



Government of the District of Columbia

Mayor Anthony A. Williams

Office of the Chief Financial Officer

Office of Tax and Revenue

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Office of Tax and Revenue

**Real Property Tax
Administration**

FY 2007 Assessment Ratio

Survey Report

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November 20, 2006



Government of the District of Columbia
Office of the Chief Financial Officer
Office of Tax and Revenue

November 20, 2006

The Honorable Anthony A. Williams
And
The Honorable Linda Cropp

In accordance with D.C. Code § 47-823(c), I am pleased to submit the Office of Tax and Revenue's 2007 Assessment Ratio Report. This report measures the quality of real property assessments within the District of Columbia.

Uniform and accurate assessments are the foundation of fair property taxation. District law and the Federal Constitution require that all real property subject to property taxation be assessed uniformly. District law also requires that assessments be based on the estimated market value (fair market value) of the property. Therefore, uniformity and market value are the standards used to measure the quality of the assessment work performed by the Real Property Tax Administration.

This report measures assessment quality by looking at the most recent reassessment program and comparing the results of that effort to actual market conditions. District law required that all real property be assessed annually, resulting in approximately 183,000 reassessment notices being issued in February 2006. These reassessments reflected OTR's estimate of property values as of January 1, 2006. To provide an objective performance measure of that work, this report tests those reappraisal results against actual property sales for the 12 months in calendar year 2005.

The Office of Tax and Revenue has adopted the national standards for measuring property assessment quality as outlined by the International Association of Assessing Officers. Those national standards, as well as our compliance with those standards, are discussed in the body of this report. The data show that the District has acceptable levels and uniformity of assessments.

I hope that you find this report useful and informative. Please feel free to share any suggestions that you may have to improve this report or the assessment process in the District of Columbia.

Sincerely,

Sheryl Hobbs Newman
Deputy Chief Financial Officer
Office of Tax and Revenue

2007 ASSESSMENT RATIO REPORT

Overview

The Office of Tax and Revenue's Real Property Tax Administration (RPTA) appraises real property for purposes of property taxation. A portion of all properties will be physically reviewed each year. During the review, the assessor will visit properties to verify property characteristics existing in our current assessment records. The characteristics include property type, size, quality of construction, condition of structure and any new improvements. In certain circumstances, neighborhood inspections may be made in place of individual property inspections.

For FY 2007, the District assessed approximately 183,000 properties. This requires the use of mass appraisal techniques. While a fee appraiser is concerned with valuing one property at a time, an assessor is valuing entire neighborhoods. To accomplish this, special mass appraisal procedures are used. When real property is transferred, the deed and transfer documents are filed with the Recorder of Deeds of the District of Columbia. These documents are imaged and used as a record to change ownership on the assessment roll and capture sales information. The Assessment Division reviews all deeds and property sales prices as the deed transferring the property is recorded. In the assessor's review and analysis of the sales, the assessor will develop land rates, depreciation tables, and sales analysis and/or market analysis reports. After completing the analysis, the assessor applies the factors uniformly throughout the neighborhood to value all comparable properties.

The Real Property Tax Administration's work is reviewed by OTR's internal auditors, by the District's auditor and is often scrutinized by individual property owners. We are continually striving for higher quality in assessment uniformity. Our quality control program begins with the individual assessor and the assessor's immediate supervisor. As work is completed, each supervisor reviews the analysis, making recommendations and approving the work. When the assessor completes the revaluation, the supervisor makes a random check using procedural and data editing reports. Following the completion of the revaluation, various computer edits are made to assure good valuation quality.

A measurement of quality is the assessed value/sale price ratio. A ratio is the relationship of two numbers, in this case assessed value and sale price. It measures how closely our values compare to the actual sales prices. The average assessed value/sale price ratio indicates the typical level of assessment. Because the marketplace is not perfect, there will always be properties that sell for more or less than can be anticipated due to factors such as sales between people unfamiliar with the market or buyers willing to pay extra for a unique property, among other reasons.

In mass appraisal and assessment ratio studies, we are not only concerned with the typical level of assessment as indicated by the average assessed value/sale price levels (ratios), but also the degree of spread, or variation, from the typical ratio. One such statistical measurement of variation is called the coefficient of dispersion (COD). The lower the COD, the more uniform the assessments.

