Base Land Values (Neighborhoods)

The City of Portsmouth is a diverse city with a variety of neighborhoods. Some neighborhoods command higher prices compared with others. Neighborhoods are coded by numbers and letters. The neighborhood and its corresponding number can be found on the Neighborhood Map.

The following table lists each residential neighborhood. Please note next to each neighborhood code is a corresponding “adjustment factor.” The land adjustment factor is applied to the “base” land value to reflect the unique location and desirability of the neighborhood. The higher the adjustment, the more

desirable the neighborhood. Adjustments range (from the table on the previous page) from .80 to 2.90 (1.00 indicates no adjustment) from the base land value.

To illustrate, the 10,000 SF “base land value” is \$147,500. Neighborhood 109 was found to be more desirable compared with the average neighborhood, with higher prices found in 109. Considering the higher values in Neighborhood 109, the unit price is adjusted upward to \$368,750 ($\$147,500 \times 2.50 = \$368,750$). Conversely, Neighborhoods 118, 119, 121, and 132 are considered typical and their base rates are \$147,500 ($\$147,500 \times 1 = \$147,500$).

Neighborhood	Adjustment Factor	10,000 SF Lot	20,000 SF Lot	Notes
0	1.00	\$147,500	\$154,000	Not Used*
0001	1.00	\$147,500	\$154,000	
101	2.50	\$368,750	\$385,000	
102	2.50	\$368,750	\$385,000	
103	2.40	\$354,000	\$369,600	Not Used*
103A	2.90	\$427,750	\$446,600	
103B	2.50	\$368,750	\$385,000	
104	1.85	\$272,875	\$284,900	
105	1.80	\$265,500	\$277,200	
106	1.70	\$250,750	\$261,800	Not Used*
107	1.70	\$250,750	\$261,800	Not Used*
108	2.70	\$398,250	\$415,800	
109	2.50	\$368,750	\$385,000	
110	1.70	\$250,750	\$261,800	
111	2.05	\$302,375	\$315,700	
112	1.50	\$221,250	\$231,000	
113	2.40	\$354,000	\$369,600	
114	1.20	\$177,000	\$184,800	
115	1.20	\$177,000	\$184,800	
116	0.75	\$110,625	\$115,500	Not Used*
117	0.75	\$110,625	\$115,500	Not Used*
118	1.00	\$147,500	\$154,000	
119	1.00	\$147,500	\$154,000	
120	0.80	\$118,000	\$123,200	
121	1.00	\$147,500	\$154,000	
123	1.30	\$191,750	\$200,200	
124	1.20	\$177,000	\$184,800	
125	1.10	\$162,250	\$169,400	
127	1.10	\$162,250	\$169,400	
128	1.20	\$177,000	\$184,800	
129	1.20	\$177,000	\$184,800	
130	1.10	\$162,250	\$169,400	

Neighborhood	Adjustment Factor	10,000 SF Lot	20,000 SF Lot	Notes
131	1.70	\$250,750	\$261,800	
132	1.00	\$147,500	\$154,000	
133	1.10	\$162,250	\$169,400	
134	1.30	\$191,750	\$200,200	
* Indicates neighborhoods in the CAMA system but not currently used.				

The following table and chart shows the adjustment factors and base land values for each commercial neighborhood.

NHBD	Areas	Adjustment Factor	Price per Acre
301	Industrial and Tertiary Locations	0.260	\$260,000
302	Islington, Lafayette, Rte1, Bypass	0.480	\$480,000
303	Woodbury Ave.	1.000	\$1,000,000
304	DT Peripheral	0.530	\$530,000
305	Downtown	1.150	\$1,150,000
306	Tertiary Commercial Location	0.220	\$220,000
307	Pease (when applicable)	0.220	\$220,000



The base value conclusions and adjustment factors contained in both the Vision and PVA appraisals were found to be reasonable and well supported.

Adjustments Made to Base Land Values (Within Neighborhoods)

Location is one of the most important considerations in real estate valuation. Further refinements are necessary beyond the neighborhood level. For example, certain streets within a neighborhood can be

more desirable. Considerations for commercial property include traffic volume, amenities, street names and other significant differences.

The following table shows the Site Index for properties in Portsmouth. The factors vary, but again, the higher the influence factor, the more desirable the location. The most common factor is 1.00 (Site Index 1 and Site Index 2) which is applied to most properties. Properties with exceptional locations, largely waterfront, were adjusted upward with factors above 1.

Site Index	Description	Adjustment Factor	10,000 Lot	20,000 Lot
1	SITE INDEX 1	1.00	\$147,000	\$154,000
2	SITE INDEX 2	1.00	\$147,000	\$154,000
3	Down Town	1.25	\$183,750	\$192,500
4	304P	1.07	\$157,290	\$164,780
5	305P	1.25	\$183,750	\$192,500
6	301W	1.25	\$183,750	\$192,500
7	304W	1.32	\$194,040	\$203,280
8	305W	1.70	\$249,900	\$261,800
9	306W	4.50	\$661,500	\$693,000
A	Harbor South	2.75	\$404,250	\$423,500
B	Harbor North	1.75	\$257,250	\$269,500
C	South Mill Pnd	1.25	\$183,750	\$192,500
D	Nth Mill Pnd 1	1.45	\$213,150	\$223,300
E	Nth Mill Pnd 2	1.60	\$235,200	\$246,400
F	Pisc River 1	2.00	\$294,000	\$308,000
G	Pisc River 2	2.10	\$308,700	\$323,400
H	Pisc River 3	2.20	\$323,400	\$338,800
I	Sag Crk West	2.00	\$294,000	\$308,000
J	Sag Crk East	2.60	\$382,200	\$400,400
K	110 W	2.70	\$396,900	\$415,800
L	110 P	1.22	\$179,340	\$187,880
M	111 W	2.70	\$396,900	\$415,800
N	111 P	1.27	\$186,690	\$195,580
O	108 W	2.30	\$338,100	\$354,200
P	108 P	1.20	\$176,400	\$184,800
Q	113 W	1.75	\$257,250	\$269,500
R	113 P	1.25	\$183,750	\$192,500
S	127 W	1.20	\$176,400	\$184,800
T	127 P	1.06	\$155,820	\$163,240
U	128 W	1.10	\$161,700	\$169,400
V	OBS WV	1.05	\$154,350	\$161,700
W	WV	1.20	\$176,400	\$184,800
X	WV	1.20	\$176,400	\$184,800

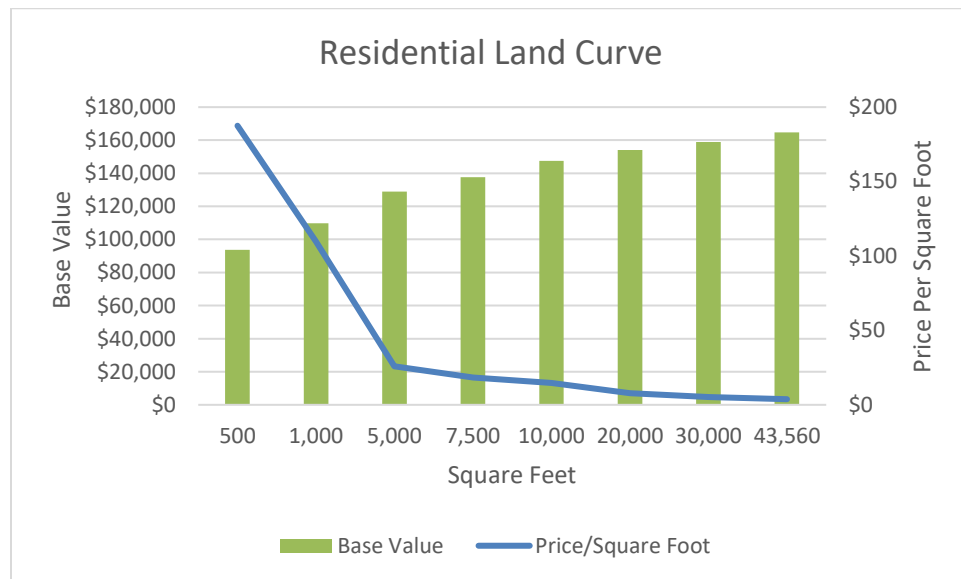
Site Index	Description	Adjustment Factor	10,000 Lot	20,000 Lot
Y	EXP WV	1.30	\$191,100	\$200,200
Z	131 P	1.11	\$163,170	\$170,940

Adjustments Made to Base Land Values (Land Size)

Larger parcels of land typically sell for lower unit prices (all else being the same). For example, a 10,000 square foot (SF) lot that is similar in all aspects (except size) compared with a 100,000 square foot lot would normally not sell for 10x the price.

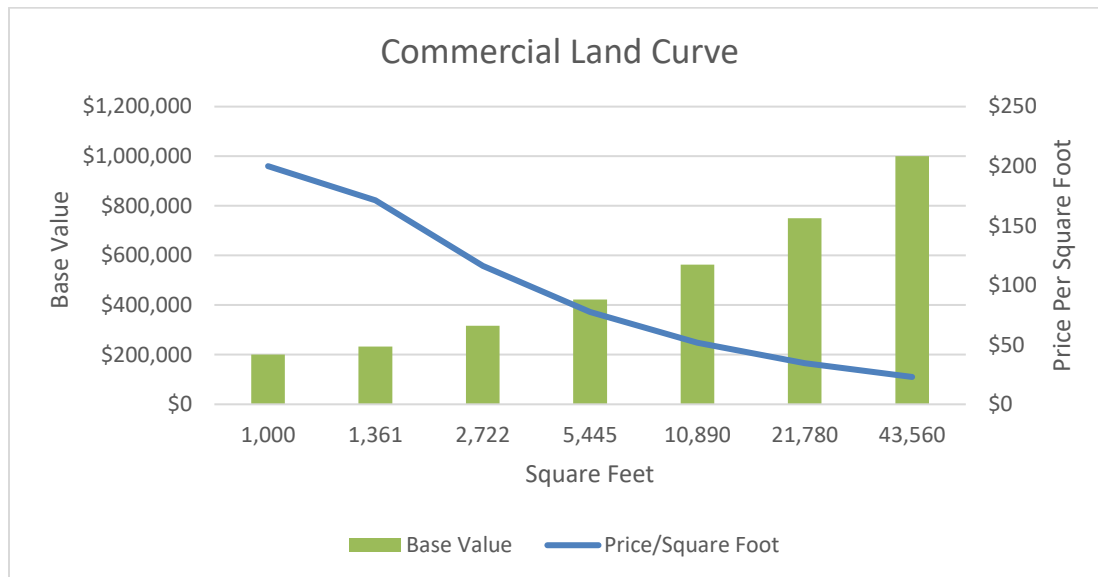
In the Vision report, an analysis was performed to capture the relationship between size and price. This is known as the “land curve.” The results of the study are shown on the following table and graph.

Square Feet	Price/Square Foot	Base Value
500	\$187.50	\$93,750
1000	\$109.80	\$109,800
5000	\$25.78	\$128,900
7500	\$18.36	\$137,700
10000	\$14.75	\$147,500
20000	\$7.70	\$154,000
30000	\$5.30	\$159,000
43560	\$3.78	\$164,657



In the PVA report, an analysis was performed to capture the relationship between size and price land curve). The results of the study are shown on the following table and graph.

Square Feet	Price/Square Foot	Base Value
1,000	\$200.00	\$200,000
1,361	\$171.21	\$233,017
2,722	\$116.24	\$316,405
5,445	\$77.48	\$421,879
10,890	\$51.65	\$562,469
21,780	\$34.44	\$750,103
43,560	\$22.96	\$1,000,138



Special Base Land Rates

Both Vision and PVA developed special base land rates for certain property types (example \$/dwelling unit). For example, the base land value of an average apartment (AP4) was found to be \$58,000 per dwelling unit. An average AP4 apartment with 4 units would have a land value of \$232,000.

Unit prices (example \$/dwelling unit) are impacted to a lesser degree by differences in size. PVA incorporates a modest size adjustment as units increase. The unit methodology is an acceptable technique that produces credible results. Below is a table showing the adjustments to the base land values.

Code	Unit Type	Description	Impact	Price Adjustment
719	Acre	NURSERIES	REPLACE	\$1,000
720	Acre	NONPRNECLD	REPLACE	\$30
722	Acre	NONPREWETLD	REPLACE	\$50

Code	Unit Type	Description	Impact	Price Adjustment
AP1	Building lot	VP APT	REPLACE	\$35,000
AP2	Building lot	PR APT	REPLACE	\$43,000
AP3	Building lot	FR APT	REPLACE	\$50,000
AP4	Building lot	AVG APT	REPLACE	\$58,000
AP5	Building lot	ABV AVG APT	REPLACE	\$66,000
AP6	Building lot	GD APT	REPLACE	\$77,000
AP7	Building lot	VG APT	REPLACE	\$93,000
AP8	Building lot	EX APT	REPLACE	\$103,000
APW	Building lot	APT WF	REPLACE	\$150,000
BL1	Building lot	Bldg. Lot 1	REPLACE	\$60,000
BL2		Excess Land	replace	\$0
CU1	Acre	FARMLAND	REPLACE	\$425
CU2	Acre	WHITE PINE W	REPLACE	\$83
CU3	Acre	HARDWOOD W	REPLACE	\$36
CU4	Acre	ALL OTHER W	REPLACE	\$25
CU5	Acre	UNPRODUCTIVE	REPLACE	\$20
CU6	Acre	WETLAND	REPLACE	\$20
CU7	Acre	WHITE PINE WO	REPLACE	\$138
CU8	Acre	HARDWOOD WO	REPLACE	\$59
CU9	Acre	ALLOTHER WO	REPLACE	\$43
FT	Front foot		REPLACE	\$4
HT1	Building lot	HOTEL/MOT PR	REPLACE	\$10,000
HT2	Building lot	HOTEL/MOT FR	REPLACE	\$14,000
HT3	Building lot	HOTEL/MOT AV	REPLACE	\$17,000
HT4	Building lot	HOTEL/MOT GD	REPLACE	\$22,000
HT5	Building lot	HOTEL/MOT VG	REPLACE	\$27,000
HT6	Building lot	HOTEL/MOT EX	REPLACE	\$33,000
MH1	Building lot	VP MH	REPLACE	\$25,000
MH2	Building lot	PR MH	REPLACE	\$28,000
MH3	Building lot	FR MH	REPLACE	\$33,000
MH4	Building lot	AV MH	REPLACE	\$38,000
MH5	Building lot	ABV AV MH	REPLACE	\$43,000
MH6	Building lot	GD MH	REPLACE	\$48,000
MH7	Building lot	VG MH	REPLACE	\$52,000
MH8	Building lot	EX MH	REPLACE	\$56,000
ROW	Other	Right of Way	Replace	\$4
SP	Other	Septic	ADJUST	-\$2,000
TP	Other	Topography	None	\$0
WF1	Waterfront		Replace	\$100
WF2	Waterfront		Replace	\$200
WF3	Waterfront		Replace	\$250

Code	Unit Type	Description	Impact	Price Adjustment
WF4	Waterfront		Replace	\$300

PVA also applied a factor, as shown on the table below, to apartment land values based on number of units.

	4 Units	5 Units	6 Units	7 Units	8 Units +
Factor	1.00	0.95	0.90	0.85	0.80
VP APT	\$35,000	\$33,250	\$31,500	\$29,750	\$28,000
PR APT	\$43,000	\$40,850	\$38,700	\$36,550	\$34,400
FR APT	\$50,000	\$47,500	\$45,000	\$42,500	\$40,000
AVG APT	\$58,000	\$55,100	\$52,200	\$49,300	\$46,400
ABV AVG APT	\$66,000	\$62,700	\$59,400	\$56,100	\$52,800
GD APT	\$77,000	\$73,150	\$69,300	\$65,450	\$61,600
VG APT	\$93,000	\$88,350	\$83,700	\$79,050	\$74,400
EX APT	\$103,000	\$97,850	\$92,700	\$87,550	\$82,400
APT WF	\$150,000	\$142,500	\$135,000	\$127,500	\$120,000

The land values are added to the depreciated improvement values and the result is market value estimates for improved properties.

Cost Approach- General Explanation

In the cost approach, the appraiser analyzes the cost of the subject improvements by comparison to the cost to develop similar or exact improvements as evidenced by the cost of construction of substitute properties with the same utility as the subject property. The estimate of cost is adjusted for market-extracted losses in value caused by the age, condition, and utility of the subject improvements or for location problems. Next, the land value is added. The sum of the value of the land and the improvements is adjusted for the property rights conveyed based on market comparisons.

The principle of substitution, the underlying rationale of this approach, holds that no prudent person will pay more for a property than the price of a site and the cost of constructing, without undue delay, an equally desirable and useful property.

In the cost approach, the cost to develop a similar property is compared with the property being appraised. The cost approach to value is most effective when the improvements are new or near new and the land value is well supported. If the existing improvements represent the highest and best use of the site and the building suffers from minor depreciation, the value provided by this approach is reliable. The approach is less reliable when the site value is not well supported or when the improvements are older and suffer from several forms of depreciation. The cost approach provides a reliable value indication for owner-occupied properties, proposed properties, special purpose properties and other properties not frequently exchanged in the market.

In the cost approach, the following steps are typically employed:

1. Estimate the value of the site as though vacant and available to be developed to its highest and best use.⁷
2. Determine which cost basis is most applicable to the assignment: reproduction cost or replacement cost.
3. Estimate the direct (hard) and indirect (soft) costs of the improvements as of the effective appraisal date.
4. Estimate the appropriate entrepreneurial profit or incentive from analysis of the market.
5. Add the estimated direct costs, indirect costs, and entrepreneurial profit or incentive to arrive at the total cost of the improvements.
6. Estimate the amount of depreciation in the structure and, if necessary, allocate it among the three major categories:
 - Physical deterioration
 - Functional obsolescence
 - External obsolescence
7. Deduct estimated depreciation from the total cost of the improvements to derive an estimate of their depreciated cost.
8. Estimate the contributory value of any site improvements that have not already been considered.
9. Add site value to the total depreciated cost of all the improvements to develop the market value of the property.
10. Adjust the value conclusion if any personal property (e.g., furniture, fixtures, and equipment) or intangible assets are included in the appraisal assignment. If necessary, this value, which reflects the value of the fee simple interest, may be adjusted for the property interest being appraised to arrive at the indicated value of the specified interest in the property.

Definitions of terms that may be used in the cost approach analysis include:⁸

Breakdown method. *A method of estimating depreciation in which the total diminution in the value of a property is estimated by analyzing and measuring each cause of depreciation (physical, functional, and external) separately.*

⁷ See the “Land/Site Valuation” for an explanation of site valuation.

⁸ SOURCE: Dictionary of Real Estate Appraisal, 5th Addition, Appraisal Institute, Chicago, Illinois 2015

Cost approach. *A set of procedures through which a value indication is derived for the fee simple estate by estimating the current cost to construct a reproduction of (or replacement for) the existing structure, including an entrepreneurial incentive or profit; deducting depreciation from the total cost; and adding the estimated land value. Adjustments may then be made to the indicated value of the fee simple estate in the subject property to reflect the value of the property interest being appraised.*

Curable functional obsolescence. *An element of depreciation; a curable defect caused by a flaw in the structure, materials, or design, which can be practically and economically corrected.*

Curable physical deterioration. *A form of physical deterioration that can be practically and economically corrected as of the date of appraisal; excludes vandalism and damage, which are curable conditions but are not accounted for in an estimate of replacement cost or reproduction cost.*

Depreciation. *In appraisal, a loss in property value from any cause; the difference between the cost of an improvement on the effective date of the appraisal and the market value of the improvement on the same date.*

Direct costs. *Expenditures for the labor and materials used in the construction of improvements; also called hard costs.*

Economic age-life method. *A method of estimating depreciation in which the ratio between the effective age of a building and its total economic life is applied to the current cost of the improvements to obtain a lump-sum deduction; also known as the age-life method.*

Economic life. *The period over which improvements to real estate contribute to property value.*

Entrepreneurial incentive. *The amount an entrepreneur expects to receive for his or her contribution to a project. Entrepreneurial incentive may be distinguished from entrepreneurial profit (often called developer's profit) in that it is the expectation of future profit as opposed to the profit actually earned on a development or improvement. The amount of entrepreneurial incentive required for a project represents the economic reward sufficient to motivate an entrepreneur to accept the risk of the project and to invest the time and money necessary in seeing the project through to completion.*

External obsolescence. *A type of depreciation; a diminution in value caused by negative external influences and generally incurable on the part of the owner, landlord, or tenant. The external influence may be either temporary or permanent.*

Functional obsolescence. *The impairment of functional capacity of improvements according to market tastes and standards.*

Incurable functional obsolescence. *An element of depreciation; a defect caused by a deficiency or superadequacy in the structure, materials, or design that cannot be practically or economically corrected as of the effective date of the appraisal.*

Incurable physical deterioration. *A form of physical deterioration that cannot be practically or economically corrected as of the effective date of appraisal.*

Indirect costs. *Expenditures or allowances for items other than labor and materials that are necessary for construction, but are not typically part of the construction contract. Indirect costs may include administrative costs; professional fees; financing costs and the interest paid on construction loans; taxes and the builder's or developer's all-risk insurance during construction; and marketing, sales, and lease-up costs incurred to achieve occupancy or sale. Also called soft costs.*

Physical deterioration. *The wear and tear that begins when a building is completed and placed into service.*

Physical life. *An estimate of how old a building or improvement will be when it is worn out. 2. The total period a building lasts or is expected to last as opposed to its economic life.*

Quantity survey method. *A cost-estimating method in which the quantity and quality of all materials used and all categories of labor required are estimated and unit cost figures are applied to arrive at a total cost estimate for labor and materials.*

Reproduction cost. *The estimated cost to construct, at current prices as of the effective date of the appraisal, an exact duplicate or replica of the building being appraised, using the same materials, construction standards, design, layout, and quality of workmanship and embodying all the deficiencies, superadequacies, and obsolescence of the subject building.*

Unit-in-place method. *A cost-estimating method in which total building cost is estimated by adding together the unit costs for the various building components as installed; also called the segregated cost method.*

Useful life. *The period of time over which a structure or a component of a property may reasonably be expected to perform the function for which it was designed.*

Improvement Valuation- Base Values

When valuing improvements in mass appraisals, it's typical to estimate base rates using elements of both the cost and sales comparison approach. The sales comparison approach is used to assist in the calibration and testing of the cost model.

Building Base Valuation

To value the contribution of building improvements, "building base rates" were developed for each property type. Base rates were estimated by analyzing sales data in the local market and cost data from the Marshall Valuation Service, a national cost estimating service. Building base rates were developed by Vision for residential properties including residential condominiums. Commercial base rates were developed by PVA for commercial, industrial, and the commercial condominium properties.

The base residential rates, developed by Vision, are found on the table below.

Style	Style Description	Base Rate	Depreciation Table
1	Ranch	\$96	4
2	Split-Level	\$106	4
3	Colonial	\$101	4
4	Cape Cod	\$106	4
5	Bungalow	\$108	4
6	Conventional	\$108	4
7	Modern/Contemp	\$106	4
8	Raised Ranch	\$106	4
9	2 Unit	\$108	4
10	Duplex	\$108	4
105	Townhouse/Row	\$107	4
106	Gambrel	\$109	4
107	Garrison	\$101	4
108	Saltbox	\$101	4
109	Log	\$108	4
11	3 Unit	\$122	4
20	Mobile Home	\$65	4
20D	Double Wide MH	\$78	4
36	Camp	\$95	4
3A	Old Style Colonial	\$126	4
55	Condominium	\$198	4
56	Condo Office	\$116	4
60	Victorian	\$110	4
63	Antique	\$115	4
76	Mortuary/Cemet	\$115	4
89	Other Municip	\$155	4
90	Retail Condo	\$96	4
94	Outbuildings	\$0	4
95	Garage/Office	\$79	4
98	Indust Condo	\$57	4
99	Vacant Land	\$0	4

The base condominium rates are found on the table below. As noted below, the “Company” column indicates the company that developed the value.

Style	Style Description	Base Rate	Depreciation Table	Company
120	House Conv 1FL	\$198	4	Vision
121	House Conv 1FL+	\$198	4	Vision
122	Townhouse End	\$198	4	Vision
123	Garden End	\$198	4	Vision
124	Townhouse Int	\$198	4	Vision

125	Garden Int	\$198	4	Vision
129	Townhouse/Row	\$198	4	Vision
210	Hanger Condo	\$53	4	PVA
211	COMM CONDO	\$83	4	PVA
55	Condominium	\$198	4	PVA
56	Condo Office	\$116	4	PVA
5C	Condo Bank	\$171	4	PVA
90	Retail Condo	\$96	4	PVA
98	Indust Condo	\$57	4	PVA

The base commercial rates developed by PVA are found on the table below.

Style	Style Description	Base Rate	Depreciation Table
12	Commercial	\$87	4
13	Department Str	\$72	4
14	Apartments	\$102	4
15	Shop Center RE	\$111	4
16	Shop Center LO	\$104	4
17	Store	\$96	4
18	Office Bldg	\$135	4
19	Profess. Bldg	\$146	4
20	Mobile Home	\$72	4
200	Retail/Office	\$105	4
201	Food Stand	\$82	4
202	Parking Garage	\$55	4
203	Conv Store	\$106	4
204	Day Care	\$124	4
205	Retail/Office/Apt	\$104	4
206	Self Storage	\$37	4
207	Cultural Facility	\$127	4
208		\$110	4
21	Fast Food Rest	\$149	4
210		\$53	4
211		\$83	4
23	Finan Inst.	\$173	4
25	Service Shop	\$66	4
26	Serv Sta 2-bay	\$145	4
27	Auto Sales Rpr	\$101	4
29	Nursing Home	\$156	4
30	Restaurant	\$138	4
31	Branch Bank	\$171	4
32	Theaters Encl.	\$113	4
33	Nightclub/Bar	\$100	4

Style	Style Description	Base Rate	Depreciation Table
38	Country Club	\$145	4
39	Inn	\$104	4
40	Light Indust	\$60	4
41	Research/Devel	\$80	4
43	Car Wash	\$100	4
47	Cold Storage	\$76	4
48	Whse-Indust	\$51	4
49	Serv Sta 3-Bay	\$145	4
4C	Comml whse	\$51	4
51	Indust. Office	\$113	4
52	Pre-Eng Mfg	\$47	4
53	Pre-Eng Warehs	\$39	4
54	Health Club	\$98	4
56	Condo Office	\$116	4
57	Library	\$155	4
59	Fire Station	\$144	4
61	Dry Cln/Laundr	\$93	4
64	Tennis Club	\$56	4
65	Skating Arena	\$85	4
66	Hotel	\$152	4
67	Coin-op CarWsh	\$71	4
69	Truck Terminal	\$64	4
70	Dormitory	\$129	4
71	Churches	\$147	4
72	School/College	\$128	4
73	Hospitals-Priv	\$159	4
74	Home for Aged	\$142	4
75	Gas Mart	\$174	4
76	Mortuary/Cemet	\$115	4
77	Clubs/Lodges	\$107	4
78	Airport Hangar	\$53	4
79	Telephone Bldg	\$158	4
80	Retail/Apartment	\$103	4
82	Auditorium	\$136	4
83	Schools-Public	\$145	4
85	Hospital	\$234	4
87	Other State	\$155	4
88	Other Federal	\$155	4
89	Other Municip	\$155	4
90	Retail Condo	\$96	4
91	Fast Food	\$84	4

Style	Style Description	Base Rate	Depreciation Table
92	Court House	\$155	4
95	Garage/Office	\$79	4
96	Office/Warehs	\$61	4
97	High Rise Apt	\$120	4
98	Indust Condo	\$57	4

Building Valuation (Building Base Rate Adjustment)

There are many different factors contributing to market value and a wide array of adjustments are applied to building base rates. Both qualitative and quantitative adjustments are applied.

