DISTRICT OF COLUMBIA
OFFICE OF THE INSPECTOR GENERAL

OIG Project No. 16-1-14AT

April 2017

OIG

OFFICE OF THE CHIEF FINANCIAL OFFICER:

EVALUATION OF THE DISTRICT OF COLUMBIA GOVERNMENT'S MANAGEMENT AND VALUATION OF COMMERCIAL REAL PROPERTY ASSESSMENTS

Guiding Principles

Workforce Engagement * Stakeholders Engagement * Process-oriented * Innovation * Accountability * Professionalism * Objectivity and Independence * Communication * Collaboration * Diversity * Measurement * Continuous Improvement

Mission

Our mission is to independently audit, inspect, and investigate matters pertaining to the District of Columbia government in order to:

- prevent and detect corruption, mismanagement, waste, fraud, and abuse;
- promote economy, efficiency, effectiveness, and accountability;
- inform stakeholders about issues relating to District programs and operations; and
- recommend and track the implementation of corrective actions.

Vision

Our vision is to be a world class Office of the Inspector General that is customer-focused, and sets the standard for oversight excellence!

Core Values

Excellence * Integrity * Respect * Creativity * Ownership * Transparency * Empowerment * Courage * Passion * Leadership

GOVERNMENT OF THE DISTRICT OF COLUMBIA

Office of the Inspector General

Inspector General

OIG

April 10, 2017

Jeffrey DeWitt
Chief Financial Officer
Office of the Chief Financial Officer
The John A. Wilson Building
1350 Pennsylvania Avenue, N.W. Suite 203
Washington, D.C. 20004

Dear Chief Financial Officer DeWitt:

Enclosed is the Independent Auditor's report, entitled *Evaluation of the District of Columbia Government's Management and Valuation of Commercial Real Property Assessments*, that GKA, P.C. (GKA) submitted as part of the Office of the Inspector General's (OIG) contract for the Audit of the Commercial Real Property Assessment Process at the Office of Tax and Revenue (OIG No. 16-1-14AT).

Pursuant to D.C. Code § 47-821(e), the OIG contracted with GKA to conduct this evaluation. This report contains 37 recommendations directed to the Office of the Chief Financial Officer (OCFO) for its actions, which, if implemented, will help improve OCFO's appraisal practices and its human capital development and management processes.

We submitted the report to OCFO on December 28, 2016, and received its response on March 27, 2017. This response is included in its entirety in appendix A. We appreciate the cooperation and courtesies extended to our staff during this audit. If you have questions, please contact me or Toayoa D. Aldridge, Assistant Inspector General for Audits, at (202) 727-2540.

Sincerely,

Daniel W. Lucas
Inspector General

DWL/bh

Enclosure

cc: See Distribution List

DISTRIBUTION:

The Honorable Muriel Bowser, Mayor, District of Columbia, Attention: Betsy Cavendish (via email)
Mr. Rashad M. Young, City Administrator, District of Columbia (via email)
Mr. Barry Kreiswirth, General Counsel, City Administrator, District of Columbia (via email)
The Honorable Phil Mendelson, Chairman, Council of the District of Columbia (via email)
The Honorable Jack Evans, Chairperson, Committee on Finance and Revenue, Council of the District of Columbia (via email)
The Honorable Brandon T. Todd, Chairperson, Committee on Government Operations, Council of the District of Columbia (via email)
Mr. John Falcicchio, Chief of Staff, Executive Office of the Mayor (via email)
Mr. Kevin Harris, Director, Office of Communications, Executive Office of the Mayor (via email)
Mr. Matthew Brown, Director, Mayor's Office of Budget and Finance (via email)
Ms. Nyasha Smith, Secretary to the Council, Council of the District of Columbia (via email)
Mr. Timothy Barry, Executive Director, Office of Integrity and Oversight, Office of the Chief Financial Officer (via email)
The Honorable Kathleen Patterson, D.C. Auditor, Office of the D.C. Auditor, Attention: Cathy Patten, (via email)
Mr. Jed Ross, Director and Chief Risk Officer, Office of Risk Management (via email)
Mr. Gary Engel, Managing Director, FMA, GAO, (via email)

gka, p.c.
Certified Public Accountants
& Management Consultants

1015 18th Street, NW Suite 200
Washington, DC 20036
Tel: 202-857-1777
Fax: 202-857-1778
www.gkacpa.com

Evaluation of the District of Columbia Government's Management and Valuation of Commercial Real Property Assessments

Table of Contents

EXECUTIVE SUMMARY

Overview

The District of Columbia Office of Inspector General, in accordance with DC Code Section 47-821(e), contracted GKA, PC to conduct an independent evaluation of the District's management and valuation of its commercial real property assessments. The scope of the evaluation encompassed the following:

A. Evaluation of the commercial real property assessment process;
B. Evaluation of the organizational structure, workload statistics, performance measures, compensation requirements, staffing levels, training, qualifications, and staff development functions;
C. Examination of hiring practices, including whether the human resources rules and regulations to which the Office of the Chief Financial Officer (OCFO) is subject, hinder or enhance the ability of the Office of Tax and Revenue (OTR) to attract, develop, and retain a well-qualified workforce; and
D. Recommendations for improving the commercial real property assessment process and human capital management functions within OTR.