In the balance of this report, we will give a more detailed explanation of the statistical terms as applied to assessment administration and quality control and explain the International Association of Assessing Officers' (IAAO) Standard of Performance for ratio studies.

RATIO STATISTICS

The purpose of this ratio study is to test the quality of the assessment product of the properties most recently valued. From our most recent valuation, we have performed many ratio studies examining neighborhoods, types of structures, age of structures, etc. We use ratio studies as a performance gauge that includes several measures of central tendency. A measure of central tendency indicates the typical level of assessments to actual selling prices of real estate. These may be the average of assessed value/sale price ratio, the weighted average of assessed value/sale price ratio or the median of assessed value/sale price ratio. The average assessed value/sale price ratio is simply the average of all the ratios in the sample. The weighted assessed value/sale price ratio is the result of dividing the total of the assessments by the total of the sale prices. The median assessed value/sale price ratio is the midpoint ratio of all ratios if the ratios are arrayed from highest to lowest.

In addition to the general level of assessments, we are also concerned with the relative spread or variation that individual ratios fall from the typical ratio. This is measured by the coefficient of dispersion. The coefficient of dispersion is calculated by dividing the average absolute deviation by the median ratio. To calculate the average absolute deviation, subtract the median ratio from the individual ratios and add all the results ignoring positive or negative signs and dividing by the number of ratios. The acceptable level for the coefficient of dispersion depends upon the type of properties being reviewed. Coefficients of dispersion should typically be 20% or less, depending on the types of properties being valued.

Another statistical measure used to gauge assessment uniformity is the Price-Related Differential (PRD). The PRD tests to see if higher and lower valued properties are assessed at the same level. It is calculated by dividing the mean ratio by the weighted mean ratio. PRDs should range between 0.98 and 1.03, except for very small samples. For example, a PRD of 1.03 indicates under valuation of high priced properties, while a PRD of .98 shows an under valuation of low priced properties. Table 1 of this report illustrates a sample computation of these statistics.

Table 1

Illustration of Ratio Study Statistics

Sample Jurisdiction

(1) Property Number	(2) Sale Price	(3) Assessed Value	(4) Ratio A/S%	(5) Deviation From Average
1	\$280,000	\$224,000	80%	20%
2	\$220,000	\$192,500	88%	12%
3	\$635,000	\$555,750	88%	12%
4	\$559,000	\$517,000	92%	7%
5	\$200,000	\$190,000	95%	5%
6	\$210,000	\$204,750	98%	2%
7	\$800,000	\$800,000	100%	0%
8	\$400,000	\$400,000	100%	0%
9	\$330,000	\$333,000	101%	1%
10	\$450,000	\$461,250	103%	3%
11	\$240,000	\$252,000	105%	5%
12	\$390,000	\$419,250	108%	8%
13	\$370,000	\$416,250	113%	13%
14	\$403,000	\$458,000	114%	14%
15	\$510,000	\$599,250	118%	18%
TOTAL	\$5,997,000	\$6,023,000	1500%	120%

Average Ratio	=	Total of Ratios (4)	÷	Number of Sales (1)	=	100%
		1500%		15		
Weighted Ratio	=	Total of Assessed Values (3)	÷	Total of Sale Prices (2)	=	100%
		\$6,023,000		\$5,997,000		
Average Deviation	=	Total Deviations (5)	÷	Number of Sales (1)	=	8%
		120%		15		
Median Ratio	=	Middle Value of Data Array (i.e. property #8)	=		=	100%
Coefficient of Dispersion	=	Average Deviation (5)	÷	Median Ratio (4)	=	8%
		8%		100%		
Price-Related Differential	=	Average Ratio (4)	÷	Weighted Ratio	=	1.00
		100%		100%		

Other descriptive statistical methods that may be used to analyze the assessment product are histograms, frequency distributions, scatter diagrams and coefficient of variation. Due to the scope of this report, we have not fully examined these here. For further information on statistics relating to assessments the IAAO's publication, "Improving Real Property Assessment" is recommended.