The model specification identifies what data characteristics that influence value are collected. For example, a typical house has carpet flooring. The base rate of a house with marble floors would be adjusted upward for this superior feature compared with the average carpeted house. Once these items that influence value are identified and collected (model specification), a value or factor (model calibration) is then applied to each attribute.

Below is a complete list of all property attributes for both residential and commercial properties. The “Residential” codes were set by Vision and the “Commercial” codes were set by PVA.

Building Type	Attribute	Valid Code	Description
RESIDENTIAL	AC Type:	01	None
RESIDENTIAL	AC Type:	02	Heat Pump
RESIDENTIAL	AC Type:	03	Central
RESIDENTIAL	AC Type:	04	Unit/AC
RESIDENTIAL	AC Type:	05	Vapor Cooler
RESIDENTIAL	AC Type:	06	
RESIDENTIAL	Bath Style:	1	Avg Quality
RESIDENTIAL	Bath Style:	2	Above Avg Qual
RESIDENTIAL	Bath Style:	3	Below Avg Qual
RESIDENTIAL	Bath Style:	4	Good Quality
RESIDENTIAL	Bath Style:	5	Fair
RESIDENTIAL	CNS_BATHRM_STYLE2	1	Avg Quality
RESIDENTIAL	CNS_BATHRM_STYLE2	2	Above Avg Qual
RESIDENTIAL	CNS_BATHRM_STYLE2	3	Below Avg Qual
RESIDENTIAL	CNS_BATHRM_STYLE2	4	Good Quality
RESIDENTIAL	CNS_BATHRM_STYLE2	5	Fair
RESIDENTIAL	CNS_BATHRM_STYLE3	1	Avg Quality
RESIDENTIAL	CNS_BATHRM_STYLE3	2	Above Avg Qual
RESIDENTIAL	CNS_BATHRM_STYLE3	3	Below Avg Qual
RESIDENTIAL	CNS_BATHRM_STYLE3	4	Good Quality
RESIDENTIAL	CNS_BATHRM_STYLE3	5	Fair

Building Type	Attribute	Valid Code	Description
RESIDENTIAL	CNS_KITCHEN_STYLE2	1	Avg Quality
RESIDENTIAL	CNS_KITCHEN_STYLE2	2	Above Avg Qual
RESIDENTIAL	CNS_KITCHEN_STYLE2	3	Below Avg Qual
RESIDENTIAL	CNS_KITCHEN_STYLE2	4	Good Quality
RESIDENTIAL	CNS_KITCHEN_STYLE2	5	Fair
RESIDENTIAL	CNS_KITCHEN_STYLE3	1	Avg Quality
RESIDENTIAL	CNS_KITCHEN_STYLE3	2	Above Avg Qual
RESIDENTIAL	CNS_KITCHEN_STYLE3	3	Below Avg Qual
RESIDENTIAL	CNS_KITCHEN_STYLE3	4	Good Quality
RESIDENTIAL	CNS_KITCHEN_STYLE3	5	Fair
RESIDENTIAL	CNS_USRFLD_100	A	
RESIDENTIAL	CNS_USRFLD_100	B	
RESIDENTIAL	CNS_USRFLD_100	C	
RESIDENTIAL	CNS_USRFLD_100	D	
RESIDENTIAL	Exterior Wall 1	01	Minimum
RESIDENTIAL	Exterior Wall 1	02	Comp./Wall Brd
RESIDENTIAL	Exterior Wall 1	03	Below Average
RESIDENTIAL	Exterior Wall 1	04	Single Siding
RESIDENTIAL	Exterior Wall 1	05	Average
RESIDENTIAL	Exterior Wall 1	06	Board & Batten
RESIDENTIAL	Exterior Wall 1	07	Asbest Shingle
RESIDENTIAL	Exterior Wall 1	08	Wood on Sheath
RESIDENTIAL	Exterior Wall 1	09	Logs
RESIDENTIAL	Exterior Wall 1	10	Cement Fiber
RESIDENTIAL	Exterior Wall 1	11	Clapboard
RESIDENTIAL	Exterior Wall 1	12	Cedar or Redwd
RESIDENTIAL	Exterior Wall 1	13	Pre-Fab Wood
RESIDENTIAL	Exterior Wall 1	14	Wood Shingle
RESIDENTIAL	Exterior Wall 1	15	Concr/Cinder
RESIDENTIAL	Exterior Wall 1	16	Stucco on Wood
RESIDENTIAL	Exterior Wall 1	17	Stucco/Masonry
RESIDENTIAL	Exterior Wall 1	18	Asphalt
RESIDENTIAL	Exterior Wall 1	19	Brick/Stne Ven
RESIDENTIAL	Exterior Wall 1	20	Brick/Masonry
RESIDENTIAL	Exterior Wall 1	21	Stone/Masonry
RESIDENTIAL	Exterior Wall 1	22	Precast Panel
RESIDENTIAL	Exterior Wall 1	23	Pre-cast Concr
RESIDENTIAL	Exterior Wall 1	24	Reinforc Concr
RESIDENTIAL	Exterior Wall 1	25	Vinyl Siding
RESIDENTIAL	Exterior Wall 1	26	Aluminum Sidng
RESIDENTIAL	Exterior Wall 1	27	Pre-finsh Metl

Building Type	Attribute	Valid Code	Description
RESIDENTIAL	Exterior Wall 1	28	Glass/Thermo.
RESIDENTIAL	Exterior Wall 1	29	Vinyl Shingle
RESIDENTIAL	Exterior Wall 1	30	Stone Veneer
RESIDENTIAL	Exterior Wall 2	01	Minimum
RESIDENTIAL	Exterior Wall 2	02	Comp./Wall Brd
RESIDENTIAL	Exterior Wall 2	03	Below Average
RESIDENTIAL	Exterior Wall 2	04	Single Siding
RESIDENTIAL	Exterior Wall 2	05	Average
RESIDENTIAL	Exterior Wall 2	06	Board & Batten
RESIDENTIAL	Exterior Wall 2	07	Asbest Shingle
RESIDENTIAL	Exterior Wall 2	08	Wood on Sheath
RESIDENTIAL	Exterior Wall 2	09	Logs
RESIDENTIAL	Exterior Wall 2	10	Cement Fiber
RESIDENTIAL	Exterior Wall 2	11	Clapboard
RESIDENTIAL	Exterior Wall 2	12	Cedar or Redwd
RESIDENTIAL	Exterior Wall 2	13	Pre-Fab Wood
RESIDENTIAL	Exterior Wall 2	14	Wood Shingle
RESIDENTIAL	Exterior Wall 2	15	Concr/Cinder
RESIDENTIAL	Exterior Wall 2	16	Stucco on Wood
RESIDENTIAL	Exterior Wall 2	17	Stucco/Masonry
RESIDENTIAL	Exterior Wall 2	18	Asphalt
RESIDENTIAL	Exterior Wall 2	19	Brick/Stne Ven
RESIDENTIAL	Exterior Wall 2	20	Brick/Masonry
RESIDENTIAL	Exterior Wall 2	21	Stone/Masonry
RESIDENTIAL	Exterior Wall 2	22	Precast Panel
RESIDENTIAL	Exterior Wall 2	23	Pre-cast Concr
RESIDENTIAL	Exterior Wall 2	24	Reinforc Concr
RESIDENTIAL	Exterior Wall 2	25	Vinyl Siding
RESIDENTIAL	Exterior Wall 2	26	Aluminum Sidng
RESIDENTIAL	Exterior Wall 2	27	Pre-finsh Metl
RESIDENTIAL	Exterior Wall 2	28	Glass/Thermo.
RESIDENTIAL	Exterior Wall 2	29	Vinyl Shingle
RESIDENTIAL	Exterior Wall 2	30	Stone Veneer
RESIDENTIAL	Grade:	A	A
RESIDENTIAL	Grade:	A+	A+
RESIDENTIAL	Grade:	A-	A-
RESIDENTIAL	Grade:	B	B
RESIDENTIAL	Grade:	B+	B+
RESIDENTIAL	Grade:	B-	B-
RESIDENTIAL	Grade:	C	C
RESIDENTIAL	Grade:	C+	C+

Building Type	Attribute	Valid Code	Description
RESIDENTIAL	Grade:	C-	C-
RESIDENTIAL	Grade:	D	D
RESIDENTIAL	Grade:	D+	D+
RESIDENTIAL	Grade:	D-	D-
RESIDENTIAL	Grade:	E	E
RESIDENTIAL	Grade:	X	X
RESIDENTIAL	Grade:	X+	X+
RESIDENTIAL	Grade:	X-	X-
RESIDENTIAL	Heat Fuel	00	None
RESIDENTIAL	Heat Fuel	01	Coal or Wood
RESIDENTIAL	Heat Fuel	02	Oil
RESIDENTIAL	Heat Fuel	03	Gas
RESIDENTIAL	Heat Fuel	04	Electric
RESIDENTIAL	Heat Fuel	05	Solar Assisted
RESIDENTIAL	Heat Fuel	06	Geo Thermal
RESIDENTIAL	Heat Type:	01	None
RESIDENTIAL	Heat Type:	02	Warm Air
RESIDENTIAL	Heat Type:	03	Electric
RESIDENTIAL	Heat Type:	04	Hot Water
RESIDENTIAL	Heat Type:	05	Steam
RESIDENTIAL	Heat Type:	06	Wall Unit
RESIDENTIAL	Heat Type:	07	Baseboard
RESIDENTIAL	Heat Type:	08	Solar
RESIDENTIAL	Heat Type:	09	Radiant
RESIDENTIAL	Heat Type:	10	Hot Air-no Duc
RESIDENTIAL	Interior Flr 1	01	Dirt/None
RESIDENTIAL	Interior Flr 1	02	Minimum/Plywd
RESIDENTIAL	Interior Flr 1	03	Concr-Finished
RESIDENTIAL	Interior Flr 1	04	Concr Abv Grad
RESIDENTIAL	Interior Flr 1	05	Vinyl/Asphalt
RESIDENTIAL	Interior Flr 1	06	Inlaid Sht Gds
RESIDENTIAL	Interior Flr 1	07	Cork Tile
RESIDENTIAL	Interior Flr 1	08	Average
RESIDENTIAL	Interior Flr 1	09	Pine/Soft Wood
RESIDENTIAL	Interior Flr 1	10	Terrazzo Monol
RESIDENTIAL	Interior Flr 1	11	Ceram Clay Til
RESIDENTIAL	Interior Flr 1	12	Hardwood
RESIDENTIAL	Interior Flr 1	13	Parquet
RESIDENTIAL	Interior Flr 1	14	Carpet
RESIDENTIAL	Interior Flr 1	15	Quarry Tile
RESIDENTIAL	Interior Flr 1	16	Terrazzo Epoxy

Building Type	Attribute	Valid Code	Description
RESIDENTIAL	Interior Flr 1	17	Precast Concr
RESIDENTIAL	Interior Flr 1	18	Slate
RESIDENTIAL	Interior Flr 1	19	Marble
RESIDENTIAL	Interior Flr 1	20	Laminate Wood
RESIDENTIAL	Interior Flr 2	01	Dirt/None
RESIDENTIAL	Interior Flr 2	02	Minimum/Plywd
RESIDENTIAL	Interior Flr 2	03	Concr-Finished
RESIDENTIAL	Interior Flr 2	04	Concr Abv Grad
RESIDENTIAL	Interior Flr 2	05	Vinyl/Asphalt
RESIDENTIAL	Interior Flr 2	06	Inlaid Sht Gds
RESIDENTIAL	Interior Flr 2	07	Cork Tile
RESIDENTIAL	Interior Flr 2	08	Average
RESIDENTIAL	Interior Flr 2	09	Pine/Soft Wood
RESIDENTIAL	Interior Flr 2	10	Terrazzo Monol
RESIDENTIAL	Interior Flr 2	11	Ceram Clay Til
RESIDENTIAL	Interior Flr 2	12	Hardwood
RESIDENTIAL	Interior Flr 2	13	Parquet
RESIDENTIAL	Interior Flr 2	14	Carpet
RESIDENTIAL	Interior Flr 2	15	Quarry Tile
RESIDENTIAL	Interior Flr 2	16	Terrazzo Epoxy
RESIDENTIAL	Interior Flr 2	17	Precast Concr
RESIDENTIAL	Interior Flr 2	18	Slate
RESIDENTIAL	Interior Flr 2	19	Marble
RESIDENTIAL	Interior Flr 2	20	Laminate Wood
RESIDENTIAL	Interior Wall 1	01	Minim/Masonry
RESIDENTIAL	Interior Wall 1	02	Wall Brd/Wood
RESIDENTIAL	Interior Wall 1	03	Plastered
RESIDENTIAL	Interior Wall 1	04	Plywood Panel
RESIDENTIAL	Interior Wall 1	05	Drywall/Sheet
RESIDENTIAL	Interior Wall 1	06	Cust Wd Panel
RESIDENTIAL	Interior Wall 1	07	K Pine/A Wd
RESIDENTIAL	Interior Wall 2	01	Minim/Masonry
RESIDENTIAL	Interior Wall 2	02	Wall Brd/Wood
RESIDENTIAL	Interior Wall 2	03	Plastered
RESIDENTIAL	Interior Wall 2	04	Plywood Panel
RESIDENTIAL	Interior Wall 2	05	Drywall/Sheet
RESIDENTIAL	Interior Wall 2	06	Cust Wd Panel
RESIDENTIAL	Interior Wall 2	07	K Pine/A Wd
RESIDENTIAL	Kitchen Gr	A	
RESIDENTIAL	Kitchen Gr	B	
RESIDENTIAL	Kitchen Gr	C	

Building Type	Attribute	Valid Code	Description
RESIDENTIAL	Kitchen Gr	D	
RESIDENTIAL	Kitchen Style:	1	Avg Quality
RESIDENTIAL	Kitchen Style:	2	Above Avg Qual
RESIDENTIAL	Kitchen Style:	3	Below Avg Qual
RESIDENTIAL	Kitchen Style:	4	Good Quality
RESIDENTIAL	Kitchen Style:	5	Fair
RESIDENTIAL	Metal Fireplaces	01	None
RESIDENTIAL	Metal Fireplaces	02	Heat Pump
RESIDENTIAL	Metal Fireplaces	03	Central
RESIDENTIAL	Metal Fireplaces	04	Unit/AC
RESIDENTIAL	Metal Fireplaces	05	Vapor Cooler
RESIDENTIAL	Metal Fireplaces	06	
RESIDENTIAL	Roof Cover	01	Metal/Tin
RESIDENTIAL	Roof Cover	02	Rolled Compos
RESIDENTIAL	Roof Cover	03	Asph/F GlS/Cmp
RESIDENTIAL	Roof Cover	04	Tar&Grvl/Rubbr
RESIDENTIAL	Roof Cover	05	Corrugated Asb
RESIDENTIAL	Roof Cover	06	Asbestos Shing
RESIDENTIAL	Roof Cover	07	Concrete Tile
RESIDENTIAL	Roof Cover	08	Clay Tile
RESIDENTIAL	Roof Cover	09	Enam Mtl Shing
RESIDENTIAL	Roof Cover	10	Wood Shingle
RESIDENTIAL	Roof Cover	11	Slate
RESIDENTIAL	Roof Structure:	01	Flat
RESIDENTIAL	Roof Structure:	02	Shed
RESIDENTIAL	Roof Structure:	03	Gable/Hip
RESIDENTIAL	Roof Structure:	04	Wood Truss
RESIDENTIAL	Roof Structure:	05	Salt Box
RESIDENTIAL	Roof Structure:	06	Mansard
RESIDENTIAL	Roof Structure:	07	Gambrel
RESIDENTIAL	Roof Structure:	08	Irregular
RESIDENTIAL	Roof Structure:	09	Rigid Frm/BJst
RESIDENTIAL	Roof Structure:	10	Steel Frm/Trus
RESIDENTIAL	Roof Structure:	11	Bowstring Trus
RESIDENTIAL	Roof Structure:	12	Reinforc Concr
RESIDENTIAL	Roof Structure:	13	Prestres Concr
RESIDENTIAL	Total Bedrooms:	00	
RESIDENTIAL	Total Bedrooms:	01	1 Bedroom
RESIDENTIAL	Total Bedrooms:	02	2 Bedrooms
RESIDENTIAL	Total Bedrooms:	03	3 Bedrooms
RESIDENTIAL	Total Bedrooms:	04	4 Bedrooms

Building Type	Attribute	Valid Code	Description
RESIDENTIAL	Total Bedrooms:	05	5 Bedrooms
RESIDENTIAL	Total Bedrooms:	06	6 Bedrooms
RESIDENTIAL	Total Bedrooms:	07	7 Bedrooms
RESIDENTIAL	Total Bedrooms:	08	8 Bedrooms
RESIDENTIAL	Total Bedrooms:	09	9+ Bedrooms
COMMERCIAL	AC Type	01	None
COMMERCIAL	AC Type	02	Heat Pump
COMMERCIAL	AC Type	03	Central
COMMERCIAL	AC Type	04	Unit/AC
COMMERCIAL	AC Type	05	Vapor Cooler
COMMERCIAL	AC Type	06	
COMMERCIAL	Baths/Plumbing	00	NONE
COMMERCIAL	Baths/Plumbing	01	LIGHT
COMMERCIAL	Baths/Plumbing	02	AVERAGE
COMMERCIAL	Baths/Plumbing	03	ABOVE AVERAGE
COMMERCIAL	Baths/Plumbing	04	EXTENSIVE
COMMERCIAL	CNS_STRUCT_CLASS	01	Ranch
COMMERCIAL	CNS_STRUCT_CLASS	02	Split-Level
COMMERCIAL	CNS_STRUCT_CLASS	03	Colonial
COMMERCIAL	CNS_STRUCT_CLASS	04	Cape Cod
COMMERCIAL	CNS_STRUCT_CLASS	05	Bungalow
COMMERCIAL	CNS_STRUCT_CLASS	06	Conventional
COMMERCIAL	CNS_STRUCT_CLASS	07	Modern/Contemp
COMMERCIAL	CNS_STRUCT_CLASS	08	Raised Ranch
COMMERCIAL	CNS_STRUCT_CLASS	09	Family Flat
COMMERCIAL	CNS_STRUCT_CLASS	10	Family Duplex
COMMERCIAL	CNS_STRUCT_CLASS	11	Family Conver.
COMMERCIAL	CNS_STRUCT_CLASS	12	Commercial
COMMERCIAL	CNS_STRUCT_CLASS	13	Department Str
COMMERCIAL	CNS_STRUCT_CLASS	14	Apartments
COMMERCIAL	CNS_STRUCT_CLASS	15	Shop Center RE
COMMERCIAL	CNS_STRUCT_CLASS	16	Shop Center LO
COMMERCIAL	CNS_STRUCT_CLASS	17	Store
COMMERCIAL	CNS_STRUCT_CLASS	18	Office Bldg
COMMERCIAL	CNS_STRUCT_CLASS	19	Profess. Bldg
COMMERCIAL	CNS_STRUCT_CLASS	20	Mobile Home
COMMERCIAL	CNS_STRUCT_CLASS	200	Retail/Office
COMMERCIAL	CNS_STRUCT_CLASS	201	Food Stand
COMMERCIAL	CNS_STRUCT_CLASS	202	Parking Garage
COMMERCIAL	CNS_STRUCT_CLASS	203	Conv Store
COMMERCIAL	CNS_STRUCT_CLASS	204	Day Care

Building Type	Attribute	Valid Code	Description
COMMERCIAL	CNS_STRUCT_CLASS	205	Ret/Off/Apt
COMMERCIAL	CNS_STRUCT_CLASS	206	Self Strge
COMMERCIAL	CNS_STRUCT_CLASS	207	Cultrl Facilit
COMMERCIAL	CNS_STRUCT_CLASS	208	Office/Apt
COMMERCIAL	CNS_STRUCT_CLASS	21	Fast Food Rest
COMMERCIAL	CNS_STRUCT_CLASS	210	Hangar Condo
COMMERCIAL	CNS_STRUCT_CLASS	211	Comm Condo
COMMERCIAL	CNS_STRUCT_CLASS	22	Supermarket
COMMERCIAL	CNS_STRUCT_CLASS	23	Finan Inst.
COMMERCIAL	CNS_STRUCT_CLASS	24	Ins Co Reg Off
COMMERCIAL	CNS_STRUCT_CLASS	25	Service Shop
COMMERCIAL	CNS_STRUCT_CLASS	26	Serv Sta 2-bay
COMMERCIAL	CNS_STRUCT_CLASS	27	Auto Sales Rpr
COMMERCIAL	CNS_STRUCT_CLASS	28	Funeral Home
COMMERCIAL	CNS_STRUCT_CLASS	29	Nursing Home
COMMERCIAL	CNS_STRUCT_CLASS	30	Restaurant
COMMERCIAL	CNS_STRUCT_CLASS	31	Branch Bank
COMMERCIAL	CNS_STRUCT_CLASS	32	Theaters Encl.
COMMERCIAL	CNS_STRUCT_CLASS	33	Nightclub/Bar
COMMERCIAL	CNS_STRUCT_CLASS	34	Bowling/Arena
COMMERCIAL	CNS_STRUCT_CLASS	35	Bakery
COMMERCIAL	CNS_STRUCT_CLASS	36	Camp
COMMERCIAL	CNS_STRUCT_CLASS	37	Quonset Bldg
COMMERCIAL	CNS_STRUCT_CLASS	38	Country Club
COMMERCIAL	CNS_STRUCT_CLASS	39	Motel
COMMERCIAL	CNS_STRUCT_CLASS	40	Light Indust
COMMERCIAL	CNS_STRUCT_CLASS	41	Research/Devel
COMMERCIAL	CNS_STRUCT_CLASS	42	Heavy Indust
COMMERCIAL	CNS_STRUCT_CLASS	43	Car Wash
COMMERCIAL	CNS_STRUCT_CLASS	44	Packing Plant
COMMERCIAL	CNS_STRUCT_CLASS	45	Brewery/Winery
COMMERCIAL	CNS_STRUCT_CLASS	46	Food Process
COMMERCIAL	CNS_STRUCT_CLASS	47	Cold Storage
COMMERCIAL	CNS_STRUCT_CLASS	48	Whse-Indust
COMMERCIAL	CNS_STRUCT_CLASS	49	Serv Sta 3-Bay
COMMERCIAL	CNS_STRUCT_CLASS	4C	CommI Whse
COMMERCIAL	CNS_STRUCT_CLASS	50	Serv Sta 1-Bay
COMMERCIAL	CNS_STRUCT_CLASS	51	Indust. Office
COMMERCIAL	CNS_STRUCT_CLASS	52	Pre-Eng Mfg
COMMERCIAL	CNS_STRUCT_CLASS	53	Pre-Eng Warehs
COMMERCIAL	CNS_STRUCT_CLASS	54	Health Club

Building Type	Attribute	Valid Code	Description
COMMERCIAL	CNS_STRUCT_CLASS	55	Condominium
COMMERCIAL	CNS_STRUCT_CLASS	56	Condo Office
COMMERCIAL	CNS_STRUCT_CLASS	57	Library
COMMERCIAL	CNS_STRUCT_CLASS	58	City/Town Hall
COMMERCIAL	CNS_STRUCT_CLASS	59	Fire Station
COMMERCIAL	CNS_STRUCT_CLASS	5C	Condo Bank
COMMERCIAL	CNS_STRUCT_CLASS	60	Victorian
COMMERCIAL	CNS_STRUCT_CLASS	61	Dry Cln/Laundr
COMMERCIAL	CNS_STRUCT_CLASS	62	Furn Showroom
COMMERCIAL	CNS_STRUCT_CLASS	63	Antique
COMMERCIAL	CNS_STRUCT_CLASS	64	Tennis Club
COMMERCIAL	CNS_STRUCT_CLASS	65	Skating Arena
COMMERCIAL	CNS_STRUCT_CLASS	66	Hotel
COMMERCIAL	CNS_STRUCT_CLASS	67	Coin-op CarWsh
COMMERCIAL	CNS_STRUCT_CLASS	68	Dairy/Feed Lot
COMMERCIAL	CNS_STRUCT_CLASS	69	Truck Terminal
COMMERCIAL	CNS_STRUCT_CLASS	70	Dormitory
COMMERCIAL	CNS_STRUCT_CLASS	71	Churches
COMMERCIAL	CNS_STRUCT_CLASS	72	School/College
COMMERCIAL	CNS_STRUCT_CLASS	73	Hospitals-Priv
COMMERCIAL	CNS_STRUCT_CLASS	74	Home for Aged
COMMERCIAL	CNS_STRUCT_CLASS	75	Gas Mart
COMMERCIAL	CNS_STRUCT_CLASS	76	Mortuary/Cemet
COMMERCIAL	CNS_STRUCT_CLASS	77	Clubs/Lodges
COMMERCIAL	CNS_STRUCT_CLASS	78	Airport Hangar
COMMERCIAL	CNS_STRUCT_CLASS	79	Telephone Bldg
COMMERCIAL	CNS_STRUCT_CLASS	80	Stores/Apt Com
COMMERCIAL	CNS_STRUCT_CLASS	81	Military
COMMERCIAL	CNS_STRUCT_CLASS	82	Auditorium
COMMERCIAL	CNS_STRUCT_CLASS	83	Schools-Public
COMMERCIAL	CNS_STRUCT_CLASS	84	Colleges
COMMERCIAL	CNS_STRUCT_CLASS	85	Hospital
COMMERCIAL	CNS_STRUCT_CLASS	86	Other Country
COMMERCIAL	CNS_STRUCT_CLASS	87	Other State
COMMERCIAL	CNS_STRUCT_CLASS	88	Other Federal
COMMERCIAL	CNS_STRUCT_CLASS	89	Other Municip
COMMERCIAL	CNS_STRUCT_CLASS	90	Retail Condo
COMMERCIAL	CNS_STRUCT_CLASS	91	Fast Food
COMMERCIAL	CNS_STRUCT_CLASS	92	Court House
COMMERCIAL	CNS_STRUCT_CLASS	93	Petroleum/Gas
COMMERCIAL	CNS_STRUCT_CLASS	94	Outbuildings

Building Type	Attribute	Valid Code	Description
COMMERCIAL	CNS_STRUCT_CLASS	95	Garage/Office
COMMERCIAL	CNS_STRUCT_CLASS	96	Office/Warehs
COMMERCIAL	CNS_STRUCT_CLASS	97	High Rise Apt
COMMERCIAL	CNS_STRUCT_CLASS	98	Indust Condo
COMMERCIAL	CNS_STRUCT_CLASS	99	Vacant Land
COMMERCIAL	Ceiling/Wall	00	NONE
COMMERCIAL	Ceiling/Wall	01	SUSP-CEIL ONLY
COMMERCIAL	Ceiling/Wall	02	CEILING ONLY
COMMERCIAL	Ceiling/Wall	03	SUS-CEIL/MN WL
COMMERCIAL	Ceiling/Wall	04	CEIL & MIN WL
COMMERCIAL	Ceiling/Wall	05	SUS-CEIL & WL
COMMERCIAL	Ceiling/Wall	06	CEIL & WALLS
COMMERCIAL	Ceiling/Wall	07	-DESCRIPTION-
COMMERCIAL	Exterior Wall 1	01	Minimum
COMMERCIAL	Exterior Wall 1	02	Comp./Wall Brd
COMMERCIAL	Exterior Wall 1	03	Below Average
COMMERCIAL	Exterior Wall 1	04	Single Siding
COMMERCIAL	Exterior Wall 1	05	Average
COMMERCIAL	Exterior Wall 1	06	Board & Batten
COMMERCIAL	Exterior Wall 1	07	Asbest Shingle
COMMERCIAL	Exterior Wall 1	08	Wood on Sheath
COMMERCIAL	Exterior Wall 1	09	Logs
COMMERCIAL	Exterior Wall 1	10	Cement Fiber
COMMERCIAL	Exterior Wall 1	11	Clapboard
COMMERCIAL	Exterior Wall 1	12	Cedar or Redwd
COMMERCIAL	Exterior Wall 1	13	Pre-Fab Wood
COMMERCIAL	Exterior Wall 1	14	Wood Shingle
COMMERCIAL	Exterior Wall 1	15	Concr/Cinder
COMMERCIAL	Exterior Wall 1	16	Stucco on Wood
COMMERCIAL	Exterior Wall 1	17	Stucco/Masonry
COMMERCIAL	Exterior Wall 1	18	Asphalt
COMMERCIAL	Exterior Wall 1	19	Brick/Stne Ven
COMMERCIAL	Exterior Wall 1	20	Brick/Masonry
COMMERCIAL	Exterior Wall 1	21	Stone/Masonry
COMMERCIAL	Exterior Wall 1	22	Precast Panel
COMMERCIAL	Exterior Wall 1	23	Pre-cast Concr
COMMERCIAL	Exterior Wall 1	24	Reinforc Concr
COMMERCIAL	Exterior Wall 1	25	Vinyl Siding
COMMERCIAL	Exterior Wall 1	26	Aluminum Sidng
COMMERCIAL	Exterior Wall 1	27	Pre-finsh Metl
COMMERCIAL	Exterior Wall 1	28	Glass/Thermo.