The management and evaluation of the commercial real property assessments is conducted by the Real Property Assessment Division (RPAD). RPAD is a unit within the Real Property Tax Administration (RPTA), which in turn is a unit within OTR. RPAD collects information regarding commercial real properties in the District and determines the annual tax base for each property.

In determining the tax assessment, RPAD uses Computer Assisted Mass Appraisal techniques, which rely on valuation models, to arrive at assessed values that approximate fair values for each commercial real property in the District. Assessments are regulated by the strictures embodied within District of Columbia Code, Title 47, Taxation, Licensing, Permits, Assessments, and Fees. RPAD undertakes an annual revaluation of each commercial property, which approximates 40,000 in number. It uses all three basic valuation methods (namely, the cost approach, the sales comparison approach, and the income capitalization approach), but emphasizes the income capitalization approach. Its work is supported by a powerful computer -assisted mass appraisal (CAMA) system, which is linked to the District's Integrated Tax System (ITS). RPAD also uses a geographic information system (GIS) and images of properties. It publicizes its appraisal methods in a document entitled *Appraiser Reference Materials* (ARM).

Assessments are subject to appeals filed at three levels depending on whether or not the outcome of the appeal at each level is satisfactory to the property owner: Appeals are filed first to RPTA, second to the Real Property Tax Appeals Commission (RPTAC, formerly the Board of Real Property Assessments and Appeals or BRPAA), and ultimately to the Superior Court of the District of Columbia.

Evaluation

The District's commercial real property assessment system has a number of strengths. The Code contains two provisions that are essential to a well-administered property tax based on market value: the mandatory disclosure of (1) sales prices and terms and (2) rental property income and expense (I&E) da-ta, with the second disclosures being treated confidentially.

RPAD, part of RPTA, has made considerable progress in implementing the recommendations made by Almy, Gloudemans, Jacobs and Denne (AGJD) in 2012. It continues to use all three basic valuation methods (namely, the cost approach, the sales comparison approach, and the income capitalization approach), but it emphasizes the income approach. It uses multivariate mass appraisal models in the valuation of most apartment properties. It has made improvements in its office valuation procedures and its hotel valuation procedures reflect the state-of-the art of the industry. It publicizes its appraisal methods in a document entitled ARM. It makes and publishes sales ratio studies.

RPTA and RPAD managers also continue to face challenges. One is the fact that the assessments of a large percentage of commercial properties are appealed each year. Appellants are seldom satisfied during the first level of appeals. This diverts resources from producing defensible assessments to defending assessments. In other words, the District has an appeals-driven commercial property assessment system. Another difficulty is an assessment calendar that makes it impossible to consider the most current I&E data in the annual reassessment program. The notice deadline comes before the deadline for submitting I&E statements.

One of the many strengths RPTA possesses is a Chief Financial Officer (CFO) who is deeply invested in the success and growth of the agency. Agency personnel have testified to the CFO’s efforts to swiftly allocate much needed resources for critical equipment and facility enhancements and his close engagement in the agency’s efforts to implement audit recommendations. However, a number of challenges exist. On the organization front, RPAD largely operates without a written and explicit organizational strategy, human resources strategy, and operating plans that reflect its approach to successfully achieving the OCFO’s strategic objectives and initiatives. Its training and staff development efforts lack structure and its current hiring processes and practices have resulted in significant delays in filling some key positions. The absence of a workload measurement system represents a barrier to assessing the impact of workload on employee morale and the effectiveness of assessments. Lastly, RPTA lacks formal structural mechanisms to innovate, manage quality, and adhere to best practices.

Recommendations

The evaluation uncovered several opportunities for improvement. We offer 37 recommendations that we believe, when implemented, will enhance the strategic and operational effectiveness of RPTA and better promote the quality of the District’s commercial real property assessment functions. The following recommendations are among our complete recommendations fully detailed in the report:

- Improving the accuracy of retail property values;
- Developing a plan to ensure that all properties are re-inspected with sufficient regularity so that descriptions are up-to-date;
- Crafting organizational and human resources strategies for RPTA that represents broad means for executing the OCFO’s strategic objectives and initiatives; and
- Formulating a balanced scorecard linking operational activities to the organizational strategy and achieving a tight alignment between organizational strategy, organizational structure, human resources strategy and operational plans.

INTRODUCTION

Background

As the nation's capital, Washington, D.C., has a high concentration of commercial properties, especially office buildings and hotels. In addition, it has numerous taxable possessory interests and air rights.

The District of Columbia assesses and collects commercial real property tax under the provisions of District of Columbia Official Code, Title 47, Taxation, Licensing, Permits, Assessments, and Fees (hereafter, "the Code"). Assessments are based on market values. Properties are re-valued annually based on the arms length sales of similar properties. For this purpose, the Code mandates that parties to a transfer of real property disclose to OTR the price paid and other facts about the sale. Also, owners of rental properties are required to submit information about rents and operating expenses to OTR.