RATIO STUDY STANDARDS - VALUES TO SALE PRICES

The International Association of Assessing Officers is a professional organization of assessing officials that provides educational programs, assessment administration standards and research on appraisal and tax policy issues. The IAAO has developed numerous standards and texts on appraisal and assessment administration. Additionally, the organization is a founding member of the national Appraisal Foundation that developed the Uniform Standards of Professional Appraisal Practice (USPAP).

The IAAO's Standard on Ratio Studies was first published in September 1990 and was revised in July, 1999. The Standard is advisory in nature and provides guidance to those performing ratio studies in the mass appraisal field regarding the design, statistics, performance measures and related issues in conducting ratio studies. The District of Columbia Real Property Tax Administration uses the fundamental ratio statistical measures of the Standard, and has adopted IAAO's Assessment Ratio Performance Standard as the criteria to judge the performance of the District's re-valuations. See Table 2 below.

Table 2

Ratio Study Performance Standards

Type of Property	Measure of Central Tendency	Coefficient of Dispersion	Price-Related Differential
Single-Family Residential			
Newer, homogeneous areas	.90 - 1.10	10.0 or less	.98 - 1.03
Older, heterogeneous areas	.90 - 1.10	15.0 or less	.98 - 1.03
Rural residential and seasonal	.90 - 1.10	20.0 or less	.98 - 1.03
Income Producing Properties			
Larger, urban jurisdictions	.90 - 1.10	15.0 or less	.98 - 1.03
Smaller, rural jurisdictions	.90 - 1.10	20.0 or less	.98 - 1.03
Vacant Land	.90 - 1.10	20.0 or less	.98 - 1.03
Other Real and Personal Property	.90 - 1.10	Varies with local conditions	.98 - 1.03

Source: Standard on Ratio Studies; International Association of Assessing Officers; Chicago, Illinois; July 1999; p.34.

Ratio studies may be performed for various reasons including appraisal accuracy and assessment equity studies, to judge the need for and management of a reappraisal, to identify problems with appraisal procedures, to assist in market analysis, and to adjust appraised values. Many ratio study design issues must be considered depending on the purpose of the ratio study.

This study considers unadjusted sales price data during calendar year 2005 before the date of finality of January 1, 2006, for which the FY 2007 assessments are effective. Generally, only sales that are arms-length transactions between a buyer and seller are included in the study. Sales between related parties, to or from financial institutions or government agencies, or sales with extreme ratios, which indicate abnormal transactions, have not been used in this study. An attempt was made to contact the property owner and physically inspect all sales. Where property owners were not at home or failed to respond to the "Sales Verification Questionnaire" mailed to them, an exterior inspection was performed. Thus, some of these transactions may have had conditions that could have warranted their exclusion from the study, but were not. Generally, the District's ratio performance is good and conforms to the IAAO Standard.

While several measures of central tendency may be calculated (average, median, and weighted average) the median is less affected by extreme ratios. Therefore, the IAAO observes in its Standard that the median is generally the preferred measure of central tendency for monitoring appraisal performance. For this reason, median ratios are used in this study to measure compliance with IAAO standards.

In circumstances where property values are rapidly changing, ratio statistics will be adversely affected. Where real estate prices have been increasing, ratio statistics will indicate a lower assessed value/sale price ratio. This rapid escalation in property values has lowered the average ratio. However, one should review the average deviation, coefficient of dispersion, and standard deviation to assure that assessments are uniform.

COMPARISON OF RPTA's VALUES TO SALE PRICES

Quality is the degree of excellence of a product or service. Also, quality is the extent to which a product measures up to certain standards. In this case, a measure of quality is the ratio study measuring whether the assessor appraised properties uniformly and at estimated market value. Approximately one-half of the sales data used in this study were not available for use by the assessor in the group of properties reassessed. Assuming the assessor applied the mass appraisal model uniformly to all properties, this ratio study should show uniformity of assessment. The ratio study is a cross-check by the RPTA management to assure quality of the mass appraisal. It was conducted on 9,689 improved residential property and 438 commercial property sales from January 1, 2005 to December 31, 2005, and compares the administration's valuations on the tax roll for FY 2007.