Building Type	Attribute	Valid Code	Description
COMMERCIAL	Exterior Wall 1	29	Vinyl Shingle
COMMERCIAL	Exterior Wall 1	30	Stone Veneer
COMMERCIAL	Exterior Wall 2	01	Minimum
COMMERCIAL	Exterior Wall 2	02	Comp./Wall Brd
COMMERCIAL	Exterior Wall 2	03	Below Average
COMMERCIAL	Exterior Wall 2	04	Single Siding
COMMERCIAL	Exterior Wall 2	05	Average
COMMERCIAL	Exterior Wall 2	06	Board & Batten
COMMERCIAL	Exterior Wall 2	07	Asbest Shingle
COMMERCIAL	Exterior Wall 2	08	Wood on Sheath
COMMERCIAL	Exterior Wall 2	09	Logs
COMMERCIAL	Exterior Wall 2	10	Cement Fiber
COMMERCIAL	Exterior Wall 2	11	Clapboard
COMMERCIAL	Exterior Wall 2	12	Cedar or Redwd
COMMERCIAL	Exterior Wall 2	13	Pre-Fab Wood
COMMERCIAL	Exterior Wall 2	14	Wood Shingle
COMMERCIAL	Exterior Wall 2	15	Concr/Cinder
COMMERCIAL	Exterior Wall 2	16	Stucco on Wood
COMMERCIAL	Exterior Wall 2	17	Stucco/Masonry
COMMERCIAL	Exterior Wall 2	18	Asphalt
COMMERCIAL	Exterior Wall 2	19	Brick/Stne Ven
COMMERCIAL	Exterior Wall 2	20	Brick/Masonry
COMMERCIAL	Exterior Wall 2	21	Stone/Masonry
COMMERCIAL	Exterior Wall 2	22	Precast Panel
COMMERCIAL	Exterior Wall 2	23	Pre-cast Concr
COMMERCIAL	Exterior Wall 2	24	Reinforc Concr
COMMERCIAL	Exterior Wall 2	25	Vinyl Siding
COMMERCIAL	Exterior Wall 2	26	Aluminum Sidng
COMMERCIAL	Exterior Wall 2	27	Pre-finsh Metl
COMMERCIAL	Exterior Wall 2	28	Glass/Thermo.
COMMERCIAL	Exterior Wall 2	29	Vinyl Shingle
COMMERCIAL	Exterior Wall 2	30	Stone Veneer
COMMERCIAL	Frame Type	01	NONE
COMMERCIAL	Frame Type	02	WOOD FRAME
COMMERCIAL	Frame Type	03	MASONRY
COMMERCIAL	Frame Type	04	REINF. CONCR
COMMERCIAL	Frame Type	05	STEEL
COMMERCIAL	Frame Type	06	FIREPRF STEEL
COMMERCIAL	Frame Type	07	SPECIAL
COMMERCIAL	Grade	A	A
COMMERCIAL	Grade	A+	A+

Building Type	Attribute	Valid Code	Description
COMMERCIAL	Grade	A-	A
COMMERCIAL	Grade	B	B
COMMERCIAL	Grade	B+	B+
COMMERCIAL	Grade	B-	B-
COMMERCIAL	Grade	C	C
COMMERCIAL	Grade	C+	C+
COMMERCIAL	Grade	C-	C-
COMMERCIAL	Grade	D	D
COMMERCIAL	Grade	D+	D+
COMMERCIAL	Grade	D-	D-
COMMERCIAL	Heat/AC	00	NONE
COMMERCIAL	Heat/AC	01	HEAT/AC PKGS
COMMERCIAL	Heat/AC	02	HEAT/AC SPLIT
COMMERCIAL	Heating Fuel	01	Coal or Wood
COMMERCIAL	Heating Fuel	02	Oil
COMMERCIAL	Heating Fuel	03	Gas
COMMERCIAL	Heating Fuel	04	Electric
COMMERCIAL	Heating Fuel	05	Solar Assisted
COMMERCIAL	Heating Type	01	None
COMMERCIAL	Heating Type	02	Floor Furnace
COMMERCIAL	Heating Type	03	Hot Air-no Duc
COMMERCIAL	Heating Type	04	Forced Air-Duc
COMMERCIAL	Heating Type	05	Hot Water
COMMERCIAL	Heating Type	06	Steam
COMMERCIAL	Heating Type	07	Electr Basebrd
COMMERCIAL	Heating Type	08	Radiant
COMMERCIAL	Interior Floor 1	01	Dirt/None
COMMERCIAL	Interior Floor 1	02	Minimum/Plywd
COMMERCIAL	Interior Floor 1	03	Concr-Finished
COMMERCIAL	Interior Floor 1	04	Concr Abv Grad
COMMERCIAL	Interior Floor 1	05	Vinyl/Asphalt
COMMERCIAL	Interior Floor 1	06	Inlaid Sht Gds
COMMERCIAL	Interior Floor 1	07	Cork Tile
COMMERCIAL	Interior Floor 1	08	Average
COMMERCIAL	Interior Floor 1	09	Pine/Soft Wood
COMMERCIAL	Interior Floor 1	10	Terrazzo Monol
COMMERCIAL	Interior Floor 1	11	Ceram Clay Til
COMMERCIAL	Interior Floor 1	12	Hardwood
COMMERCIAL	Interior Floor 1	13	Parquet
COMMERCIAL	Interior Floor 1	14	Carpet
COMMERCIAL	Interior Floor 1	15	Quarry Tile

Building Type	Attribute	Valid Code	Description
COMMERCIAL	Interior Floor 1	16	Terrazzo Epoxy
COMMERCIAL	Interior Floor 1	17	Precast Concr
COMMERCIAL	Interior Floor 1	18	Slate
COMMERCIAL	Interior Floor 1	19	Marble
COMMERCIAL	Interior Floor 2	01	Dirt/None
COMMERCIAL	Interior Floor 2	02	Minimum/Plywd
COMMERCIAL	Interior Floor 2	03	Concr-Finished
COMMERCIAL	Interior Floor 2	04	Concr Abv Grad
COMMERCIAL	Interior Floor 2	05	Vinyl/Asphalt
COMMERCIAL	Interior Floor 2	06	Inlaid Sht Gds
COMMERCIAL	Interior Floor 2	07	Cork Tile
COMMERCIAL	Interior Floor 2	08	Average
COMMERCIAL	Interior Floor 2	09	Pine/Soft Wood
COMMERCIAL	Interior Floor 2	10	Terrazzo Monol
COMMERCIAL	Interior Floor 2	11	Ceram Clay Til
COMMERCIAL	Interior Floor 2	12	Hardwood
COMMERCIAL	Interior Floor 2	13	Parquet
COMMERCIAL	Interior Floor 2	14	Carpet
COMMERCIAL	Interior Floor 2	15	Quarry Tile
COMMERCIAL	Interior Floor 2	16	Terrazzo Epoxy
COMMERCIAL	Interior Floor 2	17	Precast Concr
COMMERCIAL	Interior Floor 2	18	Slate
COMMERCIAL	Interior Floor 2	19	Marble
COMMERCIAL	Interior Wall 1	01	Minim/Masonry
COMMERCIAL	Interior Wall 1	02	Wall Brd/Wood
COMMERCIAL	Interior Wall 1	03	Plastered
COMMERCIAL	Interior Wall 1	04	Plywood Panel
COMMERCIAL	Interior Wall 1	05	Drywall/Sheet
COMMERCIAL	Interior Wall 1	06	Cust Wd Panel
COMMERCIAL	Interior Wall 1	07	K PINE/A WD
COMMERCIAL	Interior Wall 2	01	Minim/Masonry
COMMERCIAL	Interior Wall 2	02	Wall Brd/Wood
COMMERCIAL	Interior Wall 2	03	Plastered
COMMERCIAL	Interior Wall 2	04	Plywood Panel
COMMERCIAL	Interior Wall 2	05	Drywall/Sheet
COMMERCIAL	Interior Wall 2	06	Cust Wd Panel
COMMERCIAL	Interior Wall 2	07	K PINE/A WD
COMMERCIAL	Kitchen Grd	01	Average
COMMERCIAL	Kitchen Grd	02	Above Avg
COMMERCIAL	Kitchen Grd	03	Excellent
COMMERCIAL	Roof Cover	01	Metal/Tin

Building Type	Attribute	Valid Code	Description
COMMERCIAL	Roof Cover	02	Rolled Compos
COMMERCIAL	Roof Cover	03	Asph/F GlS/Cmp
COMMERCIAL	Roof Cover	04	T & Grvl/Rubbr
COMMERCIAL	Roof Cover	05	Corrugated Asb
COMMERCIAL	Roof Cover	06	Asbestos Shing
COMMERCIAL	Roof Cover	07	Concrete Tile
COMMERCIAL	Roof Cover	08	Clay Tile
COMMERCIAL	Roof Cover	09	Enam Mtl Shing
COMMERCIAL	Roof Cover	10	Wood Shingle
COMMERCIAL	Roof Cover	11	Slate
COMMERCIAL	Roof Structure	01	Flat
COMMERCIAL	Roof Structure	02	Shed
COMMERCIAL	Roof Structure	03	Gable/Hip
COMMERCIAL	Roof Structure	04	Wood Truss
COMMERCIAL	Roof Structure	05	Salt Box
COMMERCIAL	Roof Structure	06	Mansard
COMMERCIAL	Roof Structure	07	Gambrel
COMMERCIAL	Roof Structure	08	Irregular
COMMERCIAL	Roof Structure	09	Rigid Frm/BJst
COMMERCIAL	Roof Structure	10	Steel Frm/Trus
COMMERCIAL	Roof Structure	11	Bowstring Trus
COMMERCIAL	Roof Structure	12	Reinforc Concr
COMMERCIAL	Roof Structure	13	Prestres Concr
COMMERCIAL	Rooms/Prtns	01	LIGHT
COMMERCIAL	Rooms/Prtns	02	AVERAGE
COMMERCIAL	Rooms/Prtns	03	ABOVE AVERAGE
CONDO UNIT	AC Type:	01	None
CONDO UNIT	AC Type:	02	Heat Pump
CONDO UNIT	AC Type:	03	Central
CONDO UNIT	AC Type:	04	Unit/AC
CONDO UNIT	AC Type:	05	Vapor Cooler
CONDO UNIT	AC Type:	06	
CONDO UNIT	Bath Style:	1	Avg Quality
CONDO UNIT	Bath Style:	2	Above Avg Qual
CONDO UNIT	Bath Style:	3	Below Avg Qual
CONDO UNIT	Bath Style:	4	Good Quality
CONDO UNIT	Bath Style:	5	Fair
CONDO UNIT	CNS_BATHRM_STYLE2	1	Avg Quality
CONDO UNIT	CNS_BATHRM_STYLE2	2	Above Avg Qual
CONDO UNIT	CNS_BATHRM_STYLE2	3	Below Avg Qual
CONDO UNIT	CNS_BATHRM_STYLE2	4	Good Quality

Building Type	Attribute	Valid Code	Description
CONDO UNIT	CNS_BATHRM_STYLE2	5	Fair
CONDO UNIT	CNS_BATHRM_STYLE3	1	Avg Quality
CONDO UNIT	CNS_BATHRM_STYLE3	2	Above Avg Qual
CONDO UNIT	CNS_BATHRM_STYLE3	3	Below Avg Qual
CONDO UNIT	CNS_BATHRM_STYLE3	4	Good Quality
CONDO UNIT	CNS_BATHRM_STYLE3	5	Fair
CONDO UNIT	CNS_CONDO_FLR	00	BASEMENT
CONDO UNIT	CNS_CONDO_FLR	01	FIRST FLOOR
CONDO UNIT	CNS_CONDO_FLR	02	SECOND FLOOR
CONDO UNIT	CNS_CONDO_FLR	03	THIRD FLOOR
CONDO UNIT	CNS_CONDO_FLR	04	FOURTH FLOOR
CONDO UNIT	CNS_CONDO_FLR	05	FIFTH FLOOR
CONDO UNIT	CNS_PARK_OWEN	T	Typical
CONDO UNIT	CNS_PARK_TANDEM	01	None
CONDO UNIT	CNS_PARK_TANDEM	02	Heat Pump
CONDO UNIT	CNS_PARK_TANDEM	03	Central
CONDO UNIT	CNS_PARK_TANDEM	04	Unit/AC
CONDO UNIT	CNS_PARK_TANDEM	05	Vapor Cooler
CONDO UNIT	CNS_PARK_TANDEM	06	
CONDO UNIT	CNS_UNIT_LOCN	00	BASEMENT
CONDO UNIT	CNS_UNIT_LOCN	01	FIRST FLOOR
CONDO UNIT	CNS_UNIT_LOCN	02	SECOND FLOOR
CONDO UNIT	CNS_UNIT_LOCN	03	THIRD FLOOR
CONDO UNIT	CNS_UNIT_LOCN	04	FOURTH FLOOR
CONDO UNIT	CNS_UNIT_LOCN	05	FIFTH FLOOR
CONDO UNIT	Grade	A	A
CONDO UNIT	Grade	A+	A+
CONDO UNIT	Grade	A-	A-
CONDO UNIT	Grade	B	B
CONDO UNIT	Grade	B+	B+
CONDO UNIT	Grade	B-	B-
CONDO UNIT	Grade	C	C
CONDO UNIT	Grade	C+	C+
CONDO UNIT	Grade	C-	C-
CONDO UNIT	Grade	D	D
CONDO UNIT	Grade	D+	D+
CONDO UNIT	Grade	D-	D-
CONDO UNIT	Grade	E	E
CONDO UNIT	Grade	X	X
CONDO UNIT	Grade	X+	X+
CONDO UNIT	Grade	X-	X-

Building Type	Attribute	Valid Code	Description
CONDO UNIT	Heat Fuel:	00	None
CONDO UNIT	Heat Fuel:	01	Coal or Wood
CONDO UNIT	Heat Fuel:	02	Oil
CONDO UNIT	Heat Fuel:	03	Gas
CONDO UNIT	Heat Fuel:	04	Electric
CONDO UNIT	Heat Fuel:	05	Solar Assisted
CONDO UNIT	Heat Fuel:	06	Geo Thermal
CONDO UNIT	Heat Type:	01	None
CONDO UNIT	Heat Type:	02	Warm Air
CONDO UNIT	Heat Type:	03	Electric
CONDO UNIT	Heat Type:	04	Hot Water
CONDO UNIT	Heat Type:	05	Steam
CONDO UNIT	Heat Type:	06	Wall Unit
CONDO UNIT	Heat Type:	07	Baseboard
CONDO UNIT	Heat Type:	08	Solar
CONDO UNIT	Heat Type:	09	Radiant
CONDO UNIT	Heat Type:	10	Hot Air-no Duc
CONDO UNIT	Interior Floor 1	01	Dirt/None
CONDO UNIT	Interior Floor 1	02	Minimum/Plywd
CONDO UNIT	Interior Floor 1	03	Concr-Finished
CONDO UNIT	Interior Floor 1	04	Concr Abv Grad
CONDO UNIT	Interior Floor 1	05	Vinyl/Asphalt
CONDO UNIT	Interior Floor 1	06	Inlaid Sht Gds
CONDO UNIT	Interior Floor 1	07	Cork Tile
CONDO UNIT	Interior Floor 1	08	Average
CONDO UNIT	Interior Floor 1	09	Pine/Soft Wood
CONDO UNIT	Interior Floor 1	10	Terrazzo Monol
CONDO UNIT	Interior Floor 1	11	Ceram Clay Til
CONDO UNIT	Interior Floor 1	12	Hardwood
CONDO UNIT	Interior Floor 1	13	Parquet
CONDO UNIT	Interior Floor 1	14	Carpet
CONDO UNIT	Interior Floor 1	15	Quarry Tile
CONDO UNIT	Interior Floor 1	16	Terrazzo Epoxy
CONDO UNIT	Interior Floor 1	17	Precast Concr
CONDO UNIT	Interior Floor 1	18	Slate
CONDO UNIT	Interior Floor 1	19	Marble
CONDO UNIT	Interior Floor 1	20	Laminate Wood
CONDO UNIT	Interior Floor 2	01	Dirt/None
CONDO UNIT	Interior Floor 2	02	Minimum/Plywd
CONDO UNIT	Interior Floor 2	03	Concr-Finished
CONDO UNIT	Interior Floor 2	04	Concr Abv Grad

Building Type	Attribute	Valid Code	Description
CONDO UNIT	Interior Floor 2	05	Vinyl/Asphalt
CONDO UNIT	Interior Floor 2	06	Inlaid Sht Gds
CONDO UNIT	Interior Floor 2	07	Cork Tile
CONDO UNIT	Interior Floor 2	08	Average
CONDO UNIT	Interior Floor 2	09	Pine/Soft Wood
CONDO UNIT	Interior Floor 2	10	Terrazzo Monol
CONDO UNIT	Interior Floor 2	11	Ceram Clay Til
CONDO UNIT	Interior Floor 2	12	Hardwood
CONDO UNIT	Interior Floor 2	13	Parquet
CONDO UNIT	Interior Floor 2	14	Carpet
CONDO UNIT	Interior Floor 2	15	Quarry Tile
CONDO UNIT	Interior Floor 2	16	Terrazzo Epoxy
CONDO UNIT	Interior Floor 2	17	Precast Concr
CONDO UNIT	Interior Floor 2	18	Slate
CONDO UNIT	Interior Floor 2	19	Marble
CONDO UNIT	Interior Floor 2	20	Laminate Wood
CONDO UNIT	Interior Wall 1:	01	Minim/Masonry
CONDO UNIT	Interior Wall 1:	02	Wall Brd/Wood
CONDO UNIT	Interior Wall 1:	03	Plastered
CONDO UNIT	Interior Wall 1:	04	Plywood Panel
CONDO UNIT	Interior Wall 1:	05	Drywall/Sheet
CONDO UNIT	Interior Wall 1:	06	Cust Wd Panel
CONDO UNIT	Interior Wall 1:	07	K Pine/A Wd
CONDO UNIT	Interior Wall 2:	01	Minim/Masonry
CONDO UNIT	Interior Wall 2:	02	Wall Brd/Wood
CONDO UNIT	Interior Wall 2:	03	Plastered
CONDO UNIT	Interior Wall 2:	04	Plywood Panel
CONDO UNIT	Interior Wall 2:	05	Drywall/Sheet
CONDO UNIT	Interior Wall 2:	06	Cust Wd Panel
CONDO UNIT	Interior Wall 2:	07	K Pine/A Wd
CONDO UNIT	Kitchen Grd	01	Average
CONDO UNIT	Kitchen Grd	02	Above Avg
CONDO UNIT	Kitchen Grd	03	Excellent
CONDO UNIT	Kitchen Style:	1	Avg Quality
CONDO UNIT	Kitchen Style:	2	Above Avg Qual
CONDO UNIT	Kitchen Style:	3	Below Avg Qual
CONDO UNIT	Kitchen Style:	4	Good Quality
CONDO UNIT	Kitchen Style:	5	Fair
CONDO UNIT	MTL Openings	T	Typical1
CONDO UNIT	Ttl Bathrms:	.1	1 Half
CONDO UNIT	Ttl Bathrms:	.2	2 Half baths

Building Type	Attribute	Valid Code	Description
CONDO UNIT	Ttl Bathrms:	.5	1 Half
CONDO UNIT	Ttl Bathrms:	0	
CONDO UNIT	Ttl Bathrms:	0.5	1 Half
CONDO UNIT	Ttl Bathrms:	1	1 Full
CONDO UNIT	Ttl Bathrms:	1.1	1 Full 1 Half
CONDO UNIT	Ttl Bathrms:	1.2	1 Full 2 Half
CONDO UNIT	Ttl Bathrms:	1.3	1 Full 3 Half
CONDO UNIT	Ttl Bathrms:	1.4	1 Full 4 Half
CONDO UNIT	Ttl Bathrms:	1.5	1 Full 1 Half
CONDO UNIT	Ttl Bathrms:	2	2 Full
CONDO UNIT	Ttl Bathrms:	2.1	2 Full 1 Half
CONDO UNIT	Ttl Bathrms:	2.2	2 Full 2 Half
CONDO UNIT	Ttl Bathrms:	2.3	2 Full 3 Half
CONDO UNIT	Ttl Bathrms:	2.4	2 Full 4 Half
CONDO UNIT	Ttl Bathrms:	2.5	2 1/2 Bathrms
CONDO UNIT	Ttl Bathrms:	3	3 Full
CONDO UNIT	Ttl Bathrms:	3.1	3 Full 1 Half
CONDO UNIT	Ttl Bathrms:	3.2	3 Full 2 Half
CONDO UNIT	Ttl Bathrms:	3.3	3 Full 3 Half
CONDO UNIT	Ttl Bathrms:	3.4	3 Full 4 Half
CONDO UNIT	Ttl Bathrms:	3.5	3 1/2 Bathrms
CONDO UNIT	Ttl Bathrms:	4	4 Full
CONDO UNIT	Ttl Bathrms:	4.1	4 Full 1 Half
CONDO UNIT	Ttl Bathrms:	4.2	4 Full 2 Half
CONDO UNIT	Ttl Bathrms:	4.3	4 Full 3 Half
CONDO UNIT	Ttl Bathrms:	4.4	4 Full 4 Half
CONDO UNIT	Ttl Bathrms:	4.5	4 1/2 Bthrms
CONDO UNIT	Ttl Bathrms:	5	5 Full
CONDO UNIT	Ttl Bathrms:	5.1	5 Full 1 Half
CONDO UNIT	Ttl Bathrms:	5.2	5 Full 2 Half
CONDO UNIT	Ttl Bathrms:	5.3	5 Full 3 Half
CONDO UNIT	Ttl Bathrms:	5.4	5 Full 4 Half
CONDO UNIT	Ttl Bathrms:	5.5	5 1/2 Bathrms
CONDO UNIT	Ttl Bathrms:	6	6 Full
CONDO UNIT	Ttl Bathrms:	6.1	6 Full 1 Half
CONDO UNIT	Ttl Bathrms:	6.2	6 Full 2 Half
CONDO UNIT	Ttl Bathrms:	6.3	6 Full 3 Half
CONDO UNIT	Ttl Bathrms:	6.4	6 Full 4 Half
CONDO UNIT	Ttl Bathrms:	6.5	6 1/2 Bathrms
CONDO UNIT	Ttl Bathrms:	7	7 Full
CONDO UNIT	Ttl Bathrms:	7.1	7 Full 1 Half

Building Type	Attribute	Valid Code	Description
CONDO UNIT	Ttl Bathrms:	7.2	7 Full 2 Half
CONDO UNIT	Ttl Bathrms:	7.3	7 Full 3 Half
CONDO UNIT	Ttl Bathrms:	7.4	7 Full 4 Half
CONDO UNIT	Ttl Bathrms:	7.5	7 1/2 Bathrms
CONDO UNIT	Ttl Bathrms:	8	8 Full
CONDO UNIT	Ttl Bathrms:	8.1	8 Full 1 Half
CONDO UNIT	Ttl Bathrms:	8.2	8 Full 2 Half
CONDO UNIT	Ttl Bathrms:	8.3	8 Full 3 Half
CONDO UNIT	Ttl Bathrms:	8.4	8 Full 4 Half
CONDO UNIT	Ttl Bathrms:	8.5	8 1/2 Bathrms
CONDO UNIT	Ttl Bathrms:	9	9 + Bathrooms
CONDO UNIT	Ttl Bedrms:	00	
CONDO UNIT	Ttl Bedrms:	01	1 Bedroom
CONDO UNIT	Ttl Bedrms:	02	2 Bedrooms
CONDO UNIT	Ttl Bedrms:	03	3 Bedrooms
CONDO UNIT	Ttl Bedrms:	04	4 Bedrooms
CONDO UNIT	Ttl Bedrms:	05	5 Bedrooms
CONDO UNIT	Ttl Bedrms:	06	6 Bedrooms
CONDO UNIT	Ttl Bedrms:	07	7 Bedrooms
CONDO UNIT	Ttl Bedrms:	08	8 Bedrooms
CONDO UNIT	Ttl Bedrms:	09	9+ Bedrooms
CONDO MAIN	Exterior Wall 1:	01	Minimum
CONDO MAIN	Exterior Wall 1:	02	Comp./Wall Brd
CONDO MAIN	Exterior Wall 1:	03	Below Average
CONDO MAIN	Exterior Wall 1:	04	Single Siding
CONDO MAIN	Exterior Wall 1:	05	Average
CONDO MAIN	Exterior Wall 1:	06	Board & Batten
CONDO MAIN	Exterior Wall 1:	07	Asbest Shingle
CONDO MAIN	Exterior Wall 1:	08	Wood on Sheath
CONDO MAIN	Exterior Wall 1:	09	Logs
CONDO MAIN	Exterior Wall 1:	10	Cement Fiber
CONDO MAIN	Exterior Wall 1:	11	Clapboard
CONDO MAIN	Exterior Wall 1:	12	Cedar or Redwd
CONDO MAIN	Exterior Wall 1:	13	Pre-Fab Wood
CONDO MAIN	Exterior Wall 1:	14	Wood Shingle
CONDO MAIN	Exterior Wall 1:	15	Concr/Cinder
CONDO MAIN	Exterior Wall 1:	16	Stucco on Wood
CONDO MAIN	Exterior Wall 1:	17	Stucco/Masonry
CONDO MAIN	Exterior Wall 1:	18	Asphalt
CONDO MAIN	Exterior Wall 1:	19	Brick/Stne Ven
CONDO MAIN	Exterior Wall 1:	20	Brick/Masonry

Building Type	Attribute	Valid Code	Description
CONDO MAIN	Exterior Wall 1:	21	Stone/Masonry
CONDO MAIN	Exterior Wall 1:	22	Precast Panel
CONDO MAIN	Exterior Wall 1:	23	Pre-cast Concr
CONDO MAIN	Exterior Wall 1:	24	Reinforc Concr
CONDO MAIN	Exterior Wall 1:	25	Vinyl Siding
CONDO MAIN	Exterior Wall 1:	26	Aluminum Sidng
CONDO MAIN	Exterior Wall 1:	27	Pre-finsh Metl
CONDO MAIN	Exterior Wall 1:	28	Glass/Thermo.
CONDO MAIN	Exterior Wall 1:	29	Vinyl Shingle
CONDO MAIN	Exterior Wall 1:	30	Stone Veneer
CONDO MAIN	Exterior Wall 2:	01	Minimum
CONDO MAIN	Exterior Wall 2:	02	Comp./Wall Brd
CONDO MAIN	Exterior Wall 2:	03	Below Average
CONDO MAIN	Exterior Wall 2:	04	Single Siding
CONDO MAIN	Exterior Wall 2:	05	Average
CONDO MAIN	Exterior Wall 2:	06	Board & Batten
CONDO MAIN	Exterior Wall 2:	07	Asbest Shingle
CONDO MAIN	Exterior Wall 2:	08	Wood on Sheath
CONDO MAIN	Exterior Wall 2:	09	Logs
CONDO MAIN	Exterior Wall 2:	10	Cement Fiber
CONDO MAIN	Exterior Wall 2:	11	Clapboard
CONDO MAIN	Exterior Wall 2:	12	Cedar or Redwd
CONDO MAIN	Exterior Wall 2:	13	Pre-Fab Wood
CONDO MAIN	Exterior Wall 2:	14	Wood Shingle
CONDO MAIN	Exterior Wall 2:	15	Concr/Cinder
CONDO MAIN	Exterior Wall 2:	16	Stucco on Wood
CONDO MAIN	Exterior Wall 2:	17	Stucco/Masonry
CONDO MAIN	Exterior Wall 2:	18	Asphalt
CONDO MAIN	Exterior Wall 2:	19	Brick/Stne Ven
CONDO MAIN	Exterior Wall 2:	20	Brick/Masonry
CONDO MAIN	Exterior Wall 2:	21	Stone/Masonry
CONDO MAIN	Exterior Wall 2:	22	Precast Panel
CONDO MAIN	Exterior Wall 2:	23	Pre-cast Concr
CONDO MAIN	Exterior Wall 2:	24	Reinforc Concr
CONDO MAIN	Exterior Wall 2:	25	Vinyl Siding
CONDO MAIN	Exterior Wall 2:	26	Aluminum Sidng
CONDO MAIN	Exterior Wall 2:	27	Pre-finsh Metl
CONDO MAIN	Exterior Wall 2:	28	Glass/Thermo.
CONDO MAIN	Exterior Wall 2:	29	Vinyl Shingle
CONDO MAIN	Exterior Wall 2:	30	Stone Veneer
CONDO MAIN	Foundation	1	

Building Type	Attribute	Valid Code	Description
CONDO MAIN	Foundation	2	
CONDO MAIN	Foundation	3	
CONDO MAIN	Foundation	4	
CONDO MAIN	Foundation	5	
CONDO MAIN	Foundation	6	
CONDO MAIN	Foundation	7	
CONDO MAIN	Foundation	8	
CONDO MAIN	Foundation	9	
CONDO MAIN	Grade	A	A
CONDO MAIN	Grade	A+	A+
CONDO MAIN	Grade	A-	A-
CONDO MAIN	Grade	B	B
CONDO MAIN	Grade	B+	B+
CONDO MAIN	Grade	B-	B-
CONDO MAIN	Grade	C	C
CONDO MAIN	Grade	C+	C+
CONDO MAIN	Grade	C-	C-
CONDO MAIN	Grade	D	D
CONDO MAIN	Grade	D+	D+
CONDO MAIN	Grade	D-	D-
CONDO MAIN	Grade	E	E
CONDO MAIN	Grade	X	X
CONDO MAIN	Grade	X+	X+
CONDO MAIN	Grade	X-	X-
CONDO MAIN	Roof Cover	01	Metal/Tin
CONDO MAIN	Roof Cover	02	Rolled Compos
CONDO MAIN	Roof Cover	03	Asph/F GlS/Cmp
CONDO MAIN	Roof Cover	04	Tar&Grvl/Rubbr
CONDO MAIN	Roof Cover	05	Corrugated Asb
CONDO MAIN	Roof Cover	06	Asbestos Shing
CONDO MAIN	Roof Cover	07	Concrete Tile
CONDO MAIN	Roof Cover	08	Clay Tile
CONDO MAIN	Roof Cover	09	Enam Mtl Shing
CONDO MAIN	Roof Cover	10	Wood Shingle
CONDO MAIN	Roof Cover	11	Slate
CONDO MAIN	Roof Structure	01	Flat
CONDO MAIN	Roof Structure	02	Shed
CONDO MAIN	Roof Structure	03	Gable/Hip
CONDO MAIN	Roof Structure	04	Wood Truss
CONDO MAIN	Roof Structure	05	Salt Box
CONDO MAIN	Roof Structure	06	Mansard

Building Type	Attribute	Valid Code	Description
CONDO MAIN	Roof Structure	07	Gambrel
CONDO MAIN	Roof Structure	08	Irregular
CONDO MAIN	Roof Structure	09	Rigid Frm/BJst
CONDO MAIN	Roof Structure	10	Steel Frm/Trus
CONDO MAIN	Roof Structure	11	Bowstring Trus
CONDO MAIN	Roof Structure	12	Reinforc Concr
CONDO MAIN	Roof Structure	13	Prestres Concr
CONDO MAIN	Xtra Field 1:	01	Average
CONDO MAIN	Xtra Field 1:	02	Above Avg
CONDO MAIN	Xtra Field 1:	03	Excellent

Model Specification of Data Attributes

The above table shows the data attributes collected (model specification). Each of these items are assigned a unique value (model calibration) in the system. For example, there is market value difference between average construction (C) compared with A+ construction quality. A typical house is considered average with no adjustment. However, a custom-built house utilizing excellent quality materials and workmanship would require an upward adjustment to the base rate for superior grade. For example, an adjustment of 1.1 (an increase of 110% above the base rate) is applied to a grade “A+” property. Both Vision and PVA use 12 to 16 categories, depending on the property type, for grades.

Below is a sample of all property adjustments made for “Grade.”

Description	Code	Description2	Adjustments
GRADE	E	E	-0.5
GRADE	D-	D-	-0.3
GRADE	D	D	-0.25
GRADE	D+	D+	-0.15
GRADE	C-	C-	-0.1
GRADE	C	C	0
GRADE	C+	C+	0.1
GRADE	B-	B-	0.2
GRADE	B	B	0.35
GRADE	B+	B+	0.5
GRADE	A-	A-	0.7
GRADE	A	A	0.9
GRADE	A+	A+	1.1
GRADE	X-	X-	1.35
GRADE	X	X	1.6
GRADE	X+	X+	1.9

The overall adjustments for each property type in both the Vision and PVA appraisal are reasonable.

Building Valuation (Building Size Adjustment)

Larger buildings typically sell for lower unit prices (all else being the same). For example, a 10,000 SF house that is similar in all aspects (except size) compared with a 1,000 SF house would normally not sell for 10x the price.

In reviewing the CAMA software, the “building curve” adjustments are reasonable in both the Vision and PVA reports.

Extra Features

Extra features include items such as elevators, fireplaces and sprinklers. They are listed on the following chart. Extra features are added to the base value resulting from a count of such items or \$/SF contribution. Extra features are added to the base value and depreciated at the overall depreciation rate.

The following extra feature values were developed for residential and commercial properties.

Code	Description	Unit Type	Unit Price
A/C	AIR CONDITION	S.F	\$2.65
ATM	AUTOMATIC TELLER	UNITS	\$35,000.00
BAL	BALCONY	S.F.	\$30.00
BL1	BOWLING LANE1	UNITS	\$5,000.00
BL2	BOWLING LANE2	UNITS	\$5,000.00
BOX	SAFE DEPOSIT	UNITS	\$87.00
CAN1	CANOPY AVG	S.F.	\$18.00
CAN2	CANOPY GOOD	S.F.	\$28.00
CAN3	CANOPY EXCEL	S.F.	\$36.00
CLR1	COOLER	S.F.	\$26.00
CLR2	FREEZER TEMPS	S.F.	\$35.00
CR1	COMPUTER FLOOR	S.F.	\$10.00
DUW1	DRIVE-UP WINDW	UNITS	\$7,000.00
DUW2	WIDE BAY	UNITS	\$10,700.00
DUW3	W/PNEU TUBE	UNITS	\$20,400.00
DUW4	W/REM SCR&TUBE	UNITS	\$41,000.00
ELV1	ELEVATOR PASS	STOPS	\$13,300.00
ELV2	ELEVATOR FRGHT	STOPS	\$10,200.00
ENT	ENCLOSED ENTRY	S.F.	\$31.00
FBLA	FINISHED BSMNT	S.F.	\$32.00
FCP	CARPORT	S.F.	\$13.00
FEP	ENCLOSED PORCH	S.F.	\$27.00

Code	Description	Unit Type	Unit Price
FES	FIRE ESCAPE	UNITS	\$1,225.00
FGR1	GARAGE-AVG	S.F	\$31.00
FGR2	GARAGE-GOOD	S.F.	\$42.00
FOP	OPEN PORCH	S.F.	\$24.00
FPL	GAS FIREPLACE	UNITS	\$2,100.00
FPL1	FIREPLACE 1 OPN	UNITS	\$4,100.00
FPL2	FIREPLACE 2 OPN	UNITS	\$4,600.00
FSP	SCREENED PORCH	S.F.	\$18.00
GEN	GENERATOR	UNITS	\$0.00
GIR1	GIRDERS LT 12"	L.F.	\$38.00
GIR2	GIRDERS 13"-18	L.F.	\$47.00
GIR3	GIRDERS 19"-24	L.F.	\$82.00
GIR4	GRDRS OVER 24"	L.F.	\$125.00
HRTH	HEARTH	UNITS	\$640.00
HTB	HOTTUB	UNITS	\$5,200.00
KIT	EXTRA KITCHEN	UNITS	\$4,000.00
LD1	LOAD DOCK ST/CC	S.F.	\$56.00
LD2	LOAD DOCK WOOD	S.F.	\$45.00
LD4	TRUCK WELLS	UNITS	\$5,600.00
LDL1	LOAD LEVELERS	UNITS	\$3,900.00
LDL2	W/MAN FLIP OUT	UNITS	\$1,225.00
LFT1	LIFT-LIGHT	UNITS	\$5,600.00
LFT2	LIFT-HEAVY	UNITS	\$9,000.00
LT13	FLOOD LIGHT ATT	UNITS	\$360.00
MEZ1	MEZZANINE-UNF	S.F.	\$13.00
MEZ2	FINISHED	S.F.	\$21.00
MEZ3	W/PARTITIONS	S.F.	\$34.00
NDP	NITE DEPOSIT	UNITS	\$7,300.00
OD1	OVERHEAD DOOR	UNITS	\$2,150.00
OD2	OVHD DOOR MOTOR	UNITS	\$4,300.00
PCT	PADDLEBALL CRT	S.F.	\$5.00
REC	REC ROOM	S.F.	\$25.00
RNG	INDOOR RANGE	S.F	\$137.30
RQT	RACQUETBALL	UNITS	\$35,300.00
SF1	STORE FRONT WD	S.F.	\$56.00
SF2	STORE FRONT AVG	S.F.	\$56.00
SNA	SAUNA	UNITS	\$3,900.00
SOLR	SOLAR	WATTS	\$0.00
SPL7	INDOOR POOL	S.F.	\$40.00
SPR1	SPRINKLERS-WET	S.F.	\$1.75
SPR2	WET/CONCEALED	S.F.	\$2.05

Code	Description	Unit Type	Unit Price
SPR3	DRY	S.F.	\$2.05
STK1	CHIMNEY STK BR	UNITS	\$1,500.00
STK2	CHIMNEY STK MT	UNITS	\$600.00
TER	TERRACE	S.F.	\$30.00
TS1	TRUCK SCALE	UNITS	\$26,000.00
TS2	TRUCK SCALE	UNITS	\$26,000.00
VLT1	VAULT-AVG	S.F.	\$117.00
VLT2	VAULT-GOOD	S.F.	\$148.00
VLT3	VAULT-EXCELLNT	S.F.	\$189.00
VLT4	VAULT- RECORD	S.F.	\$71.00
WDK1	WOOD DECK	S.F.	\$13.00
WHL	WHIRLPOOL	UNITS	\$3,700.00

Outbuildings

Outbuildings include items such as garages, pools, service station fuel tanks and site lighting fixtures. They are listed on the following chart. Outbuildings are added to the base value resulting from a count of such items, linear foot (LF) of square foot (SF) contribution. Outbuildings are individually depreciated.

The following outbuilding values were developed for both residential and commercial properties.

Code	Description	Unit Type	Unit Price
ANT1	ANTENNA	UNITS	\$39,000.00
AP1	FENCE CHAIN	L.F.	\$5.65
AP2	FENCE PICKET	L.F.	\$5.65
AP3	FENCE STOCKADE	L.F.	\$5.65
AP4	FENCE POST	L.F.	\$0.55
AP6	FENCE STONE	L.F.	\$16.00
AP7	FENCE WRGHT IRON	L.F.	\$52.00
ATM	ATM DETACHED	UNITS	\$35,000.00
BB1	BILLBOARD	S.F.	\$86.00
BB2	SIGN	S.F.	\$41.00
BD1	BOAT DOCK WOOD	S.F.	\$43.00
BHS1	CMM BTH HSE AV	S.F.	\$29.00
BHS2	CMM BTH HSE GD	S.F.	\$39.00
BHS3	CMM BTH HSE PR	S.F.	\$23.00
BIN1	BINS	S.F.	\$21.00
BIN2	AGRICULTURAL	S.F.	\$16.00
BK1	BULK HEAD	L.F.	\$337.00
BOT1	BOATHOUSE	S.F.	\$142.00
BOT2	BOATHOUSE W/FIN RM	S.F.	\$175.00
BRN0	BARN	S.F.	\$24.00

Code	Description	Unit Type	Unit Price
BRN1	BARN - 1 STORY	S.F.	\$24.00
BRN2	1 STORY W/BSMT	S.F.	\$27.00
BRN3	1 STORY W/LOFT	S.F.	\$32.00
BRN4	1 STY LFT&BSMT	S.F.	\$35.00
BRN5	2 STORY	S.F.	\$36.00
BRN6	2 STY W/BSMT	S.F.	\$38.00
BRN7	TOBACCO BARN	S.F.	\$16.00
BRN8	POLE BARN	S.F.	\$14.00
BRN9	BARN	S.F.	\$24.00
BTH1	BATH HOUSE/CAB	S.F.	\$36.00
BTH2	W/PLUMBING	S.F.	\$69.00
CAB1	CABIN-MINIMAL	S.F.	\$47.00
CAB2	W/PLUMBING ETC	S.F.	\$56.00
CAN1	CANOPY AVG	S.F.	\$13.00
CAN2	CANOPY GOOD	S.F.	\$28.00
CAN3	CANOPY EXCEL	S.F.	\$36.00
CMTW	COMM. TOWER	UNITS	\$214,000.00
CON	CONDUIT	L.F.	\$0.00
CRN	CORN CRIB	S.F.	\$19.00
CTA	CELL TOWER ARRAY	UNITS	\$150,000.00
CTCL	CELL COLOCATOR	UNITS	\$240,000.00
CTF	CELL TOWER FRAME	L.F.	\$2,500.00
CTM	CELL TOWER MONOPOLE	L.F.	\$2,800.00
DCK1	DOCKS-RES TYPE	S.F.	\$35.00
DCK2	COM TYPE	S.F.	\$68.00
DNT1	DRIVE-IN THTR AVG	SPEAKERS	\$970.00
DNT2	DRIVE-IN THTR GD	SPEAKERS	\$1,325.00
FCP	CARPORT	S.F.	\$13.00
FEP	ENCLOSED PORCH	S.F.	\$30.00
FF4	CONC APRON	L.F.	\$16.00
FGR1	GARAGE-AVE	S.F.	\$31.00
FGR2	GARAGE-GOOD	S.F.	\$42.00
FGR3	GARAGE-POOR	S.F.	\$18.00
FGR4	GAR W/LFT AVE	S.F.	\$41.00
FGR5	W/LOFT GOOD	S.F.	\$52.00
FGR6	W/LOFT-POOR	S.F.	\$28.00
FGR7	GARAGE W FIN RM	S.F.	\$75.00
FGR8	GARAGE W/APT	S.F.	\$75.00
FN1	FENCE-4' CHAIN	L.F.	\$12.25
FN10	W/O TOP RL-10'	L.F.	\$20.50
FN2	FENCE-5' CHAIN	L.F.	\$13.25

Code	Description	Unit Type	Unit Price
FN3	FENCE-6' CHAIN	L.F.	\$16.30
FN4	FENCE-8' CHAIN	L.F.	\$22.50
FN5	FENCE-10'CHAIN	L.F.	\$27.00
FN6	W/O TOP RL-4'	L.F.	\$11.25
FN7	W/O TOP RL-5'	L.F.	\$12.25
FN8	W/O TOP RL-6'	L.F.	\$15.30
FN9	W/O TOP RL-8'	L.F.	\$18.50
FNDT	FOUNDATION	S.F.	\$20.00
FOP	OPEN PORCH	S.F.	\$26.00
FSP	SCREENED PORCH	S.F.	\$28.00
GAZ	GAZEBO	S.F.	\$43.00
GHS1	GUEST HSE W/O PLUMB	S.F.	\$75.00
GHS2	GUEST HSE W/ PLUMB	S.F.	\$100.00
GRN1	GREEN HOUSE-RS	S.F.	\$17.00
GRN2	COMM GLASS	S.F.	\$10.20
GRN3	COMM PLASTIC	S.F.	\$4.10
HOG	HOG HOUSE	S.F.	\$8.20
HOLE	GOLF	UNITS	\$31,000.00
IMP	IMPLEMENT SHED	S.F.	\$13.25
KEN1	KENNEL-AVG	S.F.	\$47.00
KEN2	KENNEL-GOOD	S.F.	\$88.00
KF1	KIOSK	S.F.	\$153.00
KSK1	KIOSK-SERV STA	S.F.	\$153.00
KSK2	PHOTO BOOTH	S.F.	\$153.00
LNT	LEAN-TO	S.F.	\$9.00
LT1	LIGHTS-IN W/PL	UNITS	\$1,125.00
LT10	W/DOUBLE LIGHT	UNITS	\$3,160.00
LT11	W/TRIPLE LIGHT	UNITS	\$4,300.00
LT12	W/FOUR LIGHTS	UNITS	\$5,600.00
LT2	W/DOUBLE LIGHT	UNITS	\$1,750.00
LT3	W/TRIPLE LIGHT	UNITS	\$2,250.00
LT4	W/FOUR LIGHTS	UNITS	\$2,900.00
LT5	MERC VAP/FLU	UNITS	\$1,630.00
LT6	W/DOUBLE LIGHT	UNITS	\$2,250.00
LT7	W/TRIPLE LIGHT	UNITS	\$3,100.00
LT8	W/FOUR LIGHTS	UNITS	\$4,100.00
LT9	HGH PRE-SOD PL	UNITS	\$2,150.00
MHP1	MOB HM SITE V CHEAP	UNITS	\$2,900.00
MHP2	MOB HM SITE CHEAP	UNITS	\$3,500.00
MHP3	MOB HM SITE LO COST	UNITS	\$6,200.00
MHP4	MOB HM SITE AVG	UNITS	\$9,000.00

Code	Description	Unit Type	Unit Price
MHP5	MOB HM SITE ABV AVG	UNITS	\$10,250.00
MHP6	MOB HM SITE GOOD	UNITS	\$13,300.00
MHP7	MOB HM PK EXCLNT	UNITS	\$17,500.00
MLK	MILK HOUSE	S.F.	\$34.00
PAT1	PATIO-AVG	S.F.	\$7.00
PAT2	PATIO-GOOD	S.F.	\$13.00
PAV1	PAVING-ASPHALT	S.F.	\$1.75
PAV2	PAVING-CONC	S.F.	\$2.75
PC2	PAVING HEAVY	UNITS	\$1.10
PC3	PAVING SLAB	UNITS	\$1.10
PE1	COMMERCIAL WHARF	L.F.	\$125.00
PG1	PARKING GARAGE UND	UNITS	\$80.00
PGAS	GAS PIPELINE 30"	L.F.	\$546.00
PKS	ADDTL PARKING SPC	UNITS	\$25,000.00
PLT1	PLTRY HSE 1 ST	S.F.	\$13.25
PLT2	PLTRY HSE 2 ST	S.F.	\$16.30
PLT3	PLTRY HSE 3 ST	S.F.	\$18.40
PM1	GAS PUMP SINGLE	UNITS	\$8,600.00
PM2	GAS PUMP SIN/CARD	UNITS	\$12,300.00
PM3	GAS PUMP MULTI	UNITS	\$13,300.00
PM4	GAS PUMP MULTI/CARD	UNITS	\$16,400.00
PMP1	PUMP-SING HSE	UNITS	\$6,200.00
PMP2	W/BLENDING	UNITS	\$6,800.00
PMP3	ELECTRONIC	UNITS	\$8,600.00
PMP4	DOUBLE HOSE	UNITS	\$12,300.00
PMP5	W/BLENDING	UNITS	\$12,500.00
PMP6	ELECTRONIC	UNITS	\$12,500.00
PMP7	3 HOSE	UNITS	\$13,300.00
PMP8	6 HOSE	UNITS	\$21,000.00
PT1	COM BRICK PATIO	S.F.	\$12.00
PT3	PATIO CONCRETE	S.F.	\$9.00
RAR	RIDING ARENA	S.F.	\$18.00
RCL	ROOT CELLAR	S.F.	\$8.00
RD1	BOAT DOCK LT	UNITS	\$40.00
RD2	BOAT DOCK MED	UNITS	\$70.00
RD3	BOAT DOCK HVY	UNITS	\$100.00
RD4	CC DOCK	S.F.	\$150.00
RL1	STUDIO	S.F.	\$50.00
RM1	MOBILE SINGLE WIDE	S.F.	\$50.00
RR1	TRACK RAILROAD	L.F.	\$62.00
RS1	UTIL BLDG FRAME	S.F.	\$65.00

Code	Description	Unit Type	Unit Price
RS2	UTIL BLDG STEEL	S.F.	\$85.00
RS3	UTIL BLDG MASON	S.F.	\$100.00
SC1	COMM SWIM POOL	S.F.	\$52.00
SCL1	SCALES-MECHAN	TONS	\$775.00
SCL2	SCALES-ELECT	TONS	\$1,025.00
SGN1	SIGN-1 SD W/M	S.F.&HGT	\$29.00
SGN2	DOUBLE SIDED	S.F.&HGT	\$47.00
SGN3	W/INT LIGHTS	S.F.&HGT	\$100.00
SGN4	W/MOTOR & LTS	S.F.&HGT	\$110.00
SH1	COM SHED FRAME	S.F.	\$21.00
SH2	COM SHED ALUM	S.F.	\$9.00
SH3	COM SHED METAL	S.F.	\$7.00
SH4	COM SHED QUONSE	S.F.	\$28.00
SH5	COM LUM SHED 2S	S.F.	\$8.25
SHD1	SHED FRAME	S.F.	\$13.00
SHD2	W/LIGHTS ETC	S.F.	\$21.00
SHD3	METAL	S.F.	\$11.00
SHP1	WORK SHOP AVE	S.F.	\$27.00
SHP2	WORK SHOP GOOD	S.F.	\$32.00
SHP3	WORK SHOP POOR	S.F.	\$22.00
SHP4	W/IMPROV AGE	S.F.	\$31.00
SHP5	W/IMPROV GOOD	S.F.	\$34.00
SHP6	W/IMPROV POOR	S.F.	\$25.00
SL1	SL1	UNITS	\$10,000.00
SLO1	SILO-WD OR CNC	DIAxHT	\$22.00
SLO2	PORCELAN	DIAxHT	\$52.00
SLO3	CONCRETE TRNCH	DIAxHT	\$8.50
SM2	MH ADDITION	S.F.	\$50.00
SM4	SKIRTING	L.F.	\$10.00
SPL1	POOL-INGR CONC	S.F.	\$55.00
SPL2	POOL-INGR VN/P	S.F.	\$48.00
SPL3	POOL-INGR GUNI	S.F.	\$68.00
SPL4	POOL AGR ROUND	DIAMETER	\$0.00
SPL5	POOL AGR OVAL	LENGTH	\$0.00
SPL6	POOL AGR RECT	S.F.	\$0.00
STB1	STABLE	S.F.	\$21.00
STB2	W/IMPROVEMENTS	S.F.	\$37.00
TEL1	TELEPHONE POLES 100	UNITS	\$0.00
TEL2	TELEPHONE POLES 50	UNITS	\$0.00
TEN	TENNIS COURT	S.F.	\$4.90
TN1	COM TANK ELV STEEL	UNITS	\$8.00

Code	Description	Unit Type	Unit Price
TN2	COM TANK STEEL-PETR	BBLS	\$16.00
TN4	COM TANK CONCRETE	UNITS	\$3.25
TN5	COM TANK STEEL PRE	UNITS	\$3.25
TN7	COM TANK UNGRD ST	GALS	\$4.50
TNK1	TANK-UNDERGRND	GALS	\$9.25
TNK2	3000-10000 GAL	GALS	\$4.60
TNK3	GT-10,000	GALS	\$4.00
TNK4	COMPRESSED AIR	GALS	\$5.20
TNK5	ELEVATED TANK	GALS	\$10.25
TOT	TOTALIZER	UNITS	\$1,835.00
TR1	COM TANK UNGRD FB	UNITS	\$2.65
TT1	COM TOWER RADIO	L.F.	\$410.00
TT2	COM TOWER MICRO	L.F.	\$220.00
TT3	COM TOWER TV	L.F.	\$410.00
VC1	COM VACUUM	UNITS	\$565.00
WDK1	WOOD DECK	S.F.	\$13.00
XY7	MISC/SOUND VALUE	UNITS	\$1.00

Depreciation

Depreciation is a loss in property value from any cause; the difference between the cost new of an improvement on the effective date of the appraisal and the market value of the improvement on the same date. There are three major categories of depreciation:

- Physical deterioration
- Functional obsolescence
- External obsolescence

Review of the Vision tables revealed residential and residential condominium depreciation rates were typical for properties constructed up to 2006. From 2007 to 2017, the depreciation table assigns the same level of depreciation, regardless of the property's condition. For example, a property built in 2007 in very poor (VP) condition will receive the same depreciation (9%) as a property in excellent (EX) condition (9%).

While technically an error in the model, the error does not impact values for several reasons. First, a search revealed no properties constructed from 2007 to the present were assigned depreciation codes below average (AV). Also, newer properties are not normally assigned condition codes above average (AV).