Table 3 summarizes the Fiscal Year 2007 Real Property Assessment/Sale Ratio by neighborhood within the District of Columbia for residential properties. Table 4 displays similar information for commercial properties. Table 5 illustrates the frequency of assessment sale ratios, in the form of a histogram, for residential properties. The sales used in this study were calendar year 2005 real estate sales. Table 6 measures

RPTA's compliance with nationally recognized assessment performance for FY 2007. Table 7 provides a summary of the sales ratio statistics, by property type, for the FY 2007 assessment program.

The histogram in Table 5 graphically represents the frequency distribution of individual residential ratios in the study. The general shape of the graph helps to illustrate the amount of dispersion existing in the data. A tall, narrow shape usually indicates less dispersion from the measure of central tendency, whereas a more flat and broad shape illustrates more dispersion and less desirable uniformity. The histogram of RPTA's results illustrates both good central tendency and reasonable dispersion. The measures of central tendency indicate that properties, on average, have been valued for FY 2007 at approximately 93% of sale price and that on average all other properties have very similar ratios as indicated by the 10% coefficient of dispersion.

TABLE 3**Fiscal Year 2007****Residential Real Property Assessment Ratio by Neighborhood**

This table shows the real property assessment ratio data for residential properties. The ratios are of arms-length sales of properties. The sales used sold between January 1, 2005 and December 31, 2005, compared with RPTA's values effective January 1, 2006. In neighborhoods with fewer than twenty sales, the statistics may not represent actual market conditions due to the small sample size.

Type of Property: Residential

No.	Neighborhood	No. of Sales	Average Sale Price	Median Sale Price	Median Ratio	Mean Ratio	Weighted Mean Ratio	Coefficient of Dispersion	Price-Related Differential
1	AMERICAN UNIVERSITY	249	600,851	586,283	97.0	96.8	96.5	3	1.00
2	ANACOSTIA	92	223,279	231,000	92.8	90.6	88.3	12	1.03
3	BARRY FARMS	34	172,401	162,000	86.6	88.0	86.1	15	1.02
4	BERKELEY	38	1,415,954	1,300,000	92.4	91.0	90.6	9	1.00
5	BRENTWOOD	60	275,332	250,000	91.8	89.6	86.7	13	1.03
6	BRIGHTWOOD	188	385,006	377,860	95.0	93.0	92.3	7	1.01
7	BROOKLAND	225	351,369	337,000	90.4	89.7	88.8	10	1.01
8	BURLEITH	44	960,460	788,500	97.0	97.0	94.0	8	1.03
9	CAPITOL HILL	251	641,833	635,000	97.0	99.0	97.8	9	1.01
10	CENTRAL	1187	480,447	429,900	96.9	93.6	93.7	6	1.00
11	CHEVY CHASE	192	784,304	772,500	95.3	95.0	94.1	6	1.01
12	CHILLUM	34	365,638	375,000	93.7	90.9	89.6	10	1.01
13	CLEVELAND PARK	212	572,793	412,980	93.3	93.2	91.9	8	1.01
14	COLONIAL VILLAGE	11	819,045	777,000	95.7	97.2	96.2	8	1.01
15	COLUMBIA HEIGHTS	574	427,543	413,750	95.3	93.4	92.0	11	1.02
16	CONGRESS HEIGHTS	187	192,888	197,500	91.6	92.5	89.5	16	1.03
17	CRESTWOOD	29	987,676	900,000	93.9	97.4	95.3	12	1.02
18	DEANWOOD	266	215,094	205,000	92.3	90.0	88.5	12	1.02
19	ECKINGTON	107	426,974	430,000	98.7	99.1	98.1	8	1.01
20	FOGGY BOTTOM	88	375,022	280,000	90.8	89.9	90.5	8	0.99
21	FOREST HILLS	132	577,575	387,000	95.8	96.4	95.5	8	1.01
22	FORT DUPONT PARK	124	239,665	230,000	86.6	86.4	84.1	14	1.03
23	FOXHALL	13	797,115	799,000	98.5	93.8	93.6	6	1.00
24	GARFIELD	69	662,922	515,000	94.6	94.1	92.5	7	1.02
25	GEORGETOWN	260	1,202,765	943,750	95.0	94.8	94.1	8	1.01
26	GLOVER PARK	95	540,956	500,000	94.4	94.0	93.4	7	1.01
27	HAWTHORNE	10	928,400	962,500	90.9	95.4	93.2	11	1.02
28	HILLCREST	116	233,115	187,700	93.3	96.5	93.1	16	1.04
29	KALORAMA	224	677,567	440,750	95.0	96.4	95.0	10	1.01
30	KENT	51	1,368,135	1,100,000	93.9	93.8	91.4	12	1.03
31	LEDROIT PARK	99	500,556	490,000	95.2	96.9	96.1	8	1.01
32	LILY PONDS	43	225,012	205,000	89.8	89.8	86.7	14	1.04
33	MARSHALL HEIGHTS	80	194,116	177,500	87.8	86.6	83.4	15	1.04
34	MASS. AVE. HEIGHTS	5	2,460,000	2,200,000	101.1	99.9	99.2	2	1.01