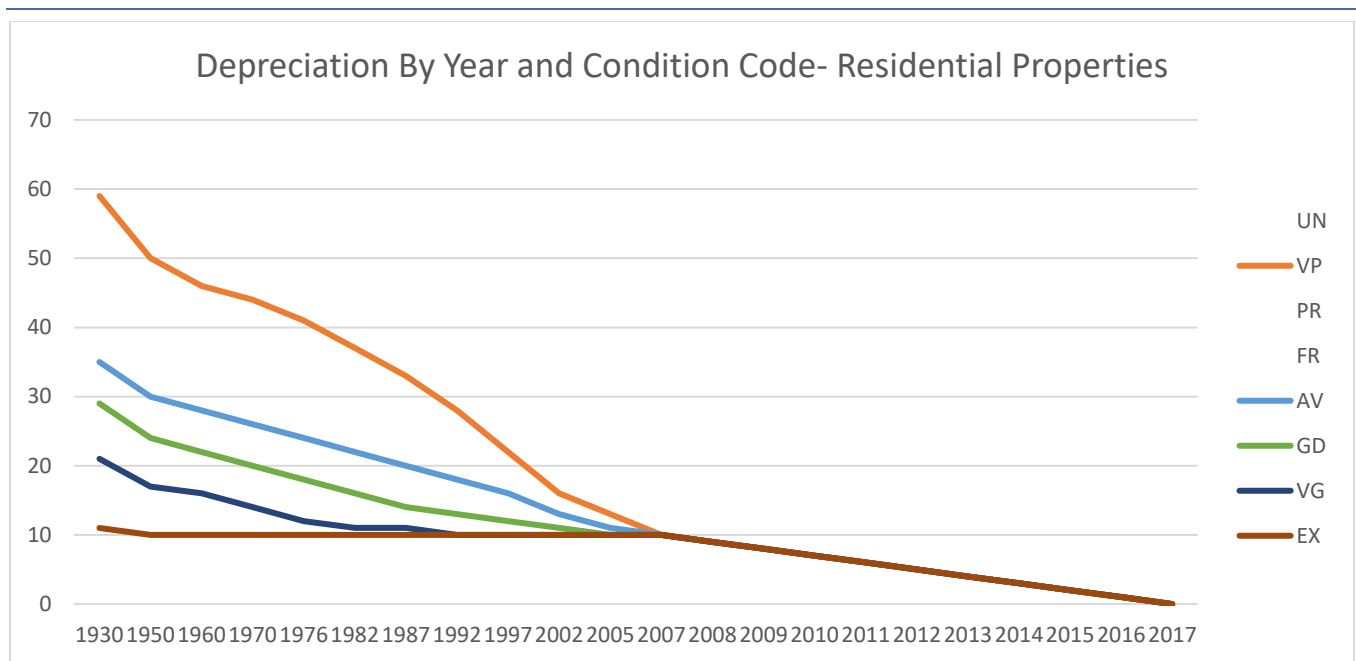
The same issue was discovered in the depreciation rates for mobile homes from 2011 to the present. Again, because no properties in this age group were assigned conditions below average (AV), the impact is null.

It is recommended these tables be updated to accommodate the rare occurrence of newer properties entered into the system with conditions other than average.

The following table illustrates the various rates of depreciation based on age and condition. The table shows how inferior condition correlates to higher rates of depreciation.

Year Built	Condition- Residential & Residential Condos							
	UN	VP	PR	FR	AV	GD	VG	EX
1930	59	59	49	41	35	29	21	11
1950	50	50	43	36	30	24	17	10
1960	46	46	40	34	28	22	16	10
1970	44	44	38	32	26	20	14	10
1976	41	41	36	30	24	18	12	10
1982	37	37	33	28	22	16	11	10
1987	33	33	30	26	20	14	11	10
1992	28	28	26	23	18	13	10	10
1997	22	22	21	20	16	12	10	10
2002	16	16	16	15	13	11	10	10
2005	13	13	13	12	11	10	10	10
2007	10	10	10	10	10	10	10	10
2008	9	9	9	9	9	9	9	9
2009	8	8	8	8	8	8	8	8
2010	7	7	7	7	7	7	7	7
2011	6	6	6	6	6	6	6	6
2012	5	5	5	5	5	5	5	5
2013	4	4	4	4	4	4	4	4
2014	3	3	3	3	3	3	3	3
2015	2	2	2	2	2	2	2	2
2016	1	1	1	1	1	1	1	1
2017	0	0	0	0	0	0	0	0

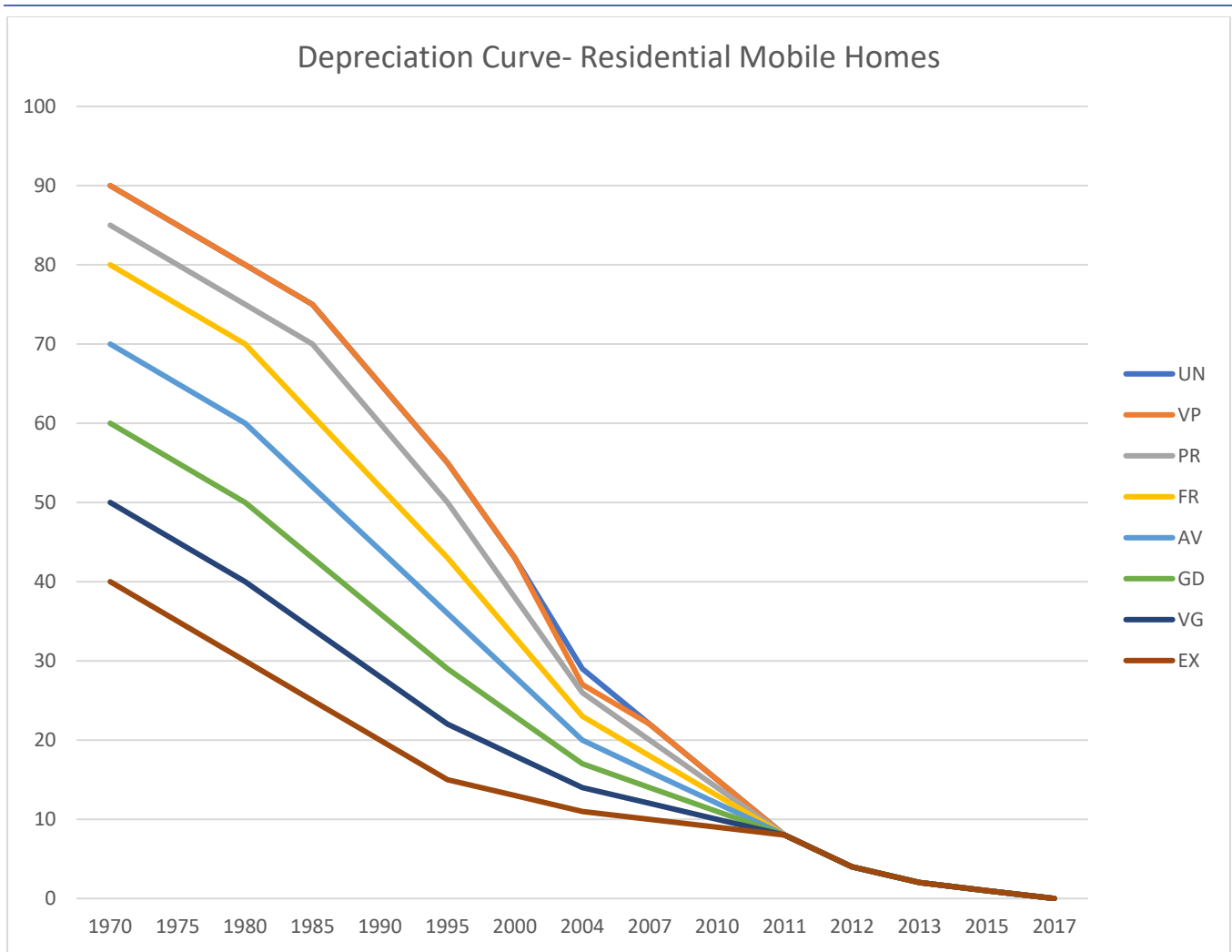
The chart below illustrates the depreciation curve.



The next table shows depreciation rates for mobile homes.

Year Built	Condition							
	UN	VP	PR	FR	AV	GD	VG	EX
1970	90	90	85	80	70	60	50	40
1975	85	85	80	75	65	55	45	35
1980	80	80	75	70	60	50	40	30
1985	75	75	70	61	52	43	34	25
1990	65	65	60	52	44	36	28	20
1995	55	55	50	43	36	29	22	15
2000	43	43	38	33	28	23	18	13
2004	29	27	26	23	20	17	14	11
2007	22	22	20	18	16	14	12	10
2010	15	15	14	13	12	11	10	9
2011	8	8	8	8	8	8	8	8
2012	4	4	4	4	4	4	4	4
2013	2	2	2	2	2	2	2	2
2015	1	1	1	1	1	1	1	1
2017	0	0	0	0	0	0	0	0

The chart below illustrates the depreciation curve for mobile homes. Mobile homes depreciate faster and have steeper depreciation curves.

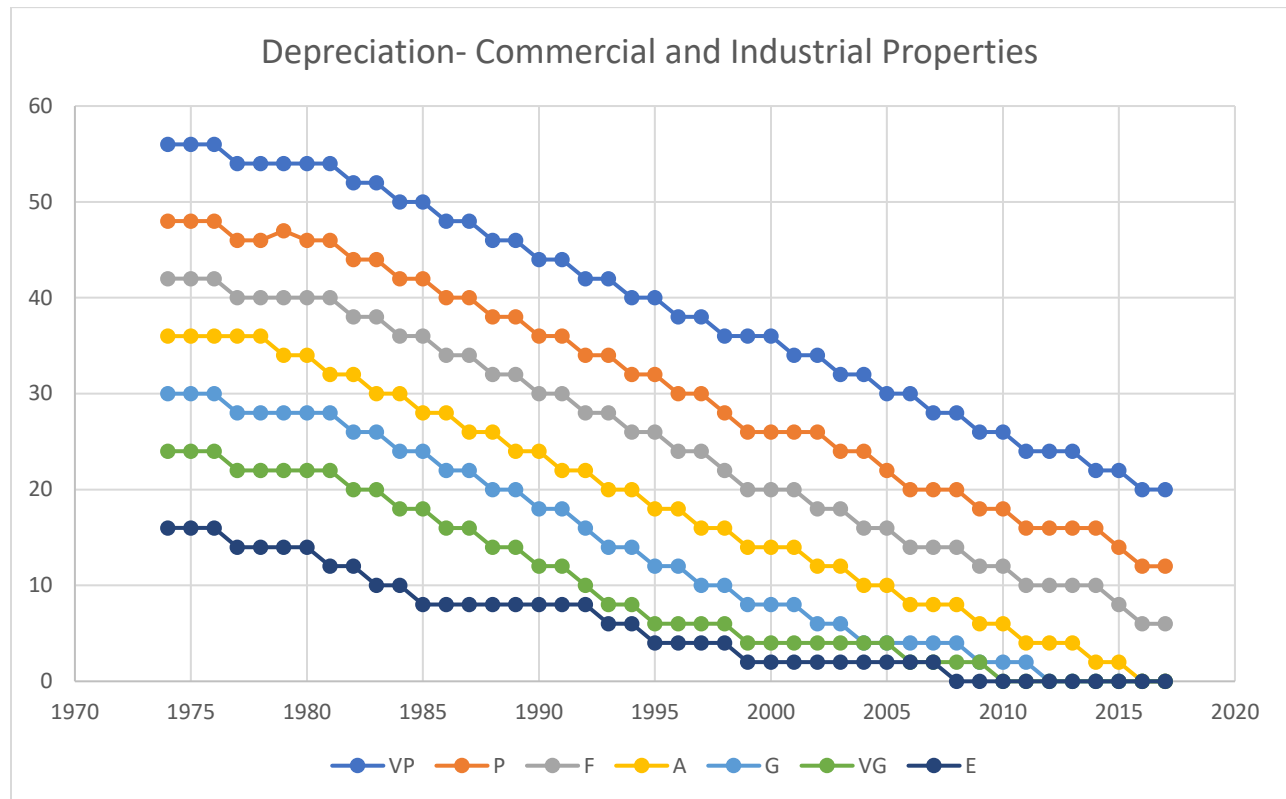


This next table illustrates the depreciation rates for commercial and industrial properties (PVA report).

Year Built	Condition						
	VP	P	F	A	G	VG	E
1974	56	48	42	36	30	24	16
1975	56	48	42	36	30	24	16
1976	56	48	42	36	30	24	16
1977	54	46	40	36	28	22	14
1978	54	46	40	36	28	22	14
1979	54	47	40	34	28	22	14
1980	54	46	40	34	28	22	14
1981	54	46	40	32	28	22	12
1982	52	44	38	32	26	20	12
1983	52	44	38	30	26	20	10
1984	50	42	36	30	24	18	10

Year Built	Condition						
	VP	P	F	A	G	VG	E
1985	50	42	36	28	24	18	8
1986	48	40	34	28	22	16	8
1987	48	40	34	26	22	16	8
1988	46	38	32	26	20	14	8
1989	46	38	32	24	20	14	8
1990	44	36	30	24	18	12	8
1991	44	36	30	22	18	12	8
1992	42	34	28	22	16	10	8
1993	42	34	28	20	14	8	6
1994	40	32	26	20	14	8	6
1995	40	32	26	18	12	6	4
1996	38	30	24	18	12	6	4
1997	38	30	24	16	10	6	4
1998	36	28	22	16	10	6	4
1999	36	26	20	14	8	4	2
2000	36	26	20	14	8	4	2
2001	34	26	20	14	8	4	2
2002	34	26	18	12	6	4	2
2003	32	24	18	12	6	4	2
2004	32	24	16	10	4	4	2
2005	30	22	16	10	4	4	2
2006	30	20	14	8	4	2	2
2007	28	20	14	8	4	2	2
2008	28	20	14	8	4	2	0
2009	26	18	12	6	2	2	0
2010	26	18	12	6	2	0	0
2011	24	16	10	4	2	0	0
2012	24	16	10	4	0	0	0
2013	24	16	10	4	0	0	0
2014	22	16	10	2	0	0	0
2015	22	14	8	2	0	0	0
2016	20	12	6	0	0	0	0
2017	20	12	6	0	0	0	0

The graph below illustrates the depreciation curve for commercial and industrial properties.



Summary of Depreciation

In appraising, depreciation is a loss in property value from any cause. It is determined by taking the difference between the cost new of an improvement on the effective date of the appraisal and the market value of the improvement on the same date. Both Vision and PVA used actual age and condition in assigning depreciation to each individual property. Except for the Vision report for properties built after 2007, which did not affect any properties, the depreciation curves for both Vision and PVA appear reasonable.

Cost Approach Conclusion

As was previously discussed, both Vision and PVA established base rates for improvements. The base rates for those improvements were then refined based on the individual characteristics of each property. Additional features and outbuilding contributions to value were added. Depreciation was deducted from the refined improvement costs. The last step in the cost approach required land values to be added to the depreciated improvement values.

SALES COMPARISON APPROACH FOR IMPROVED PROPERTY

The sales comparison approach is defined as:

Sales comparison approach. *The process of deriving a value indication for the subject property by comparing sales of similar properties to the property being appraised, identifying appropriate units of comparison, and making adjustments to the sale prices (or unit prices, as appropriate) of the comparable properties based on relevant, market-derived elements of comparison. The sales comparison approach may be used to value improved properties, vacant land, or land being considered as though vacant when an adequate supply of comparable sales is available.*

The elements of comparison are defined as:

Elements of comparison. *The characteristics or attributes of properties and transactions that cause the prices of real property to vary; include real property rights conveyed, financing terms, conditions of sale, expenditures made immediately after purchase, market conditions, location, physical characteristics, and other characteristics such as economic characteristics, use, and non-realty components of value.*

In the sales comparison approach, the value of a property is estimated by comparing it with similar, recently sold properties in the surrounding or competing area. Inherent in this approach is the principle of substitution, which holds that when a property is replaceable in the market, its value tends to be set by the cost of acquiring an equally desirable substitute property, assuming no costly delay is encountered in making the substitution.

Through the analysis of sales of verified arm's-length transactions, market value and price trends are identified. The sales utilized are comparable to the subject in physical, functional, and economic characteristics. The basic procedure is as follows:

1. Identify the most recent relevant sales from which to select and analyze truly comparable sales, with consideration given to the date of sale.
2. Identify any changes in economic conditions between the date of sale and the date of value.
3. Calculate the cash equivalent price for any sale that includes favorable financing.
4. Reduce the sale price to a unit of comparison such as the sale price per square foot or sale price per unit.
5. Make appropriate adjustments to the prices of the comparable sale properties for differences in the relevant elements of comparison.
6. Interpret the results to derive a value indication from the sales comparison approach.

Sales Comparison Models (PVA and Vision Revaluation Reports)

While sales were used to calibrate the cost and income models, an independent sales comparison model was not developed by either PVA or Vision. This is typical in mass valuation in New Hampshire due to the limited number of sales. Few, if any, assessing districts in New Hampshire develop independent sales comparison models.

INCOME APPROACH (PVA REVALUATION REPORT)

In the income approach, the present value of the future benefits of property ownership is measured. A property's income and resale value upon reversion may be capitalized into a current, lump-sum value. There are two methods of income capitalization: direct capitalization and yield capitalization. In direct capitalization, the relationship between one year's income and value is reflected in either a capitalization rate or an income multiplier. In yield capitalization, the relationship between several years' stabilized income and a reversionary value at the end of a designated period is reflected in a yield rate. The most common application of yield capitalization is discounted cash flow analysis.

The income approach is not normally relied upon for residential valuation and Vision did not employ an income approach in their mass valuation.

The PVA report uses the direct capitalization method. In direct capitalization, a single year's net operating income is divided by an overall capitalization rate to arrive at an indication of value. The general formula for the income approach is as follows:

1. Estimate the potential gross income (PGI).
2. Estimate the vacancy and collection loss.
3. Subtract the vacancy and collection loss from the potential gross income to derive the effective gross income.
4. Estimate the total operating expenses for the subject and deduct them from the effective gross income to derive net operating income (I_o).
5. Estimate an overall capitalization rate (R_o).
6. Divide the net operating income by the overall capitalization rate to derive a value indication by the income capitalization approach.

Definitions that may be used in the income capitalization approach analysis are as follows:⁹

Direct capitalization. *A method used to convert an estimate of a single year's income expectancy into an indication of value in one direct step, either by dividing the net income estimate by an appropriate capitalization rate or by multiplying the income estimate by an appropriate factor. Direct capitalization*

⁹ SOURCE: Dictionary of Real Estate Appraisal, 5th Addition, Appraisal Institute, Chicago, Illinois 2015

employs capitalization rates and multipliers extracted or developed from market data. Only one year's income is used. Yield and value changes are implied, but not explicitly identified.

Effective gross income (EGI). *The anticipated income from all operations of the real estate after an allowance is made for vacancy and collection losses and an addition is made for any other income.*

Income capitalization approach. *Specific appraisal techniques applied to develop a value indication for a property based on its earning capability and calculated by the capitalization of property income.*

Net operating income (NOI or I_o). *The actual or anticipated net income that remains after all operating expenses are deducted from effective gross income but before mortgage debt service and book depreciation are deducted.*

Operating expenses. *The periodic expenditures necessary to maintain the real estate and continue production of the effective gross income, assuming prudent and competent management.*

Potential gross income (PGI). *The total income attributable to property at full occupancy before vacancy and operating expenses are deducted.*

Vacancy and collection loss. *A deduction from potential gross income (PGI) made to reflect income reductions due to vacancies, tenant turnover, and nonpayment of rent.*

Income Model Overview

Just like individual property appraisals, mass appraisal income models are designed to estimate values based on future income potential. The income approach is based upon the principle of “anticipation” which recognizes value is created by a property’s expected future benefits. Typically, these benefits are anticipated in the form of income, and/or in the anticipated increase in the property’s value over time. This technique requires that the appraiser estimate the potential gross market income for the property at its highest and best use and make an allowance for vacancy and collection loss, and subtract all appropriate expenses to derive the net operating income. The net operating income is then divided by a “capitalization” rate. These are market-derived rates investors expect on alternative investments that share the same degree of risk as the property appraised. Well-designed income models replicate the actions of commercial buyers and sellers and produce accurate income values.

Mass appraisal income models have two primary categories: model specification and model calibration. Model specification determines what data elements to include in the model, and model calibration assigns a value, or factor, to the data elements. Model specification starts with understanding what data elements drive income. For example, the type of property, age, condition, and location will typically influence income so the model should ensure, through model specification, these items are correct. Income modeling depends on collecting the right data (model specification), correctly obtaining the data, and correctly analyzing how each data item influences value (model calibration).

Income and expense expectations differ by property type. This requires unique income and expense estimates for different property uses. Additionally, income models need to capture the different income and expense expectations within the same use category. For example, new apartments in exceptional neighborhoods have premium rents compared with older apartments in modest neighborhoods. In this example, an accurate income model will accurately estimate market rents for both apartment types resulting from proper specification and calibration.

Well-designed and up-to-date models typically do an excellent job of predicting market values of 80% to 95% of commercial properties. The remaining 5% to 20%, which are typically unique or unusual properties, require additional review from an appraiser/assessor.

INCOME VALUATION REVIEW OF PVA REVALUATION REPORT

An income approach is typically only appropriate for commercial properties. An income approach was developed only in the PVA appraisal.

In gathering data for the report, PVA relied on third party data sources and mailed income and expense data requests to commercial property owners. In the State of NH, property owners are not required to submit income and expense statements. Recently, the Assessing Standards Board (ASB) established a task force to study return rates and found only a fraction of property owners replied to data requests. This poor rate of return substantially limits the quantity of local data available for analysis. However, PVA collected income and expense data from third party sources to compile an extensive amount of income and expense data. Along with the regional and national data, the local data received by PVA was analyzed and used in developing vacancy rates, rental rates and expense ratios.

Gross Income Base Rates

Base rental rates were developed from market studies and surveys of local properties. They represent the average or “base” amount of rent an owner of a typical commercial property could expect their property to command in the local market.

For example, the restaurant was found to rent for \$22.00 per square foot. Since all real property is unique, adjustments are made to the “base rent” to reflect the various strengths and weaknesses of each property relative to the average.

PVA established the following base rents.

Use Code	Description	Unit Type	Base Unit Income
10	DT Retail	SQFT	\$28.50
11	Discount St	SQFT	\$8.00
12	Conv Store	SQFT	\$25.00
13	Supermarket	SQFT	\$12.00
14	Large Retl	SQFT	\$14.00
15	Retl Strip	SQFT	\$18.00
20	Industrial	SQFT	\$6.50
21	R&D	SQFT	\$8.00

Use Code	Description	Unit Type	Base Unit Income
22	Warehouse	SQFT	\$6.50
23	Mill Bldg	SQFT	\$4.00
24	Serv Shop	SQFT	\$9.25
25	Self Storage	SQFT	\$10.50
30	Restaurant	SQFT	\$22.00
31	Fast Food	SQFT	\$30.00
32	Club/Lng	SQFT	\$18.00
40	Effic Apt	APT	\$9,600
41	1 BR Apt	APT	\$12,000
42	2 BR Apt	APT	\$15,600
43	3 BR Apt	APT	\$18,600
44	4 BR Apt	APT	\$21,600
45	Room Hse	ROOM	\$7,200
46	Mbl Hm Pk	SITE	\$5,700
48	Motel	ROOM	\$32,850
49	Hotel	ROOM	\$52,156
50	Office NNN	SQFT	\$13.75
51	Bank	SQFT	\$26.00
52	Office MG	SQFT	\$17.75
53	Office Net	SQFT	\$16.75
60	Serv Statn	UNIT	\$50,000
61	Svc Garage	SQFT	\$9.25
62	Auto Dealer	SQFT	\$10.50
63	Serv St/Conv	UNIT	\$60,000
64	Car Wash	SQFT	\$12.50
90	Misc	SQFT	\$2.20
91	Dead Storage	SQFT	\$2.20
92	Bowling	LANE	\$4,000
93	Theatre	SQFT	\$10.50
94	Nursing Hm	BED	\$51,100

Income Adjustments

Market rent estimates are a central feature of the income approach. The base market rent is estimated for each property type and further refined. Refinements include size, location, use, vacancies and operating expenses.

Size Adjustment

The following table shows the range of “base rents” for each property type based on size.

Description	Base Unit Income	Min Inc.	Max Inc.
DT Retail	\$28.50	\$22.00	\$33.00
Discount St	\$8.00	\$8.00	\$14.00
Conv Store	\$25.00	\$21.00	\$33.00
Supermarket	\$12.00	\$12.00	\$12.00
Large Retl	\$14.00	\$12.00	\$15.00

Retl Strip	\$18.00	\$15.00	\$24.00
Industrial	\$6.50	\$5.50	\$8.50
R&D	\$8.00	\$8.00	\$8.25
Warehouse	\$6.50	\$6.00	\$8.50
Mill Bldg	\$4.00	\$4.00	\$5.00
Serv Shop	\$9.25	\$8.50	\$12.25
Self Storage	\$10.50	\$8.50	\$12.50
Restaurant	\$22.00	\$17.00	\$26.00
Fast Food	\$30.00	\$28.00	\$35.00
Club/Lng	\$18.00	\$15.00	\$24.00
Effic Apt	\$9,600	\$9,600	\$9,600
1 BR Apt	\$12,000	\$12,000	\$12,000
2 BR Apt	\$15,600	\$15,600	\$15,600
3 BR Apt	\$18,600	\$18,600	\$18,600
4 BR Apt	\$21,600	\$21,600	\$21,600
Room Hse	\$7,200	\$7,200	\$7,200
Mbl Hm Pk	\$5,700	\$5,700	\$5,700
Motel	\$32,850	\$32,850	\$32,850
Hotel	\$52,156	\$52,156	\$52,156
Office NNN	\$13.75	\$11.00	\$15.00
Bank	\$26.00	\$20.00	\$32.00
Office MG	\$17.75	\$14.25	\$19.50
Office Net	\$16.75	\$13.25	\$18.50
Serv Statn	\$50,000	\$50,000	\$50,000
Svc Garage	\$9.25	\$8.75	\$12.25
Auto Dealer	\$10.50	\$10.50	\$15.00
Serv St/Conv	\$60,000	\$60,000	\$60,000
Car Wash	\$12.50	\$12.50	\$21.00
Misc	\$2.20	\$2.20	\$2.20
Dead Storage	\$2.20	\$2.20	\$2.20
Bowling	\$4,000	\$4,000	\$4,000
Theatre	\$10.50	\$10.50	\$10.50
Nursing Hm	\$51,100	\$51,100	\$51,100

Location Adjustment

Location is among the most important considerations in real property valuation. The “base rental rates” are adjusted using factors ranging from poor (.75) to excellent (1.4). The lower factors are applied to less desirable properties which reduces their base rental rates. The higher factors are applied to properties considered above average, thus capturing their superior income generating potential.

Location Adjustment				
Poor	Fair	Average	Good	Excellent
0.75	0.85	1.00	1.20	1.40

Use Adjustment

Use is an adjustment for utility and functionality. For example, newer apartments with modern amenities and floor plans will command higher rents compared with older apartments with dated amenities and poor floor plans. The “base rental rates” are adjusted using factors ranging from poor (.75) to excellent (1.4). The lower factors are applied to less desirable properties thus reducing their base rental rates. The higher factors are applied to properties considered well above average, thus capturing their superior income generating potential.

Use Adjustment				
Poor	Fair	Average	Good	Excellent
0.75	0.85	1.00	1.20	1.40

Vacancy

Vacancy is an adjustment that recognizes certain properties achieve lower or higher vacancy rates. A variety of characteristics influence vacancy rates. With apartments, characteristics such as age, unit mix and overall supply and demand for a specific market segment are important drivers of vacancy. For example, two-bedroom apartments are favored in many markets. Apartments with five-bedrooms may be less desirable and incur higher vacancy rates. The following table shows the “base vacancy rate” for each property type.