35	MICHIGAN PARK	28	413,086	387,500	88.7	88.7	86.9	12	1.02
36	MOUNT PLEASANT	314	567,948	567,900	94.2	92.5	91.8	8	1.01
37	N. CLEVELAND PARK	36	775,158	805,500	93.6	93.5	93.4	5	1.00
38	OBSERVATORY CIRCLE	58	510,074	343,250	92.4	94.1	92.7	8	1.01
39	OLD CITY #1	950	481,346	461,000	94.1	93.6	92.0	11	1.02
40	OLD CITY #2	1,414	479,125	423,525	95.0	94.2	92.9	10	1.01
41	PALISADES	80	682,060	643,500	95.0	93.0	92.0	7	1.01
42	PETWORTH	284	389,545	385,000	88.9	90.4	88.4	11	1.02
43	RANDLE HEIGHTS	116	200,202	189,000	87.5	88.5	84.6	14	1.05
44	R.L.A. (N.E.)	0	0	0	0.0	0.0	0.0	0	0.00
46	R.L.A. (S.W.)	330	330,326	317,620	99.2	97.8	97.2	8	1.01
47	RIGGS PARK	77	300,022	300,000	88.0	88.7	87.1	12	1.02
48	SHEPHERD PARK	21	672,090	665,000	96.8	94.7	94.1	4	1.01
49	16TH STREET HEIGHTS	106	593,717	575,000	95.5	94.4	93.3	6	1.01
50	SPRING VALLEY	42	1,264,976	1,091,000	96.0	98.9	96.0	12	1.03
51	TAKOMA PARK	29	374,778	375,000	89.4	91.1	89.1	11	1.02
52	TRINIDAD	154	296,976	300,000	84.9	88.2	84.4	17	1.04
53	WAKEFIELD	38	483,737	425,000	84.3	85.6	87.2	7	0.98
54	WESLEY HEIGHTS	87	703,553	520,000	91.4	92.1	93.0	9	0.99
55	WOODLEY	12	1,305,793	1,211,250	93.5	92.9	91.6	6	1.01
56	WOODRIDGE	102	390,357	384,250	92.9	91.2	89.8	10	1.02
66	FORT LINCOLN	22	244,591	233,000	91.7	93.2	91.7	14	1.02

TABLE 4**Fiscal Year 2007****Commercial Real Property Assessment Ratio by Neighborhood**

This table shows the real property assessment ratio data for commercial properties. The ratios are of arms-length sales of properties. The sales used sold between January 1, 2005 and December 31, 2005, compared with RPTA's values effective January 1, 2006. In neighborhoods with fewer than twenty sales, the statistics may not represent actual market conditions due to the small sample size.

Type of Property: Commercial

No.	Neighborhood	No. of Sales	Average Sale Price	Median Sale Price	Median Ratio	Mean Ratio	Weighted Mean Ratio	Coefficient of Dispersion	Price-Related Differential
1	AMERICAN UNIVERSITY	1	45,200,000	45,200,000	99.3	99.3	99.3	0	1.00
2	ANACOSTIA	7	916,786	775,000	76.0	82.4	78.2	36	1.05
3	BARRY FARMS	4	445,125	454,000	51.7	51.7	49.7	7	1.04
5	BRENTWOOD	6	638,650	645,000	92.4	95.2	86.9	27	1.09
6	BRIGHTWOOD	8	891,239	716,730	90.6	91.4	80.4	26	1.14
7	BROOKLAND	16	809,971	602,500	65.1	70.1	72.8	25	0.96
9	CAPITOL HILL	14	1,108,457	903,000	77.3	78.0	73.0	15	1.07
10	CENTRAL	53	49,151,872	23,156,143	99.9	94.0	92.2	7	1.02
11	CHEVY CHASE	4	54,395,000	2,400,000	95.1	84.8	90.0	17	0.94
12	CHILLUM	3	621,987	750,000	95.0	100.0	95.5	7	1.05
13	CLEVELAND PARK	1	3,553,200	3,553,200	114.4	114.0	114.4	0	1.00
15	COLUMBIA HEIGHTS	35	803,246	450,000	65.4	77.2	73.7	37	1.05
16	CONGRESS HEIGHTS	22	480,532	352,500	66.2	71.5	66.0	33	1.08
18	DEANWOOD	14	582,864	452,500	62.7	66.5	64.8	21	1.03
19	ECKINGTON	23	1,153,241	500,000	90.2	84.1	91.1	13	0.92
20	FOGGY BOTTOM	7	10,065,714	1,150,000	99.2	96.1	97.6	12	0.99
22	FORT DUPONT PARK	7	277,857	250,000	86.5	93.5	92.3	17	1.01
25	GEORGETOWN	20	2,102,715	1,500,000	96.3	93.6	91.6	11	1.02
26	GLOVER PARK	3	1,576,667	1,400,000	87.0	82.3	86.7	19	0.95
28	HILLCREST	6	801,942	477,500	95.7	101.0	105.5	19	0.95
29	KALORAMA	5	11,966,000	3,700,000	100.0	93.7	74.6	6	1.26
30	KENT	1	10,000,000	10,000,000	100.0	100.0	100.0	0	1.00
31	LEDROIT PARK	2	377,500	377,500	85.3	85.3	80.8	17	1.06
33	MARSHALL HEIGHTS	2	575,000	575,000	67.8	67.8	68.1	12	0.99
35	MICHIGAN PARK	1	2,050,000	2,050,000	97.6	97.6	97.6	0	1.00
36	MOUNT PLEASANT	7	1,356,714	800,000	100.0	101.0	100.4	1	1.01
39	OLD CITY #1	62	2,419,144	577,500	74.1	79.0	93.6	30	0.84
40	OLD CITY #2	37	5,754,478	795,000	79.2	79.2	92.7	27	0.85
41	PALISADES	1	2,550,000	2,550,000	98.0	98.0	98.0	0	1.00

42	PETWORTH	15	672,500	455,000	64.7	64.1	69.2	24	0.93
43	RANDLE HEIGHTS	5	1,965,370	450,000	87.6	92.0	91.0	27	1.01
44	R.L.A. (N.E.)	8	23,968,871	11,417,300	99.9	93.1	97.2	13	0.96
46	R.L.A. (S.W.)	2	25,890,000	25,890,000	100.0	100.0	100.0	0	1.00
49	16TH STREET HEIGHTS	9	919,278	371,500	74.5	78.4	71.3	16	1.10
51	TAKOMA PARK	2	1,425,000	1,425,000	81.8	81.8	70.7	22	1.16
52	TRINIDAD	13	2,751,574	570,000	59.4	70.4	91.6	35	0.77
53	WAKEFIELD	1	913,500	913,500	110.7	111.0	110.7	0	1.00
56	WOODRIDGE	11	595,900	649,000	73.7	86.7	84.5	34	1.03