Description	Unit Type	Base Size	Vacancy %
DT Retail	SQFT	1,300	4.0%
Discount St	SQFT	70,000	5.0%
Conv Store	SQFT	3,000	3.0%
Supermarket	SQFT	50,000	6.0%
Large Retl	SQFT	30,000	5.0%
Retl Strip	SQFT	3,000	8.0%
Industrial	SQFT	8,000	5.0%
R&D	SQFT	10,000	7.0%
Warehouse	SQFT	8,000	5.0%
Mill Bldg	SQFT	7,000	9.0%
Serv Shop	SQFT	3,000	5.0%
Self Storage	SQFT	80	15.0%
Restaurant	SQFT	3,000	5.0%
Fast Food	SQFT	2,500	4.0%
Club/Lng	SQFT	3,000	5.0%
Effic Apt	APT	1	3.0%
1 BR Apt	APT	1	3.0%
2 BR Apt	APT	1	3.0%
3 BR Apt	APT	1	3.0%
4 BR Apt	APT	1	3.0%
Room Hse	ROOM	1	8.0%
Mbl Hm Pk	SITE	1	4.0%
Motel	ROOM	1	40.0%
Hotel	ROOM	1	34.0%

Description	Unit Type	Base Size	Vacancy %
Office NNN	SQFT	2,500	7.0%
Bank	SQFT	3,000	5.0%
Office MG	SQFT	1,800	7.0%
Office Net	SQFT	1,800	7.0%
Serv Statn	UNIT	1	7.0%
Svc Garage	SQFT	3,000	5.0%
Auto Dealer	SQFT	10,000	6.0%
Serv St/Conv	UNIT	1	7.0%
Car Wash	SQFT	3,000	5.0%
Misc	SQFT	1,000	10.0%
Dead Storage	SQFT	1,000	10.0%
Bowling	LANE	1	8.0%
Theatre	SQFT	4,000	6.0%
Nursing Hm	BED	1	10.0%

The “base vacancy rates” are adjusted using factors ranging from poor (2) to excellent (.50). The lower factors applied to more desirable properties reduce the base vacancy rates. The higher factors are applied to less desirable properties to accurately reflect their lower income generating potential.

Assuming a “base” or average vacancy rate of 3.0%, an excellent apartment will incur 1.50% vacancy ($3.0\% \times .50 = 1.5\%$). A poor apartment may suffer from a 6% vacancy rate ($3.0\% \times 2 = 6\%$).

The following table shows the vacancy adjustment factors.

Vacancy Adjustment				
Poor	Fair	Average	Good	Excellent
2.00	1.50	1.00	0.70	0.50

Expenses

Operating expenses are the expenditures required to maintain the real estate and continue the production of income. Typical expenses include insurance, real estate taxes, maintenance, repairs, utilities, heating fuel, management, and snow removal.

Income models allow for adjustments for variations in operating cost efficiency. Certain properties operate at a lower cost to the owner, compared with others. The classic example is heating cost. Using apartments again as an example, when tenants pay for heating, the owners expense is substantially lower. Management and maintenance are other good examples. Some properties are more difficult to manage and maintain compared with others.

Some leases require property owners to pay for all expenses (gross), some expenses (modified gross) or no expenses (NNN). With triple net (NNN) leases, most expenses are passed-through to tenants. The following table shows the “base expense rate” for all commercial properties.

In mass valuation, “operating expense ratios” are used for simplicity of analysis. Expense ratios are simply operating expenses divided by actual income.

The following table shows base expense ratios and lease types for the various commercial uses.

Use Code	Description	Expense %	Lease Type
10	DT Retail	33%	Modified Gross
11	Discount St	15%	NNN
12	Conv Store	12%	NNN
13	Supermarket	13%	NNN
14	Large Retl	13%	NNN
15	Retl Strip	15%	NNN
20	Industrial	14%	NNN
21	R&D	15%	NNN
22	Warehouse	14%	NNN
23	Mill Bldg	45%	Gross
24	Serv Shop	14%	NNN
25	Self Storage	33%	Gross
30	Restaurant	14%	NNN
31	Fast Food	12%	NNN
32	Club/Lng	14%	NNN
40	Effic Apt	38%	Modified Gross
41	1 BR Apt	38%	Modified Gross
42	2 BR Apt	38%	Modified Gross
43	3 BR Apt	38%	Modified Gross
44	4 BR Apt	38%	Modified Gross
45	Room Hse	42%	Gross
46	Mbl Hm Pk	30%	Gross
48	Motel	72%	Gross
49	Hotel	83%	Gross
50	Office NNN	16%	NNN
51	Bank	15%	NNN
52	Office MG	33%	Modified Gross
53	Office Net	28%	Net
60	Serv Statn	15%	NNN
61	Svc Garage	14%	NNN
62	Auto Dealer	14%	NNN
63	Serv St/Conv	14%	NNN
64	Car Wash	14%	NNN
90	Misc	20%	Net
91	Dead Storage	20%	Net
92	Bowling	15%	NNN
93	Theatre	15%	NNN
94	Nursing Hm	87%	Gross

Expense Adjustments

The “base expense rates” are adjusted using factors ranging from poor (1.5) to excellent (.65). Assuming a “base” or average expense ratio of 38%, an excellent apartment may incur a lower 24.7% expense ratio ($38\% \times .65 = 24.7\%$). A poor apartment may suffer from a higher 57% expense ratio ($38\% \times 1.5 = 57\%$).

Expense Adjustment				
Poor	Fair	Average	Good	Excellent
1.50	1.25	1.00	0.80	0.65

Capitalization Rate Tables

The following table summarizes the capitalization rates from the PVA report for the Year 2017, along with the factors used to adjust for various levels of desirability and risk. The “base” capitalization rates range from 6.2% to 12%.

Property Type	Basic Rate	ETR	Overall Cap Rate
Apartment	6.2%	1.5%	7.65%
Apartment Subsidized	6.2%	1.5%	7.65%
Bank	6.2%		6.20%
Nurse Hm	10.5%	1.5%	12.00%
Auto/Service Garage	7.5%		7.50%
Fast Food	6.5%		6.50%
Hotel FullServ	8.5%	1.5%	10.00%
Hotel/Luxury	7.5%	1.5%	9.00%
Hotel/Mot. LimServ/Ext Stay	9.0%	1.5%	10.50%
Industrial/Wrhse	7.5%		7.50%
Industrial/Wrhse	7.5%	1.5%	9.00%
Bowling Alleys	9.0%		9.00%
MH Park	7.5%	1.5%	9.00%
Mixed Use	7.0%		7.00%
Mixed Use	7.0%	1.5%	8.50%
Mixed Use	7.0%	1.5%	8.50%
Office NNN	8.0%		8.00%
Office MG	8.0%	1.5%	9.50%
Office Net	8.0%	1.5%	9.50%
Office MG - Pease	8.0%	1.0%	9.00%
R+D/Flex	8.3%		8.30%
Restaurant	7.5%		7.50%
Retail NNN	7.2%		7.20%
Retail MG	7.7%	1.5%	9.20%
Retail Net	7.7%	1.5%	9.20%
Rooming House	7.7%	1.5%	9.20%
Self Storage	7.3%	1.5%	8.80%
Service Station	7.0%		7.00%
Theatre	7.7%		7.70%
Marina's	9.0%	1.5%	10.50%

There is an “inverse” relationship between capitalization rates (rates) and values. The lower the rate, the higher the value. Conversely, the higher the rate, the lower the value.

The “base” capitalization rates are adjusted for risk and desirability. The refinements range from “poor” to “excellent.” For example, the “poor” adjustment of 1.15 adjusts a capitalization rate upward, thus reducing value. An excellent adjustment reduces the rate by applying a .85 factor. This increases the value.

Cap Rate Adjustment				
Poor	Fair	Average	Good	Excellent
1.15	1.08	1.00	0.92	0.85

Further illustrating the process, the “base” bank capitalization rate is 6.2%. A “poor” bank capitalization rate is adjusted upward to 7.13% ($1.15 \times .062 = 7.13\%$). Again, since the bank is “poor,” the rate is adjusted upward. The higher capitalization rate results in a lower value.

An “excellent” bank capitalization rate would be adjusted downward to 5.27% ($.85 \times .062 = 5.27\%$). Again, since the bank is “excellent,” the rate is adjusted downward. The lower capitalization rate results in a higher value, which reflects the exceptional desirability and lower risk of an excellent bank.

The following table shows the adjusted capitalization rates for each property type.

Property Type	Poor	Fair	Average	Good	Excellent
Apartment	8.80%	8.26%	7.65%	7.04%	6.50%
Apartment Subsidized	8.80%	8.26%	7.65%	7.04%	6.50%
Bank	7.13%	6.70%	6.20%	5.70%	5.27%
Nurse Hm	13.80%	12.96%	12.00%	11.04%	10.20%
Auto/Service Garage	8.63%	8.10%	7.50%	6.90%	6.38%
Fast Food	7.48%	7.02%	6.50%	5.98%	5.53%
Hotel FullServ	11.50%	10.80%	10.00%	9.20%	8.50%
Hotel/Luxury	10.35%	9.72%	9.00%	8.28%	7.65%
Hotel/Mot. LimServ/Ext Stay	12.08%	11.34%	10.50%	9.66%	8.93%
Industrial/Wrhse	8.63%	8.10%	7.50%	6.90%	6.38%
Industrial/Wrhse	10.35%	9.72%	9.00%	8.28%	7.65%
Bowling Alleys	10.35%	9.72%	9.00%	8.28%	7.65%
MH Park	10.35%	9.72%	9.00%	8.28%	7.65%
Mixed Use	8.05%	7.56%	7.00%	6.44%	5.95%
Mixed Use	9.78%	9.18%	8.50%	7.82%	7.23%
Mixed Use	9.78%	9.18%	8.50%	7.82%	7.23%
Office NNN	9.20%	8.64%	8.00%	7.36%	6.80%
Office MG	10.93%	10.26%	9.50%	8.74%	8.08%
Office Net	10.93%	10.26%	9.50%	8.74%	8.08%
Office MG - Pease	10.35%	9.72%	9.00%	8.28%	7.65%
R+D/Flex	9.55%	8.96%	8.30%	7.64%	7.06%
Restaurant	8.63%	8.10%	7.50%	6.90%	6.38%
Retail NNN	8.28%	7.78%	7.20%	6.62%	6.12%

Property Type	Poor	Fair	Average	Good	Excellent
Retail MG	10.58%	9.94%	9.20%	8.46%	7.82%
Retail Net	10.58%	9.94%	9.20%	8.46%	7.82%
Rooming House	10.58%	9.94%	9.20%	8.46%	7.82%
Self Storage	10.12%	9.50%	8.80%	8.10%	7.48%
Service Station	8.05%	7.56%	7.00%	6.44%	5.95%
Theatre	8.86%	8.32%	7.70%	7.08%	6.55%
Marina's	12.08%	11.34%	10.50%	9.66%	8.93%

Summary of Income Approach- PVA

The income capitalization approach converts the anticipated income of a property into a present value indication. The reliability of the income approach is predicated on the appraiser's ability to accurately estimate net operating income and investment returns required by investors. This approach is most effective when sufficient market data is available. The income approach usually provides the primary value indication for properties purchased for their income generating ability. The primary advantage of this approach is that investors primarily value the property from an income perspective. The primary disadvantage of this approach is that certain buyers are not primarily motivated in purchasing properties based on their income-generating potential. They are referred to as "owner-occupant" buyers.

Based on the data and analysis presented in this report, the income specifications (data collected) and calibrations (values, adjustments, and factors) in the PVA report are well-supported and appear reasonable.

MODEL TESTING OF VISION AND PVA REVALUATION REPORTS

Developing mass appraisal models consist of three major components. They include model specification, model calibration, and model testing. Model testing measures the performance of the reassessment and determines if models meet acceptable mass appraisal standards and produce fair and equitable values.

Sales Ratio Study

A sales ratio study compares model developed values (the new assessments) to market values. Typically, the sale prices of open-market, arm's-length sales represent market values. Sales ratio studies provide objective indicators of assessment performance to help ensure accurate, uniform values.¹⁰ A sales ratio study consists of an analysis of assessment level and uniformity.

Assessment level calculates the overall ratio of assessments in a jurisdiction. Additionally, assessment levels are calculated by various property classes, strata, and groups within the jurisdiction. Each group or strata in well-calibrated models should be assessed at or near market value as required by professional standards, State of NH statutes, rules, and related requirements.

¹⁰ International Association of Assessing Officers- Standard on Ratio Studies, April 2013

The three common measures of central tendency in ratio studies are the median, mean, and weighted mean. The (IAAO) Standard on Ratio Studies stipulates the median ratio should be between 0.90 and 1.10. This is the same level assessment established by the NH Assessing Standards Board (ASB).

Assessment uniformity relates to the consistency and equity of values. Uniformity is most commonly tested by analyzing the overall ratios, the coefficient of dispersion, and price related differential. These tests measure the consistency, accuracy, and uniformity of the new assessments. Consistency among property groups can be evaluated by comparing measures of central tendency calculated for each group.

The level of appraisal for each major group of properties should be within 5 percent of the overall level of the jurisdiction to determine whether it can be concluded from ratio data if the Standard has been met.

The level of assessment by property type, neighborhood, age and grade were reviewed.

Coefficient of Dispersion

Coefficient of Dispersion (COD) measures assessment equity. The COD is the most widely used statistic to measure assessment uniformity. The COD is calculated by:

- 1.) Calculate the ratio of all qualified sale properties.
- 2.) Find the median ratio.
- 3.) Calculate the absolute difference between each ratio and the median from.
- 4.) Sum the absolute differences.
- 5.) Divide by the sample size (this give the average absolute deviation).
- 6.) Divide by the median ratio.
- 7.) Multiply by 100.

Lower CODs indicate better the uniformity and equity. The NH Assessing Standards Board has established an acceptable guideline of 20.0 or less for the COD.

Price Related Differential

Price Related Differential (PRD) measures the equity between high-value properties versus low-value properties. The PRD is calculated by dividing the mean ratio by the weighted mean ratio. PRDs between .98 and 1.03 indicate relative uniformity. PRDs greater than 1.03 suggests higher value properties may be assessed at lower ratios than lower value properties, and results less than .98 indicate the opposite.

New Assessments vs Old Assessments

The below table shows the old assessments versus the new assessments and the number of parcels for every land use code in the system. This table is presented for informational purposes to give an overview of the new assessments compared to the old assessments.

Land Use Description	Old Assessments	New Assessments	# of Parcels
905C	\$3,281,500	\$3,452,700	2
906V	\$184,800	\$210,000	1

Land Use Description	Old Assessments	New Assessments	# of Parcels
AC LND IMP	\$1,577,449	\$1,869,857	16
APT 4-7 UN MDL-94	\$75,656,100	\$81,015,900	124
APT OVER 8	\$136,752,118	\$155,610,332	29
ART GAL	\$196,100	\$189,300	1
AUTO REPR MDL-94	\$13,427,300	\$15,047,700	16
AUTO S S&S	\$5,723,300	\$6,232,000	4
AUTO V S&S	\$33,388,700	\$37,354,300	11
BANK BLDG	\$38,408,500	\$41,726,400	16
BOARDING HS MDL-94	\$404,800	\$437,600	1
CABLE ROW	\$7,470,700	\$5,118,500	1
CAR WASH	\$2,128,200	\$2,370,900	3
CDMV	\$0	\$0	22
CELL TWR	\$2,345,200	\$2,345,300	6
CHAR CONDO MDL-05	\$1,060,800	\$1,140,500	3
CHAR MDL-00	\$547,100	\$665,500	1
CHARITABLE	\$14,198,300	\$15,244,200	3
CHARTBL 00	\$4,117,500	\$4,728,100	11
CHARTBL 01	\$7,355,000	\$8,651,400	9
CHARTBL 94	\$67,351,851	\$69,890,729	32
CHURCH ETC MDL-94	\$1,181,300	\$1,272,600	2
COMM BLDG	\$14,069,000	\$15,304,800	11
COMM CONDO MDL-06	\$67,176,200	\$80,754,700	34
COMM WHSE	\$18,480,500	\$20,375,500	12
CONDO	\$625,516,500	\$786,995,300	2108
CONDO MAIN	\$46,046,200	\$0	119
CONDO SITE	\$5,400	\$5,400	1
CONDO/XMPT MDL-06	\$2,249,600	\$2,411,400	9
CONV FOOD	\$590,500	\$554,600	1
DAY CARE	\$1,317,900	\$1,390,100	2
DEVEL LAND	\$15,868,200	\$18,226,900	29
DOCKYARDS	\$7,574,300	\$8,218,900	4
DRA ELEC -MDL-00	\$77,052,651	\$87,103,247	2
DRA GAS MDL-00	\$30,347,254	\$34,702,619	4
DRA IND CONDO UTIL	\$5,059,626	\$5,059,626	1
EDUC BLDG	\$3,379,500	\$3,567,400	1
ELEC PLANT	\$3,073,500	\$3,493,200	3
ELEC PLANT MDL-00	\$93,597,140	\$115,992,121	11
ELECSUBSTA	\$1,370,000	\$1,578,700	1
EX OTHER W/O	\$2,248	\$2,422	4
EX UNPRODUCTIVE	\$100	\$100	1
FACTORY	\$51,389,000	\$56,341,200	13

Land Use Description	Old Assessments	New Assessments	# of Parcels
FARMLAND	\$2,111	\$2,282	1
FRATNL ORG	\$3,328,200	\$3,422,800	3
FUEL SV/PR	\$14,046,449	\$14,995,769	14
FUNERAL HM	\$1,407,000	\$1,529,200	1
GAS PLANT	\$1,924,600	\$2,108,300	1
GAS ROW	\$15,666,300	\$15,807,900	2
GAS ST SRV MDL-95	\$2,084,200	\$2,166,100	4
GAS STG	\$522,600	\$594,000	1
GYMS	\$3,600,400	\$3,874,200	3
HARD WOOD W/O	\$2,030	\$2,194	3
HOSP PVT	\$81,727,300	\$84,206,200	1
HOTELS	\$109,789,900	\$118,909,300	12
HRDWARE ST	\$649,900	\$707,500	1
HSNG AUTH	\$41,926,700	\$41,422,300	6
IND BLDG	\$8,823,400	\$9,280,900	4
IND CONDO MDL-06	\$2,784,600	\$2,838,100	40
IND CONDO MDL-00	\$60,000	\$66,000	1
IND LD DV	\$5,201,666	\$5,943,166	7
IND LD PO	\$146,000	\$172,500	1
IND LD UD	\$282,400	\$335,800	7
IND OFFICE	\$34,682,000	\$37,192,600	10
IND WHSES	\$134,405,500	\$148,529,900	59
INNS	\$4,491,000	\$4,807,700	3
LUMBER YRD MDL-94	\$937,900	\$1,037,600	1
MH PARK	\$9,632,000	\$8,731,500	1
MH PARK MDL-00	\$1,659,300	\$1,671,500	1
MIX	\$858,700	\$961,500	1
MOBILE HOM	\$14,004,100	\$19,409,300	249
MOTELS	\$3,947,300	\$4,375,000	2
MULTI HSES MDL-01	\$41,020,921	\$47,688,744	76
MUNICIPAL MDL-00	\$63,135,900	\$71,821,700	156
MUNICIPAL MDL-01	\$837,300	\$903,500	3
MUNICIPAL MDL-94	\$98,046,500	\$107,225,000	29
MUNICIPAL MDL-96	\$0	\$1,197,300	1
NURSING HM	\$14,738,300	\$15,420,700	3
OFF CONDO MDL-06	\$162,804,900	\$168,133,400	390
OFFICE BLD	\$420,301,200	\$444,971,000	108
OTHER CULT	\$3,838,700	\$3,871,700	2
OTHER W/O	\$6,662	\$7,201	5
OTHR OUTDR	\$8,213,700	\$8,451,700	1
PARK GAR	\$6,624,000	\$6,900,000	1

Land Use Description	Old Assessments	New Assessments	# of Parcels
PARK LOT	\$13,288,000	\$15,114,600	28
POT DEVEL	\$1,043,500	\$1,222,000	4
PRI COMM	\$97,448,700	\$105,390,500	126
PRI RESI	\$2,673,000	\$3,196,000	4
PROF BLDG	\$4,568,200	\$4,923,100	3
PUB TANKS	\$5,228,400	\$5,700,500	1
PUB TANKS MDL-00	\$2,292,400	\$2,479,000	2
PUB-SCHOOL MDL-94	\$159,469,200	\$167,085,100	9
R-D FACIL	\$147,305,900	\$161,052,000	2
RELIGIOUS MDL-00	\$1,705,000	\$1,907,300	6
RELIGIOUS MDL-01	\$1,838,800	\$2,124,300	4
RELIGIOUS MDL-94	\$54,535,100	\$58,141,800	23
RES ACLNDV	\$5,831,178	\$8,294,967	40
RES ACLNPO	\$612,800	\$763,200	14
RES ACLNUD	\$1,485,300	\$1,750,600	95
REST/CLUBS	\$40,411,200	\$47,752,700	37
RETAIL	\$111,874,500	\$119,168,800	76
RTL CONDO MDL-06	\$46,246,200	\$72,995,900	110
SAND&GRAVL	\$3,076,000	\$3,546,900	1
SFR WATERFRONT	\$131,982,827	\$159,442,286	137
SFR WATERINFL	\$66,296,000	\$81,117,700	118
SHOPNGMALL	\$110,089,600	\$118,311,800	12
SINGLE FAM MDL-00	\$153,300	\$161,000	1
SINGLE FAM MDL-01	\$1,479,636,176	\$1,751,528,270	3887
STATE MDL-00	\$12,900,523	\$14,057,549	37
STATE MDL-01	\$7,893,800	\$8,790,400	1
STATE MDL-94	\$45,927,200	\$49,651,300	16
STATE MDL-96	\$3,297,200	\$3,595,500	2
STORE/SHOP	\$51,537,300	\$55,764,600	13
TEL POLE/CONDUIT	\$3,892,608	\$5,809,700	1
TEL ROW	\$2,357,400	\$2,559,200	1
TEL X STA	\$2,904,000	\$3,444,900	3
THREE FAM	\$40,801,900	\$51,154,100	75
TRANSPORT	\$760,200	\$831,600	2
TWO FAMILY	\$129,143,100	\$154,173,600	295
UNDEV LAND	\$1,767,800	\$2,090,900	26
UNPRODUCTIVE	\$453	\$488	2
US GOVT MDL-00	\$512,900	\$566,300	3
US GOVT MDL-94	\$38,709,400	\$41,136,000	7
WETLAND	\$239	\$246	3
WHITE PINE W/O	\$6,169	\$6,186	4

Land Use Description	Old Assessments	New Assessments	# of Parcels
#N/A	\$119,818,590	\$130,757,487	287
Grand Total	\$5,750,405,639	\$6,525,905,488	9418

MODEL TESTING (VISION REPORT)

Price Related Differential

As stated above, the Price Related Differential (PRD) measures the equity between high-value properties versus low-value properties. The PRD is calculated by dividing the mean ratio by the weighted mean ratio. PRDs between .98 and 1.03 indicate relative uniformity. PRDs greater than 1.03 suggest higher value properties may be assessed at lower ratios than lower value properties, and results less than .98 indicate the opposite.

The calculated PRD for all residential sales is 1.00. This is within the acceptable limit for mass appraisal and indicates the model is assessing low valued properties in relative uniformity with higher valued properties.

Residential Neighborhoods- Vision Report

An analysis of the level of assessment was performed by neighborhood. This analysis ensures the neighborhoods are properly calibrated within the model. The majority of the neighborhoods have less than eight sales. Therefore, the COD was calculated from the median ratio of all residential sales. This produces a slightly higher COD, but it allows for calculating the COD for each neighborhood¹¹.

The following tables shows the calculated statistics, by neighborhood, of all residential properties, except condos and mobile homes.

NHBD	AV Sale Price	AV Assessment	Mean Ratio	Median Ratio	# of Sales	COD
101	\$750,633	\$746,367	0.99	1.01	6	4.13
102	\$725,000	\$700,367	0.96	0.97	3	4.67
103A	\$677,800	\$678,960	1.00	1.00	5	2.35
103B	\$679,065	\$661,645	0.98	0.96	20	5.90
104	\$610,000	\$588,400	0.96	0.96	4	4.10
105	\$489,678	\$477,933	0.98	0.99	9	3.97
108	\$1,447,500	\$1,385,250	0.97	0.97	2	3.70
109	\$1,450,000	\$1,321,400	0.91	0.91	1	8.28
111	\$825,000	\$787,600	0.95	0.95	1	3.36
112	\$599,000	\$595,400	0.99	0.99	1	0.73

¹¹ The COD takes the absolute difference of each sales ratio from the median. In neighborhoods with only one sale, the median and sale ratio are the same, so the calculated COD would be 0. Using the overall median of all residential sales allows for a COD calculation in neighborhoods with one sale. Additionally, it shows how each neighborhood compares to the overall median. This calculation results a slightly higher COD when analyzing subsets.

NHBD	AV Sale Price	AV Assessment	Mean Ratio	Median Ratio	# of Sales	COD
113	\$1,348,333	\$1,357,100	1.01	1.00	3	2.11
114	\$402,944	\$395,622	0.98	0.98	9	2.85
115	\$607,000	\$601,950	0.99	0.99	2	0.51
118	\$325,063	\$319,475	0.99	0.98	8	5.81
119	\$558,667	\$553,900	0.99	1.00	6	2.22
120	\$310,000	\$307,900	0.99	0.99	1	0.65
121	\$308,893	\$298,571	0.97	0.97	14	5.78
123	\$391,833	\$364,333	0.94	0.96	6	6.20
125	\$347,500	\$344,825	0.99	0.99	4	1.53
127	\$390,000	\$391,000	1.00	1.00	1	1.58
128	\$356,000	\$325,850	0.92	0.92	2	7.25
129	\$376,275	\$367,575	0.99	1.00	8	4.78
130	\$265,142	\$270,300	1.02	1.00	12	4.51
131	\$495,360	\$482,380	0.97	0.98	10	4.05
133	\$305,600	\$307,200	1.01	1.00	4	6.45
All	\$513,723	\$502,708	0.98	0.99	142	4.39

The following table shows the calculated statistics, by neighborhood, of all residential condo properties.

NHBD	AV Sale Price	AV Assessment	Mean Ratio	Median Ratio	# of Sales	COD
105	\$439,850	\$438,625	0.99	1.01	4	4.10
201	\$671,791	\$666,627	0.99	0.99	11	1.75
202	\$603,750	\$587,300	0.99	0.99	2	2.87
204	\$556,998	\$547,181	0.99	0.99	64	2.98
206	\$406,667	\$398,133	0.98	0.98	3	1.27
207	\$450,000	\$448,700	1.00	1.00	1	1.04
210	\$307,000	\$303,900	0.99	0.99	1	0.32
211	\$215,833	\$221,933	1.03	1.01	3	4.40
212	\$407,000	\$387,400	0.96	0.96	3	4.78
213	\$949,500	\$938,900	0.99	0.99	1	0.21
214	\$394,000	\$395,200	1.00	1.00	1	1.63
215	\$140,188	\$137,500	0.99	0.98	16	4.82
216	\$192,223	\$188,485	0.98	0.98	13	2.14
217	\$215,750	\$216,500	1.00	1.00	2	1.67
219	\$726,500	\$704,525	0.97	0.99	4	6.12
220	\$272,875	\$274,725	1.01	1.00	4	2.56
225	\$375,000	\$364,000	0.97	0.97	1	1.65
226	\$450,000	\$443,900	0.99	0.99	1	0.03
305	\$1,059,583	\$1,003,417	0.96	0.96	6	5.27
Total	\$479,056	\$469,641	0.99	0.99	141	3.14

The following table shows the calculated statistics, by neighborhood, of all residential mobile home properties.