TABLE 5

HISTOGRAM OF 2007 RESIDENTIAL SALES RATIOS

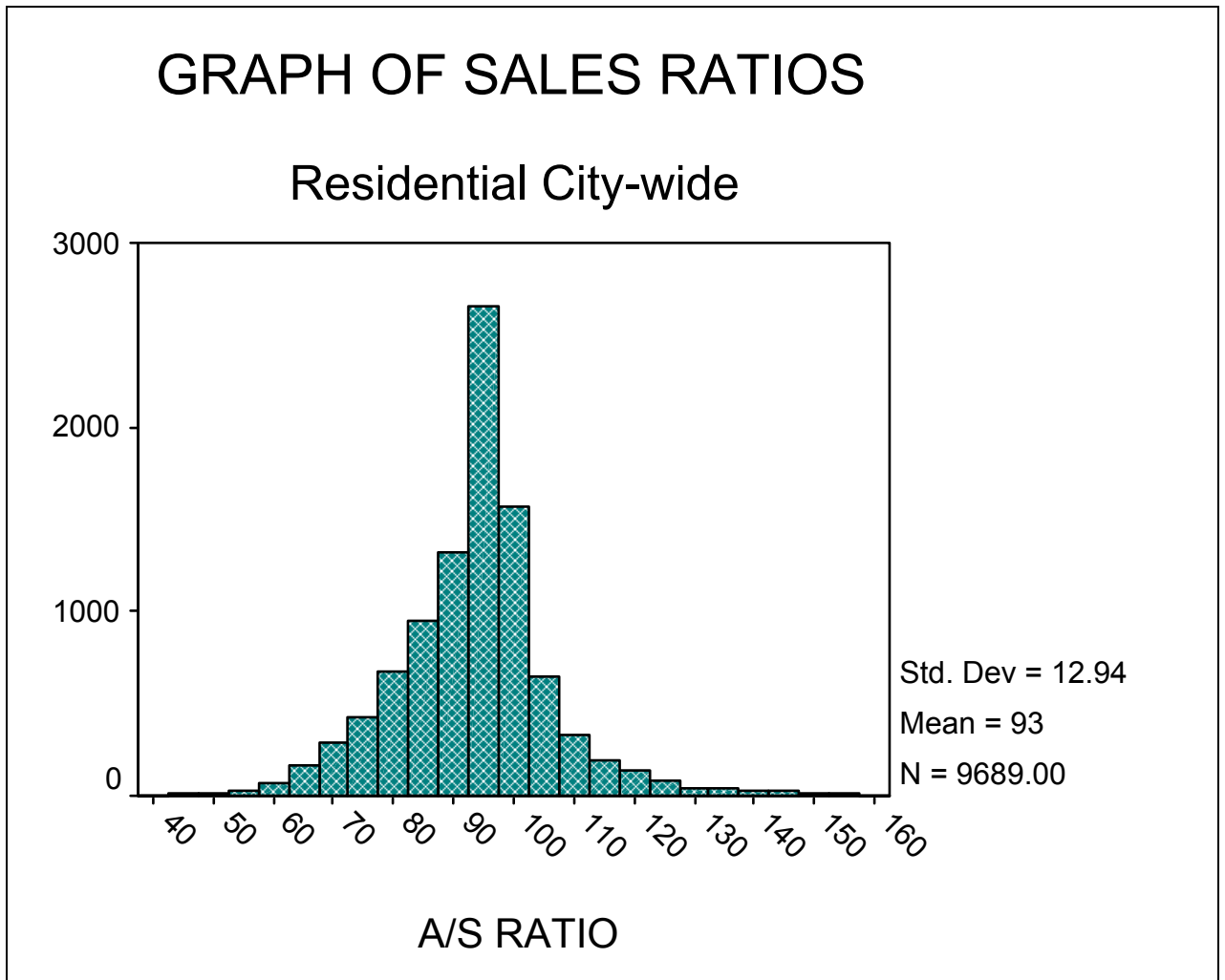


TABLE 6

SUMMARY OF SALES RATIO STATISTICS FY 2007

2007 SALES RATIOS BY PROPERTY TYPE: CITY-WIDE								
PROPERTY TYPE	SALES	AVE PRICE	MED PRICE	MEDIAN	MEAN	WEIGHTED	COD	PRD
All	10,127	\$858,768	\$410,000	95.0	93.0	92.4	10	1.01
Residential	9,689	\$496,640	\$404,500	95.0	93.5	92.9	10	1.01
Commercial	438	\$8,869,405	\$700,000	85.5	82.5	91.9	24	.90