NHBD	AV Sale Price	AV Assessment	Mean Ratio	Median Ratio	# of Sales	COD
401	\$31,000	\$28,300	0.89	0.89	2	10.60
403	\$177,270	\$167,180	0.95	0.97	10	4.45
Total	\$152,892	\$144,033	0.94	0.96	12	5.39

Neighborhood Analysis Conclusion

As shown on the above tables, variations in statistics by neighborhood are well within acceptable standards for mass appraisal.

Residential Property Style - Vision Report

The next analysis shows the level of assessment by style. This analysis ensures property styles are properly calibrated within the model.

The following table shows the calculated statistics by style of all residential properties, except condos and mobile homes.

Style	AV Sale Price	AV Assessment	Mean Ratio	Median Ratio	# of Sales	COD
2 Unit	\$435,200	\$413,400	0.96	0.981	4	4.46
3 Unit	\$579,000	\$581,900	1.00	1.002	2	2.74
Antique	\$845,208	\$827,367	0.99	0.987	12	3.25
Bungalow	\$538,817	\$531,933	1.00	0.974	6	5.30
Cape Cod	\$430,896	\$424,907	0.99	0.994	28	3.57
Colonial	\$565,731	\$567,785	1.00	1.001	13	2.27
Conventional	\$579,745	\$555,300	0.96	0.966	29	5.83
Duplex	\$407,000	\$404,600	0.99	0.994	1	0.74
Gambrel	\$439,333	\$414,433	0.94	0.929	3	4.62
Garrison	\$492,000	\$478,500	0.98	1.002	3	3.57
Modern/Contemp	\$978,333	\$968,900	0.99	1.003	3	2.20
Raised Ranch	\$375,000	\$366,200	0.98	0.977	1	1.04
Ranch	\$376,973	\$361,327	0.97	0.960	22	6.13
Split-Level	\$326,000	\$303,900	0.93	0.932	1	5.85
Townhouse/Row	\$291,400	\$300,000	1.03	1.008	12	4.46
Victorian	\$907,500	\$927,750	1.03	1.029	2	6.44
Grand Total	\$513,723	\$502,708	0.98	0.992	142	4.39

The following table shows the calculated statistics by style of all residential condos.

Style	AV Sale Price	AV Assessment	Mean Ratio	Median Ratio	# of Sales	COD
Condominium	\$1,089,606	\$1,043,129	0.97	0.967	17	5.43
Garden End	\$275,333	\$268,730	0.98	0.982	43	3.52
Garden Int	\$477,429	\$480,771	1.01	0.982	7	3.98
House Conv 1FL	\$348,409	\$343,159	0.99	0.982	22	2.41
House Conv 1FL+	\$449,928	\$446,428	0.99	0.987	18	2.51
Townhouse End	\$570,186	\$568,657	1.00	0.995	21	1.85
Townhouse Int	\$469,592	\$464,492	0.99	1.006	13	2.74
Grand Total	\$479,056	\$469,641	0.99	0.987	141	3.14

The following table shows the calculated statistics by style of all residential mobile homes.

Style	AV Sale Price	AV Assessment	Mean Ratio	Median Ratio	# of Sales	COD
Double Wide MH	\$201,600	\$189,650	0.95	0.965	8	5.08
Mobile Home	\$55,475	\$52,800	0.93	0.945	4	6.03
Grand Total	\$152,892	\$144,033	0.94	0.959	12	5.39

Style Analysis Conclusion

As shown on the above tables, variation in statistics by style are well within acceptable standards for mass appraisal.

Residential Property Neighborhood and Style - Vision Report

The next analysis combines style and neighborhood. This analysis ensures the combination of style and neighborhoods are properly calibrated within the model.

The following table shows the calculated statistics by style within every neighborhood of all residential properties, except condos and mobile homes.

NHBD	AV Sale Price	AV Assessment	Mean Ratio	Median Ratio	# of Sales	COD
101	\$750,633	\$746,367	0.99	1.011	6	4.13
Antique	\$774,000	\$779,400	1.01	1.019	5	3.55
Conventional	\$633,800	\$581,200	0.92	0.917	1	7.60
102	\$725,000	\$700,367	0.96	0.973	3	4.67
Antique	\$620,000	\$603,200	0.97	0.973	1	1.42
Conventional	\$680,000	\$608,200	0.89	0.894	1	10.32
Townhouse/Row	\$875,000	\$889,700	1.02	1.017	1	2.96

NHBD	AV Sale Price	AV Assessment	Mean Ratio	Median Ratio	# of Sales	COD
103A	\$677,800	\$678,960	1.00	1.001	5	2.35
Cape Cod	\$731,000	\$734,800	1.01	1.005	1	1.84
Colonial	\$709,000	\$725,050	1.02	1.021	2	3.33
Conventional	\$620,000	\$604,950	0.98	0.977	2	1.61
103B	\$679,065	\$661,645	0.98	0.960	20	5.90
Antique	\$800,000	\$759,350	0.95	0.947	2	4.14
Bungalow	\$700,000	\$723,700	1.03	1.034	1	4.56
Cape Cod	\$602,750	\$590,200	0.98	0.979	2	2.49
Conventional	\$635,446	\$611,892	0.97	0.946	13	6.71
Victorian	\$907,500	\$927,750	1.03	1.029	2	6.44
104	\$610,000	\$588,400	0.96	0.960	4	4.10
Bungalow	\$866,500	\$863,300	1.00	0.996	1	0.96
Colonial	\$483,500	\$485,600	1.00	1.004	1	1.75
Conventional	\$480,000	\$441,800	0.92	0.920	1	7.20
Garrison	\$610,000	\$562,900	0.92	0.923	1	6.93
105	\$489,678	\$477,933	0.98	0.993	9	3.97
2 Unit	\$418,400	\$409,450	0.98	0.981	2	1.18
3 Unit	\$579,000	\$581,900	1.00	1.002	2	2.74
Antique	\$488,750	\$483,950	1.00	1.000	2	2.53
Conventional	\$478,267	\$450,267	0.94	0.999	3	7.56
108	\$1,447,500	\$1,385,250	0.97	0.973	2	3.70
Antique	\$2,100,000	\$1,968,100	0.94	0.937	1	5.29
Conventional	\$795,000	\$802,400	1.01	1.009	1	2.24
109	\$1,450,000	\$1,321,400	0.91	0.911	1	8.28
Ranch	\$1,450,000	\$1,321,400	0.91	0.911	1	8.28
111	\$825,000	\$787,600	0.95	0.955	1	3.36
Modern/Contemp	\$825,000	\$787,600	0.95	0.955	1	3.36
112	\$599,000	\$595,400	0.99	0.994	1	0.73
Conventional	\$599,000	\$595,400	0.99	0.994	1	0.73
113	\$1,348,333	\$1,357,100	1.01	1.005	3	2.11
Cape Cod	\$1,400,000	\$1,390,500	0.99	0.993	1	0.65
Colonial	\$1,095,000	\$1,123,300	1.03	1.026	1	3.81
Modern/Contemp	\$1,550,000	\$1,557,500	1.00	1.005	1	1.80
114	\$402,944	\$395,622	0.98	0.977	9	2.85
Cape Cod	\$458,750	\$463,700	1.01	1.011	2	2.38
Garrison	\$433,000	\$436,300	1.01	1.008	2	2.15
Raised Ranch	\$375,000	\$366,200	0.98	0.977	1	1.04
Ranch	\$367,000	\$348,600	0.95	0.948	4	3.92
115	\$607,000	\$601,950	0.99	0.992	2	0.51
Cape Cod	\$589,000	\$586,400	1.00	0.996	1	0.89
Colonial	\$625,000	\$617,500	0.99	0.988	1	0.13

NHBD	AV Sale Price	AV Assessment	Mean Ratio	Median Ratio	# of Sales	COD
118	\$325,063	\$319,475	0.99	0.976	8	5.81
Cape Cod	\$312,667	\$306,033	0.99	0.970	3	7.66
Gambrel	\$380,000	\$349,200	0.92	0.919	1	7.38
Ranch	\$320,625	\$322,125	1.00	1.003	4	4.06
119	\$558,667	\$553,900	0.99	0.997	6	2.22
Colonial	\$558,400	\$552,360	0.99	0.992	5	2.35
Modern/Contemp	\$560,000	\$561,600	1.00	1.003	1	1.61
120	\$310,000	\$307,900	0.99	0.993	1	0.65
Cape Cod	\$310,000	\$307,900	0.99	0.993	1	0.65
121	\$308,893	\$298,571	0.97	0.974	14	5.78
Bungalow	\$335,000	\$313,800	0.94	0.937	1	5.34
Cape Cod	\$281,214	\$274,057	0.98	0.985	7	4.53
Colonial	\$360,000	\$369,000	1.03	1.025	1	3.73
Conventional	\$428,000	\$404,200	0.94	0.944	1	4.48
Gambrel	\$418,000	\$411,200	0.98	0.984	1	0.30
Ranch	\$271,667	\$254,467	0.96	0.889	3	12.79
123	\$391,833	\$364,333	0.94	0.964	6	6.20
Cape Cod	\$487,000	\$462,900	0.95	0.951	1	3.81
Colonial	\$175,000	\$171,000	0.98	0.977	1	0.98
Conventional	\$615,000	\$515,800	0.84	0.839	1	17.65
Ranch	\$358,000	\$345,433	0.96	0.997	3	5.50
125	\$347,500	\$344,825	0.99	0.990	4	1.53
Cape Cod	\$362,500	\$363,700	1.00	1.001	2	1.47
Colonial	\$406,000	\$402,900	0.99	0.992	1	0.57
Ranch	\$259,000	\$249,000	0.96	0.961	1	2.64
127	\$390,000	\$391,000	1.00	1.003	1	1.58
Cape Cod	\$390,000	\$391,000	1.00	1.003	1	1.58
128	\$356,000	\$325,850	0.92	0.920	2	7.25
Cape Cod	\$410,000	\$364,400	0.89	0.889	1	11.02
Ranch	\$302,000	\$287,300	0.95	0.951	1	3.72
129	\$376,275	\$367,575	0.99	0.996	8	4.78
2 Unit	\$405,000	\$407,900	1.01	1.007	1	2.03
Bungalow	\$385,750	\$378,750	1.03	1.031	2	8.19
Cape Cod	\$365,000	\$364,200	1.00	0.998	1	1.11
Conventional	\$315,200	\$322,400	1.02	1.023	1	3.53
Duplex	\$407,000	\$404,600	0.99	0.994	1	0.74
Ranch	\$420,500	\$380,100	0.90	0.904	1	9.16
Split-Level	\$326,000	\$303,900	0.93	0.932	1	5.85
130	\$265,142	\$270,300	1.02	1.003	12	4.51
Bungalow	\$559,900	\$533,300	0.95	0.952	1	3.59
Townhouse/Row	\$238,345	\$246,391	1.03	1.007	11	4.60

NHBD	AV Sale Price	AV Assessment	Mean Ratio	Median Ratio	# of Sales	COD
131	\$495,360	\$482,380	0.97	0.982	10	4.05
2 Unit	\$499,000	\$426,800	0.86	0.855	1	15.36
Antique	\$975,000	\$973,500	1.00	0.998	1	1.18
Cape Cod	\$407,150	\$405,900	1.00	1.008	4	3.23
Conventional	\$443,667	\$439,000	0.99	0.976	3	2.25
Gambrel	\$520,000	\$482,900	0.93	0.929	1	6.25
133	\$305,600	\$307,200	1.01	1.002	4	6.45
Ranch	\$305,600	\$307,200	1.01	1.002	4	6.45
Grand Total	\$513,723	\$502,708	0.98	0.992	142	4.39

The following table shows the calculated statistics by style within every neighborhood of all residential condo properties.

NHBD	AV Sale Price	AV Assessment	Mean Ratio	Median Ratio	# of Sales	COD
105	\$439,850	\$438,625	0.99	1.007	4	4.10
House Conv 1FL+	\$439,850	\$438,625	0.99	1.007	4	4.10
201	\$671,791	\$666,627	0.99	0.993	11	1.75
Garden End	\$600,333	\$579,833	0.97	0.971	3	2.06
Garden Int	\$405,500	\$395,400	0.98	0.977	2	1.03
Townhouse End	\$811,250	\$814,575	1.00	1.000	4	1.74
Townhouse Int	\$766,350	\$772,150	1.01	1.007	2	2.06
202	\$603,750	\$587,300	0.99	0.987	2	2.87
Garden End	\$899,000	\$861,500	0.96	0.958	1	2.97
House Conv 1FL+	\$308,500	\$313,100	1.01	1.015	1	2.78
204	\$556,998	\$547,181	0.99	0.987	64	2.98
Condominium	\$1,105,982	\$1,064,791	0.97	0.996	11	5.37
Garden End	\$632,225	\$619,025	0.98	0.983	4	2.48
Garden Int	\$506,200	\$514,920	1.02	1.006	5	5.04
House Conv 1FL	\$345,550	\$340,275	0.99	0.982	20	2.56
House Conv 1FL+	\$473,255	\$468,673	0.99	0.985	11	2.08
Townhouse End	\$495,033	\$493,767	1.00	0.991	12	1.57
Townhouse Int	\$365,000	\$370,100	1.01	1.014	1	2.69
206	\$406,667	\$398,133	0.98	0.978	3	1.27
House Conv 1FL	\$377,000	\$372,000	0.99	0.987	2	0.86
Townhouse End	\$466,000	\$450,400	0.97	0.967	1	2.09
207	\$450,000	\$448,700	1.00	0.997	1	1.04
House Conv 1FL+	\$450,000	\$448,700	1.00	0.997	1	1.04
210	\$307,000	\$303,900	0.99	0.990	1	0.32
Townhouse Int	\$307,000	\$303,900	0.99	0.990	1	0.32
211	\$215,833	\$221,933	1.03	1.009	3	4.40

NHBD	AV Sale Price	AV Assessment	Mean Ratio	Median Ratio	# of Sales	COD
Garden End	\$215,833	\$221,933	1.03	1.009	3	4.40
212	\$407,000	\$387,400	0.96	0.963	3	4.78
Garden End	\$407,000	\$387,400	0.96	0.963	3	4.78
213	\$949,500	\$938,900	0.99	0.989	1	0.21
Townhouse Int	\$949,500	\$938,900	0.99	0.989	1	0.21
214	\$394,000	\$395,200	1.00	1.003	1	1.63
Townhouse End	\$394,000	\$395,200	1.00	1.003	1	1.63
215	\$140,188	\$137,500	0.99	0.978	16	4.82
Garden End	\$140,188	\$137,500	0.99	0.978	16	4.82
216	\$192,223	\$188,485	0.98	0.982	13	2.14
Garden End	\$192,223	\$188,485	0.98	0.982	13	2.14
217	\$215,750	\$216,500	1.00	1.003	2	1.67
Townhouse End	\$216,500	\$216,700	1.00	1.001	1	1.42
Townhouse Int	\$215,000	\$216,300	1.01	1.006	1	1.92
219	\$726,500	\$704,525	0.97	0.987	4	6.12
Townhouse End	\$856,000	\$848,000	0.99	0.995	2	3.97
Townhouse Int	\$597,000	\$561,050	0.94	0.937	2	8.68
220	\$272,875	\$274,725	1.01	1.000	4	2.56
Townhouse Int	\$272,875	\$274,725	1.01	1.000	4	2.56
225	\$375,000	\$364,000	0.97	0.971	1	1.65
House Conv 1FL+	\$375,000	\$364,000	0.97	0.971	1	1.65
226	\$450,000	\$443,900	0.99	0.986	1	0.03
Townhouse Int	\$450,000	\$443,900	0.99	0.986	1	0.03
305	\$1,059,583	\$1,003,417	0.96	0.959	6	5.27
Condominium	\$1,059,583	\$1,003,417	0.96	0.959	6	5.27
Grand Total	\$479,056	\$469,641	0.99	0.987	141	3.14

The following table shows the calculated statistics by style within every neighborhood of all residential mobile home properties.

NHBD	AV Sale Price	AV Assessment	Mean Ratio	Median Ratio	# of Sales	COD
401	\$31,000	\$28,300	0.89	0.892	2	10.60
Mobile Home	\$31,000	\$28,300	0.89	0.892	2	10.60
403	\$177,270	\$167,180	0.95	0.967	10	4.45
Double Wide MH	\$201,600	\$189,650	0.95	0.965	8	5.08
Mobile Home	\$79,950	\$77,300	0.97	0.967	2	2.00
Grand Total	\$152,892	\$144,033	0.94	0.959	12	5.39

Neighborhood Combined with Style Analysis Conclusion

As shown on the above tables, variation in ratios by neighborhood combined with style are well within acceptable standards for mass appraisal.

Grade

The next review was by property grade. This analysis ensures the grades are properly calibrated within the model.

The following table shows the calculated statistics by grade of all residential properties.

Style	AV Sale Price	AV Assessment	Mean Ratio	Median Ratio	# of Sales	COD
A	\$796,492	\$769,471	0.97	0.965	24	5.12
A-	\$727,438	\$717,888	0.99	0.976	16	3.43
A+	\$1,088,385	\$1,073,962	0.99	0.999	13	4.07
B	\$464,421	\$453,040	0.98	0.983	53	3.22
B-	\$402,913	\$393,589	0.98	0.986	38	3.26
B+	\$565,240	\$557,811	0.99	0.995	47	3.38
C	\$248,373	\$243,973	0.99	0.985	77	4.64
C-	\$135,500	\$129,650	0.91	0.910	2	8.45
C+	\$347,365	\$343,396	0.99	0.993	23	2.79
X+	\$1,775,000	\$1,644,750	0.92	0.924	2	6.76
Grand Total	\$482,475	\$472,313	0.98	0.987	295	3.84

Grade Conclusion

As shown on the above table, variation in statistics by grade are well within acceptable standards for mass appraisal.

Condition

The next review was by property condition. This analysis ensures the conditions are properly calibrated within the model.

The following table shows the calculated statistics based on condition of all residential properties.

Condition	AV Sale Price	AV Assessment	Mean Ratio	Median Ratio	# of Sales	COD
AV	\$553,610	\$541,069	0.98	0.985	106	4.09
EX	\$567,376	\$553,394	0.98	0.987	49	3.15
FR	\$156,750	\$166,850	1.02	1.046	4	8.94
GD	\$365,542	\$358,878	0.98	0.987	77	3.79
UC	\$543,750	\$533,850	1.04	1.037	2	7.56

VG	\$455,875	\$447,265	0.98	0.986	57	3.50
Grand Total	\$482,475	\$472,313	0.98	0.987	295	3.84

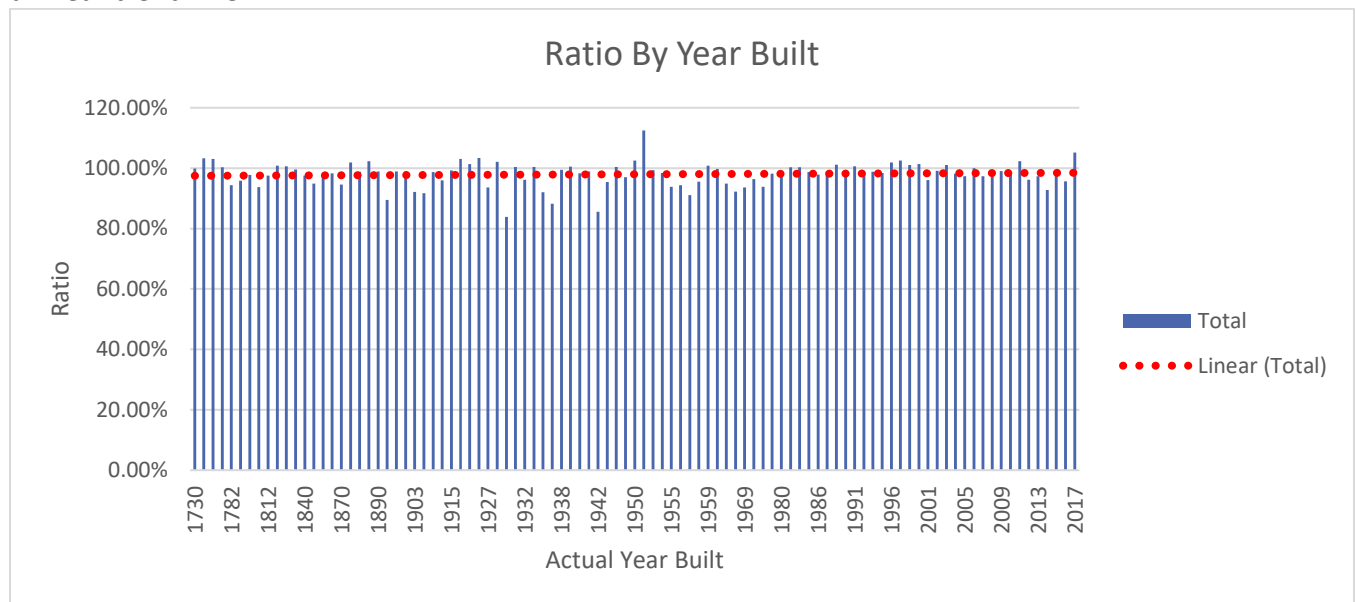
Condition Conclusion

As shown on the above table, variation in statistics by condition are well within acceptable standards for mass appraisal.

Year Built

The next level of assessment analyzed was by age. Age is important for validating depreciation rates specified in the model. With properly calibrated models, there should be relative uniformity within the ratios regardless of differences in age. In the Vision model the actual year built is converted to an effective year built based on the selected condition. A significant variation in ratios indicate flaws in the depreciation curve. Properly calibrated models will have a relatively flat ratio trend line. A flat trend line ensures older properties are assessed at the same level as newer properties.

The following chart shows average ratio by actual year built for all residential properties. The red line is a linear trend line.



Age Conclusion

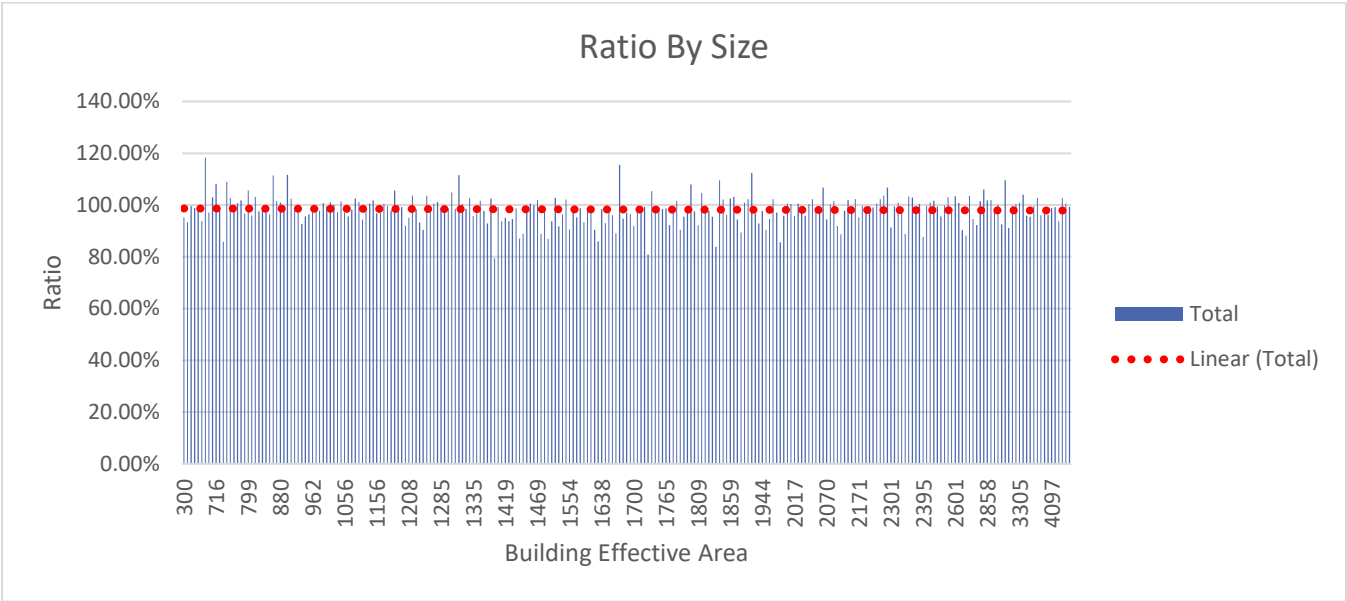
As shown on the above chart, newer and older properties have relative uniformity within the ratios regardless of differences in age. A flat trend line as shown above demonstrates acceptable depreciation calibration rates.

Size

The next level of assessment analyzed was by size. Size is important for validating building curves specified in the model. With properly calibrated models, there should be relative uniformity within the

ratios regardless of differences in size. A significant variation in ratios indicate flaws in the size curve. Properly calibrated models will have a relatively flat ratio trend line. A flat trend line ensures smaller properties are assessing at the same level as larger properties.

The following chart shows average ratio by effective area for all residential properties. The red line is a linear trend line.



Size Conclusion

As shown on the above chart, smaller and larger properties have similar ratios regardless of differences in size. A flat trend line like the one above indicate acceptable size-curve calibration rates.

CONCLUSION OF MODEL TESTING- Vision Report

Well-established and effective statistical tests were used in measuring the credibility of the Vision mass valuation. The results of the statistical studies show the Vision report to be supported and credible.

MODEL TESTING- PVA REPORT

Price Related Differential

As stated above, the Price Related Differential (PRD) measures the equity between high-value properties versus low-value properties. The PRD is calculated by dividing the mean ratio by the weighted mean ratio. PRDs between .98 and 1.03 indicate relative uniformity. PRDs greater than 1.03 suggests higher value properties may be assessed at lower ratios than lower value properties, and results less than .98 indicate the opposite.

The calculated PRD for all commercial sales is 1.01. This is within the acceptable limit for mass appraisal and indicates the model is assessing low valued properties in relative uniformity with higher valued properties.

Commercial Neighborhoods- PVA

The next level of assessment analyzed was by neighborhood. This analysis ensures the neighborhoods are properly calibrated within the model. Many of the neighborhoods have less than eight sales. Therefore, the COD was calculated from the median ratio of all commercial sales. This produces a slightly higher COD, but it allows for calculating the COD for each neighborhood¹².

The following table shows the calculated statistics for all commercial sales by neighborhood.

NHBD	AV Sale Price	AV Assessment	Mean Ratio	Median Ratio	# of Sales	COD
301	\$993,063	\$950,200	0.95	0.94	16	6.12
302	\$1,466,657	\$1,593,586	0.98	1.00	7	4.79
303	\$3,295,000	\$2,618,600	0.79	0.79	1	18.84
304	\$141,500	\$140,400	1.01	1.01	2	2.77
305	\$802,038	\$748,400	0.94	0.99	13	6.15
306	\$1,631,250	\$1,485,600	0.98	0.98	2	8.93
307	\$5,536,750	\$5,116,750	0.95	0.95	2	3.30
AP	\$899,833	\$887,800	0.96	0.98	3	5.21
Grand Total	\$1,243,383	\$1,192,500	0.95	0.98	46	6.00

Neighborhood Analysis Conclusion

As shown on the above table, statistical variation by neighborhood are well within acceptable standards for mass appraisal.

Commercial Property Style- PVA Report

The next analysis shows the level of assessment by style. This analysis ensures property styles are properly calibrated within the model.

¹² The COD takes the absolute difference of each sales ratio from the median. In neighborhoods with only one sale, the median and sale ratio are the same, so the calculated COD would be 0. Using the overall median of all residential sales allows for a COD calculation in neighborhoods with one sale. Additionally, it shows how each neighborhood compares to the overall median. This calculation results a slightly higher COD when analyzing subsets.

The following table shows the calculated statistics by style of all commercial properties.

Style	AV Sale Price	AV Assessment	Mean Ratio	Median Ratio	# of Sales	COD
Apartments	\$674,750	\$635,700	0.93	0.93	2	5.16
Auto Sales/Rep	\$1,100,000	\$961,100	0.87	0.87	1	10.77
Hangar Condo	\$73,500	\$71,300	0.97	0.97	1	0.94
Indust Condo	\$453,333	\$427,100	0.94	0.94	3	7.08
Industrial	\$3,475,000	\$3,614,800	1.04	1.04	1	6.23
Marina	\$3,000,000	\$2,689,900	0.90	0.90	1	8.43
Office	\$1,875,000	\$1,643,900	0.94	0.94	2	11.25
Office Condo	\$596,500	\$578,738	0.97	0.99	13	4.06
Office/Condo/Hotel	\$11,000,000	\$10,162,200	0.92	0.92	1	5.66
Office/Wrhse	\$480,000	\$434,900	0.91	0.91	1	7.47
Restaurant	\$3,295,000	\$2,618,600	0.79	0.79	1	18.84
Ret/Ofc	\$545,000	\$520,500	0.96	0.96	1	2.47
Retail	\$762,500	\$778,750	1.01	1.01	2	3.47
Retail Condo	\$381,286	\$362,086	0.95	0.98	7	6.07
Retl/Apts	\$800,000	\$792,100	0.99	0.99	1	1.11
Service Shop	\$765,600	\$679,200	0.89	0.89	1	9.40
Shopping Center	\$6,451,000	\$7,517,100	1.01	1.01	1	3.03
Vacant Apt Lnd	\$1,350,000	\$1,392,000	1.03	1.03	1	5.30
Vacant Commcl	\$438,750	\$460,950	1.06	1.06	2	7.90
Warehouse	\$1,040,000	\$908,900	0.87	0.87	1	10.75
Wrhse	\$3,535,000	\$3,189,900	0.90	0.90	1	7.85
Wrhse/Office	\$1,000,000	\$924,400	0.92	0.92	1	5.60
Grand Total	\$1,243,383	\$1,192,500	0.95	0.98	46	6.00

Style Analysis Conclusion

As shown on the above table, variation in ratios by commercial styles are well within acceptable standards for mass appraisal.

Commercial Property Neighborhood and Style - PVA Report

The next analysis combines style and neighborhood. This analysis ensures the combination of style and neighborhoods are properly calibrated within the model.

The following table shows the calculated statistics by style within every neighborhood of all commercial properties.

NHBD/ Style	AV Sale Price	AV Assessment	Mean Ratio	Median Ratio	# of Sales	COD
301	\$993,063	\$950,200	0.95	0.94	16	6.12
Auto Sales/Rep	\$1,100,000	\$961,100	0.87	0.87	1	10.77

NHBD/ Style	AV Sale Price	AV Assessment	Mean Ratio	Median Ratio	# of Sales	COD
Indust Condo	\$453,333	\$427,100	0.94	0.94	3	7.08
Industrial	\$3,475,000	\$3,614,800	1.04	1.04	1	6.23
Office Condo	\$456,800	\$441,600	0.97	0.99	5	3.10
Office/Wrhse	\$480,000	\$434,900	0.91	0.91	1	7.47
Retail	\$1,000,000	\$1,039,300	1.04	1.04	1	6.13
Vacant Commcl	\$615,000	\$640,600	1.04	1.04	1	6.37
Warehouse	\$1,040,000	\$908,900	0.87	0.87	1	10.75
Wrhse	\$3,535,000	\$3,189,900	0.90	0.90	1	7.85
Wrhse/Office	\$1,000,000	\$924,400	0.92	0.92	1	5.60
302	\$1,466,657	\$1,593,586	0.98	1.00	7	4.79
Office	\$750,000	\$789,800	1.05	1.05	1	7.54
Office Condo	\$585,000	\$549,500	0.98	1.00	3	3.70
Ret/Ofc	\$545,000	\$520,500	0.96	0.96	1	2.47
Service Shop	\$765,600	\$679,200	0.89	0.89	1	9.40
Shopping Center	\$6,451,000	\$7,517,100	1.01	1.01	1	3.03
303	\$3,295,000	\$2,618,600	0.79	0.79	1	18.84
Restaurant	\$3,295,000	\$2,618,600	0.79	0.79	1	18.84
304	\$141,500	\$140,400	1.01	1.01	2	2.77
Office Condo	\$63,000	\$65,000	1.03	1.03	1	5.36
Retail Condo	\$220,000	\$215,800	0.98	0.98	1	0.17
305	\$802,038	\$748,400	0.94	0.99	13	6.15
Office	\$3,000,000	\$2,498,000	0.83	0.83	1	14.97
Office Condo	\$913,125	\$900,525	0.95	0.99	4	5.19
Retail	\$525,000	\$518,200	0.99	0.99	1	0.80
Retail Condo	\$408,167	\$386,467	0.94	0.97	6	7.05
Retl/Apts	\$800,000	\$792,100	0.99	0.99	1	1.11
306	\$1,631,250	\$1,485,600	0.98	0.98	2	8.93
Marina	\$3,000,000	\$2,689,900	0.90	0.90	1	8.43
Vacant Commcl	\$262,500	\$281,300	1.07	1.07	1	9.44
307	\$5,536,750	\$5,116,750	0.95	0.95	2	3.30
Hangar Condo	\$73,500	\$71,300	0.97	0.97	1	0.94
Office Condo/Hotel	\$11,000,000	\$10,162,200	0.92	0.92	1	5.66
AP	\$899,833	\$887,800	0.96	0.98	3	5.21
Apartments	\$674,750	\$635,700	0.93	0.93	2	5.16
Vacant Apt Lnd	\$1,350,000	\$1,392,000	1.03	1.03	1	5.30
Grand Total	\$1,243,383	\$1,192,500	0.95	0.98	46	6.00

Neighborhood Combined with Style Analysis Conclusion

As shown on the above table, statistical analysis by neighborhood combined with style are well within acceptable standards for mass appraisal.

Grade- PVA Report

The next analysis reviews grade. This analysis ensures grades are properly calibrated within the model.

The following table shows the calculated statistics by grade of all commercial properties.

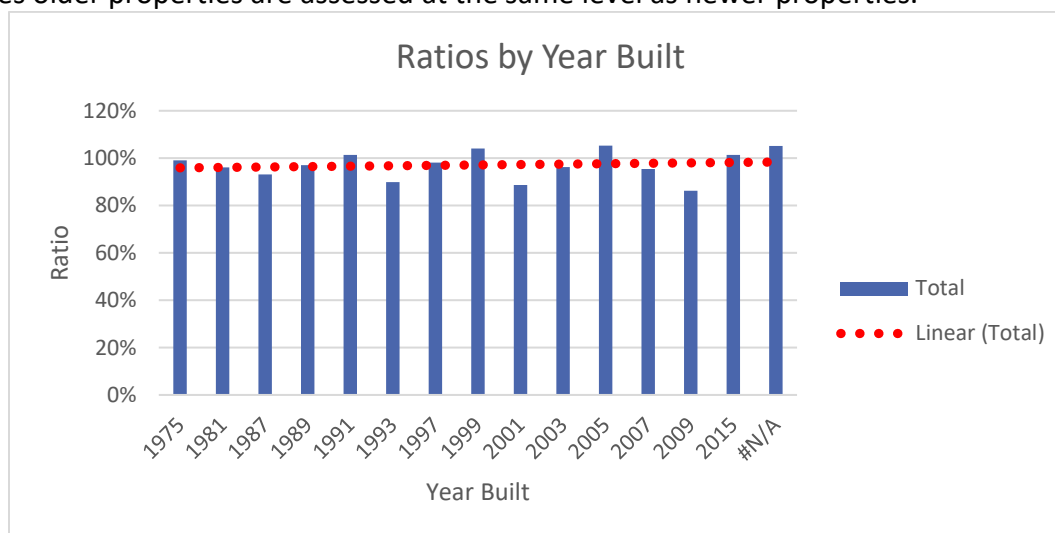
Grade	AV Sale Price	AV Assessment	Mean Ratio	Median Ratio	# of Sales	COD
Land	\$806,250	\$836,650	1.05	1.05	2	7.37
B	\$1,993,909	\$2,006,136	0.96	0.99	11	5.24
B-	\$490,667	\$474,350	0.96	0.96	6	3.29
B+	\$2,121,667	\$1,866,700	0.91	0.93	6	7.87
C	\$971,046	\$932,562	0.97	0.99	13	6.09
C+	\$754,143	\$696,186	0.92	0.93	7	8.05
D-	\$73,500	\$71,300	0.97	0.97	1	0.94
Grand Total	\$1,243,383	\$1,192,500	0.95	0.98	46	6.00

Grade Conclusion

As shown on the above table, variations in statistics by grade are well within acceptable standards for mass appraisal.

Year Built- PVA Report

The next level of assessment analyzed was by age. Age is important for validating depreciation rates specified in the model. With properly calibrated models, there should be relative uniformity within the ratios regardless of differences in age. In the PVA model the actual year built is converted to an effective year built based on the selected condition. A significant variation in ratios indicate flaws in the depreciation curve. Properly calibrated models will have a relatively flat ratio trend line. A flat trend line ensures older properties are assessed at the same level as newer properties.



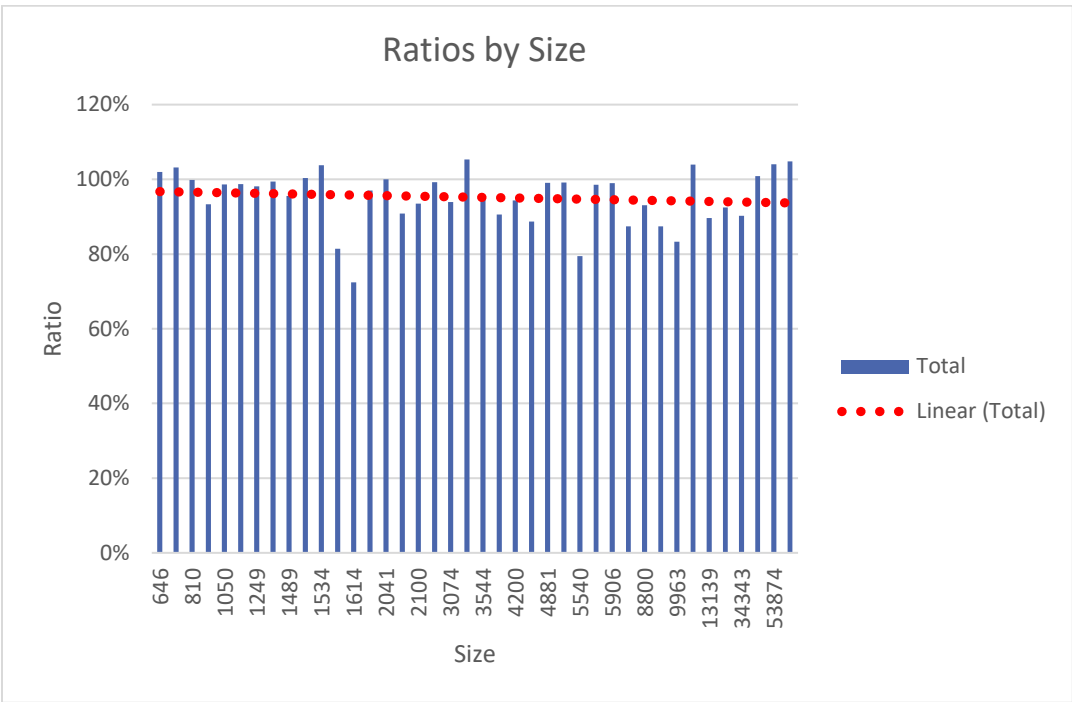
Age Conclusion

As shown on the above chart, newer and older properties have reasonable uniformity in the ratios regardless of age difference. A flat trend line, like the one above indicates acceptable depreciation calibration rates.

Size - PVA Report

The next level of assessment analyzed was by size. Size is important for validating building curves specified in the model. With properly calibrated models, there should be relative uniformity within the ratios regardless of differences in size. A significant variation in ratios indicate flaws in the size curve. Properly calibrated models will have a relatively flat ratio trend line. A flat trend line ensures smaller properties are assessing at the same level as larger properties.

The following chart shows average ratios by size for all commercial sale properties. The red line is a linear trend line.



Size Conclusion

As shown on the above chart, although the trend line is not perfectly flat, smaller and larger properties have relative uniformity within the ratios regardless of differences in size. A generally flat trend line, like the one above indicates acceptable size-curve calibration rates.

CONCLUSION OF MODEL TESTING- PVA Report

Well-established and effective statistical tests were used in measuring the credibility of the PVA mass valuation. The results of the statistical studies show the PVA report to be supported and credible.

CONCLUSION OF REVIEW OF VISION AND PVA REVALUATIONS

Mass appraisal is the systematic appraisal of a large group of properties based on standardized procedures and statistical testing. Unlike mass appraisal, single property appraisal conducts a market analysis and forms an opinion of value for only one property. While credible mass appraisals should produce reliable values for most properties in a jurisdiction, not every property is appraised with single property appraisal precision.

The mass appraisal standards promulgated by the International Association of Assessing Officials (IAAO), the Appraisal Foundation's Uniform Standards of Professional Appraisal Practice (USPAP) and the New Hampshire Department of Revenue consider the nature of mass valuation and allow for reasonable variation between assessments and sales.

This review analyzed the Vision and PVA reports to determine if they meet the above standards. In this study, the model specifications and calibrations in each report were analyzed. Based on the data and analysis presented in this report, the specifications and calibrations in both reports (Vision and PVA) are reasonable and credible.

The level of assessment in each report was measured using ratio studies. The results of the ratio studies indicate both the Vision and PVA appraisals meet the established standards and guidelines for mass valuations. Additional statistical testing was used to measure the credibility of the Vision and PVA mass valuations. The results of the statistical studies show the Vision and PVA reports to be supported and credible.

GENERAL ASSUMPTIONS AND LIMITING CONDITIONS

The submitted review reports is subject to the following underlying assumptions and limiting conditions:

- This is an Appraisal Review which is intended to comply with the appraisal review, development and reporting requirements set forth under Standard Rule 3 of the Uniform Standards of Professional Appraisal Practice. Supporting documentation concerning the data, reasoning and analyses is retained in the review appraiser's file. The information in this report is specific to the needs of the client and for the intended use stated in this report. The appraiser is not responsible for unauthorized use of this report.
- The purpose of the assignment is to evaluate the appraisal for compliance with USPAP and to determine if the results of the work under review are credible for the intended user's intended use. The review appraiser has developed an opinion as to the completeness of the reports, the adequacy and relevance of the data presented in the reports and the reasonableness of the conclusions. The review appraiser has NOT developed his or her own opinion of value conclusion and this review should not be construed as an appraisal of the subject property.
- No responsibility is assumed for the legal description or for matters including legal or title considerations. Title to the property is assumed to be good and marketable unless otherwise stated in this report.
- The property is assumed free and clear of any or all liens or encumbrances unless otherwise stated in this report.
- Responsible ownership and competent property management are assumed unless otherwise stated in this report.
- The information furnished by others is believed to be reliable. All factual data contained in the appraisal under review is assumed to be accurate. No warranty, however, is given for its accuracy.
- All engineering is assumed to be correct. Any plot plans and illustrative material in this report are included only to assist the reader in visualizing the property.
- It is assumed that there are no hidden or unapparent conditions of the property, subsoil, or structures that render it more or less valuable. The reviewer is not qualified to detect hazardous waste and/or toxic materials and is not an environmental or structural engineer. The review does not guarantee that the property is free of defects or environmental problems. If the property is inspected, the reviewer performs only routine observations during the inspection process of those readily accessible areas that are easily visible from a standing position; crawl spaces and attics are not viewed. Personal property may conceal many areas from view; no equipment or personal property is moved by the appraiser to facilitate observation. Any comment by the reviewer that might suggest the possibility of the presence of such substances should not be taken as confirmation of the presence of hazardous waste and/or toxic materials or molds. Such determination would require investigation by a qualified expert in the field of environmental assessment. The presence of substances such as but not limited to asbestos, urea-formaldehyde materials, lead paint, mold, radon, PCBs, VOCs or other potentially hazardous materials may affect the value of the property. The reviewer's opinions and conclusions are predicated on the assumption that there is no such material on or in the property that would cause a loss in value unless otherwise stated in this report. No responsibility is assumed for such conditions or for arranging for engineering studies that may be required to discover them.
- It is assumed that there is full compliance with all applicable federal, state, and local environmental regulations and laws unless noncompliance is stated, defined, and considered in the review reports.
- Unless otherwise stated in this report, no specific compliance survey has been conducted to determine if the property is or is not in conformance with the requirements of the Americans with Disabilities Act (ADA). The presence of architectural and communications barriers that are structural in nature that would restrict access

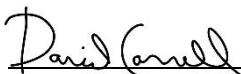
by disabled individuals may adversely affect the property's value, marketability or utility.

- Unless otherwise noted in the reports, it is assumed that all applicable zoning and use regulations and restrictions have been complied with, unless non-conformity has been stated, defined, and considered in the review reports.
- It is assumed that all required licenses, certificates of occupancy, consents, or other legislative or administrative authority from any local, state, or national government or private entity or organization have been or can be obtained or renewed unless otherwise stated in this report.
- Any sketch in this report may show approximate dimensions and is included to assist the reader in visualizing the property. Maps and exhibits found in this report are provided for reader reference purposes only. No guarantee as to accuracy is expressed or implied unless otherwise stated in this report. No survey has been made for the purpose of this report.
- It is assumed that the utilization of the land and improvements is within the boundaries or property lines of the property described and that there is no encroachment or trespass unless noted in the reports.
- The reports under review is assumed to disclose all known easements, restrictions, encumbrances, leases, reservations, covenants, contracts, declarations, special assessments, ordinances, or items of a similar nature. The reviewer has not performed a title search or done any research to uncover any undisclosed encumbrances.
- Possession of this report, or a copy thereof, does not carry with it the right of publication. It may not be used for any other purpose by any other person other than the party to whom it is addressed without the written consent of the reviewer, and in any event only with proper written qualifications and only in its entirety.
- The review appraiser herein by reason of this review is not required to give further consultation, testimony, or be in attendance in court with reference to the property in question unless arrangements have been previously made, or as otherwise required by law.
- Neither all nor any part of the contents of this report (especially any conclusions as to value, the identity of the appraiser, or the firm with which the appraiser is connected) shall be disseminated to the public through advertising, public relations, news, sales, or other media without the prior written consent and approval of the appraiser.
- This review appraisal has been prepared by an appraiser with the experience, competency and education necessary to qualify him to make review appraisals of the type of property being valued in reports under review. There were no additional steps required to competently complete the attached review report.

CERTIFICATION

I certify that, to the best of my knowledge and belief:

- The statements of fact contained in this report are true and correct.
- The report analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions.
- I have no present or prospective interest in the property that is the subject of the work under review and no personal interest with respect to the parties involved.
- I have performed no other services, as an appraiser or in any other capacity, regarding the property that is the subject of the work under review within the three-year period immediately preceding acceptance of this assignment.
- I have no bias with respect to the property that is the subject of the work under review or to the parties involved with this assignment.
- My engagement in this assignment was not contingent upon developing or reporting predetermined results.
- My compensation is not contingent on an action or event resulting from the analyses, opinions or conclusions in this review or from its use.
- My compensation for completing this assignment is not contingent upon the development or reporting of predetermined assignment results or assignment results that favor the cause of the client, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal review.
- My analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the *Uniform Standards of Professional Appraisal Practice*.
- I have not made a personal inspection of the subject of the work under review.
- No one provided significant appraisal or appraisal review assistance to the person signing this certification.
- The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
- The reported analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics and the Standards of Professional Appraisal Practice of the Appraisal Institute.
- The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives
- As of the date of this report, I, **David Cornell**, have completed the continuing education requirements for the Appraisal Institute.



David M. Cornell, MAI, CAE, CNHA
NHCg-863

Appraiser Qualifications David M. Cornell, MAI, CAE, MBA, CNHA

Outgoing and results-focused Appraiser, and former Chairman of the Board of Assessors with proven success in collaborating with all levels of management to provide key leadership skills while planning, developing, and growing key initiatives. Over 17 years' experience as an Appraiser at progressive levels of responsibility. High level of integrity and optimism.

- | | | |
|-----------------------------|-------------------------------|------------------------|
| ▪ Organizational Management | ▪ High-Impact Decision Making | ▪ Executive Leadership |
| ▪ Team Building | ▪ Consultative Expert | ▪ Property Assessment |
| ▪ Commercial Properties | ▪ Training & Hiring | ▪ Statistical Analysis |
| ▪ Utility Properties | ▪ New Employee Development | ▪ Equalization Process |

Management Experience

- Directed a staff of 28 employees including hiring team members and ensuring goals and objectives were adhered to.
- Led initiatives in educating municipalities regarding the proper methodology and techniques of appraisal and assessment of real property.
- Trained team members, as needed, on processes and procedures.

Professional Experience

CORNELL CONSULTANTS, LLC Manchester, NH

2016-Present

President

Summary:

- Helping small businesses and government agencies maximize their potential through technology, professional development, and assessing/appraisal valuation serves.

NH DEPARTMENT OF REVENUE ADMINISTRATION, Concord, NH

2010-2016

Assistant Director, Municipal and Property Division

Summary:

- Lead initiatives in educating municipalities regarding the proper methodology and techniques of appraisal and assessment of real property.
- Oversee all property assessments practices in New Hampshire.
- Perform statistical tests to determine the level of quality and accuracy for revaluations completed for assessing districts.
- Assist in the statewide equalization process.
- Manage the valuation of commercial and utility properties.

Management Responsibilities:

- Directed a staff of 28 employees including hiring team members and ensuring goals and objectives were adhered to.
- Train and evaluate the efficiency and productivity of team members by establishing performance standards and objectives.
- Provide training and development of team members monitoring goals and providing feedback.

CITY OF MANCHESTER, Manchester, NH

2006-2010

Chairman of the Board of Assessors

Summary:

- Oversaw approximately 32,000 properties in the City of Manchester, equaling \$10 billion in market valuation

- Performed statistical analysis of assessments to determine uniformity and equity.

Key Responsibilities:

- Voted on all tax abatement cases.
- Advised the Mayor and the Board of Aldermen on real estate valuation and acquisition issues.
- Awarded “Key to the City” in 2009 by Mayor Frank Guinta for working “honorably and with great distinction.”
- Handled public relations including numerous newspaper, radio, and TV interviews.
- Developed a successful internship program

CITY OF MANCHESTER, Manchester, NH

2003-2006

Commercial Appraiser

Summary:

- Identified, listed, and appraised commercial property for tax purposes.
- Measured, listed and valued new construction projects.
- Prepared appraisals for tax appeal cases, appearing as an expert witness before the Board of Tax and Land Appeals and Superior Court (residential, commercial, and industrial properties).

Key Responsibilities:

- Developed a process that automated sections of appraisal reports.
- Developed valuation analytic tools using geospatial analysis

NH DEPARTMENT OF REVENUE ADMINISTRATION, Concord, NH

1999-2003

Real Estate Appraiser/Assistant Utility Appraiser

Summary:

- Planned, organized, and administered the appraisal and taxation of public utility property in the state.
- Researched and analyzed utility industry trends, data and technical reports to determine the value of utility properties (gas, hydro, nuclear, steam, transmission, and water).
- Adjusted utility property appraisal valuation models based on market data
- Appraised industrial, commercial, and residential property to determine equitable tax assessments.
- Explained the real estate appraisal process to property owners at public hearings.

Key Responsibilities:

- Testified as an expert witness before Superior Court in valuation disputes.

GWINNETT COUNTY PROPERTY APPRAISAL DIVISION, Lawrenceville, GA

1998-1999

Real Estate Appraiser

Summary: Appraised commercial property in Gwinnett County, GA. Used the cost, income, and sales comparable approach to derive values using the CAMA (computer-assisted mass appraisal) system.

Education & Training

Master of Business Administration, Plymouth State University, Plymouth, NH

Graduate Certificate, Investment & Finance, Plymouth State University, Plymouth, NH

Bachelor of Science, Business Administration, Liberty University, Lynchburg, VA

Microsoft Certification, MSOE: Microsoft Excel 2013 Expert

Licenses & Affiliations

Appraisal Institute Designated Member- MAI Designation

Appraisal Institute NH Chapter- President (2017 - present)

Appraisal Institute NH Chapter- Board of Directors (2015- present)

International Association of Assessing Officers- Certified Assessment Evaluator (CAE)

International Association of Assessing Officers- Senior National Instructor

Microsoft – Microsoft Certified Trainer

New Hampshire Association of Assessing Officials - Certified New Hampshire Assessor

New Hampshire Department of Revenue - Certified Property Assessor Supervisor

New Hampshire Real Estate Appraiser Board- Certified General Appraiser (NHCG-863)

The Appraisal Foundation- AQB Certified USPAP Instructor

As a **Senior National Instructor** for the International Association of Assessing Officers:

I instruct the following one-week courses:

Course 101 - Fundamentals of Real Property Appraisal

Course 102 - Income Approach to Valuation

Course 112 - Income Approach to Valuation II

Course 300 - Fundamentals of Mass Appraisal

Course 311 - Residential Modeling Concepts

Course 331 - Mass Appraisal Practices and Procedures

Course 332 - Modeling Concepts

Course 400 - Assessment Administration

I instruct the following workshops (1 to 2 ½ days):

Workshop 100 - Understanding Real Property Appraisal

Workshop 151 - Uniform Standards of Professional Appraisal Practice (National)

Workshop 150 - Mathematics for Assessors

Workshop 155 - Deprecation Analysis

Workshop 171 - IAAO Standards of Professional Practice & Ethics

Workshop 181 - 7-Hour National USPAP Update for Mass Appraisal

Workshop 191 - 7-Hour National USPAP Update

Workshop 354 - Multiple Regression Analysis for Real Property Valuation

Workshop 452 - Fundamentals of Assessment Ratio Studies

Workshop 850 - CAE Case Study Review

I instruct the following one-day forums:

Forum 909 - The Appraisal of Commercial Properties in a Declining Market

Forum 914 - The Development and Use of the Compound Interest Tables and Apps, Using the HP-12C

Forum 917 - How to Critique an Appraisal

Forum 929 - Preparation of Data for Analysis for Modeling

Forum 931 - Reading and Understanding Leases

Forum 932 - Restructuring Income/Expense Statements

State of New Hampshire

REAL ESTATE APPRAISER BOARD

APPROVED TO PRACTICE AS A

CERTIFIED GENERAL APPRAISER

ISSUED TO: DAVID M CORNELL



Certificate No: NHCG-863

EXPIRATION DATE: 10/31/2019

State of New Hampshire

REAL ESTATE APPRAISER BOARD

APPROVED TO PRACTICE AS A

Certified General Appraiser

ISSUED TO: DAVID M CORNELL



Certificate No:
NHCG-863

EXPIRATION DATE:
10/31/2019

For additional information please contact the Board office at dawn.couture@nh.gov or visit our web site at <http://www.nh.gov/nhreb>