A tax year runs from 1 October to 30 September. For the current tax year (2017), the assessment date is 1 January 2016. Properties are classified for purposes of taxation. The classes and their current tax rates are:

1. Residential (including apartments), which are taxed at a rate of $0.85 per $100 of assessed value;
2. Commercial, which are taxed at a rate of $1.65 per $100 of assessed value for the first $3 million of value and a rate of $1.85 per $100 on any remainder;
3. Vacant, which are taxed at a rate of $5.00 per $100 of assessed value; and
4. Blighted, which are taxed at a rate of $10 per $100 of assessed value.

Our review focused on the assessment of Class 2 property (commercial), of which there are approximately 16,300 parcels. The differential in tax rates at the $3 million breakpoint is probably small enough not to put undue pressure to reduce values to the lower-tax subclass. There are special provisions for the assessment of mixed-use properties. The Department of Consumer and Regulatory Affairs (DCRA), not RPAD, is responsible for classifying properties as vacant or blighted.

There is a three-stage assessment appeal structure. The first step is to RPAD. Taxpayers dissatisfied with the results of this appeal may appeal to RPTAC. The third level of appeal is to the Superior Court of the District of Columbia, Tax Division. First-level appeals begin in mid-April and usually are heard by June.

Most commercial property owners are represented by agents who mainly are compensated by receiving a percentage of any property tax reduction, and the annual volume of appeals at all three levels is considerable. The time and expense involved in defending assessments detract from initial assessment efforts. Efforts are made at all three levels to clear appeal backlogs, chiefly by negotiating a settlement.

To manage effectively the District’s commercial real property, the OCFO is responsible for using a strategic human resource and development plan in hiring and retaining competent professionals.

Objectives, Scope, and Methodology

The engagement was separated into two distinct tasks:

- **Task 1**: An evaluation of the commercial real property assessment process; and

- **Task 2**: An evaluation of the organizational structure, workload statistics, performance measures, compensation requirements, staffing levels, training, qualifications, and staff development functions; and an examination of hiring practices, including whether the human resources rules and regulations to which OCFO is subject hinder or enhance the ability of OTR to attract, develop, and retain a well-qualified workforce.

The objective of Task 1 is to evaluate the District's commercial assessment procedures. They were evaluated in the light of legal requirements and professional standards, notably the Uniform Standards of Professional Appraisal Practices (USPAP). The most relevant parts of USPAP are:

- The Ethics Rule;
- The Competency Rule;
- The Scope of Work Rule;
- The Jurisdictional Exception Rule; and
- Standard 6: Mass Appraisal, Development and Reporting.

USPAP Standard 6 sets out general expectations. The technical standards of the International Association of Assessing Officers (IAAO) provide more specific guidance. The relevant standards include:

- Standard on Assessment Appeal (2001);
- Standard on Digital Cadastral Maps and Parcel Identifies (2012);
- Standard on Mass Appraisal of Real Property (2012);
- Standard on Property Tax Policy (2010);
- Standard on Ratio Studies (2013); and
- Standard on Verification and Adjustment of Sales (2010).

Judgment is required in applying USPAP requirements to a particular situation. In addition, much of USPAP is written from an individual appraisal orientation rather than a mass appraisal orientation. Finally, there appears to be nothing in the District of Columbia Code or in the Municipal Regulations that requires appraisers in RPAD to adhere to USPAP. Nevertheless, we will cite USPAP when we think the standards support changes in practices that we will be recommending. Similarly, there appears to be no law or policy that requires adherence to the IAAO's voluntary technical standards.

The evaluation of commercial assessment procedures is based on interviews with RPAD staff, a study of available documentation, system demonstrations, and an analysis of assessment and sales data.

Task 1 was conducted by our sub-contractor AGJD.

The objective of task 2 was to assess the effectiveness with which the organizational structure, workload statistics, performance measures, compensation requirements, staffing levels, training, qualifications, staff development functions, and hiring practices support and enhance the District's commercial real property assessments. Task 2 was undertaken within the framework of the Statements on Standards for Consulting Engagements promulgated by the American Institute of Certified Public Accountants and was conducted by GKA. To achieve the objectives of Task 2, we conducted interviews, collected and analyzed data, inspected documentation, and physically observed the assessment process. Engagement activities under this task were conducted in three (3) phases:

- Engagement initiation and planning;
- Engagement conduct and control; and
- Review and reporting.

EVALUATION OF THE COMMERCIAL REAL PROPERTY ASSESSMENT PROCESS

Property Attribute Data Collection and Maintenance

Accurate descriptions of land parcels and of buildings, premises, and other structures are essential to accurate valuation and assessment. Data are needed on use, location, size, and all the other factors that are important. After a property is initially described, the descriptions need to be kept current.

Cadastral maps provide a graphic representation of the shape, size, and position of each land parcel. They provide a means for ensuring that all parcels are known, accurately described, and accounted for. They also are useful in visualizing patterns and in planning work. The District has long had a high quality cadastral mapping system. The maps are now digital and part of the GIS. Map maintenance involves the Office of the Surveyor (OS) in DCRA, the Office of the Chief Technology Officer, and the Maps & Titles unit of RPAD, which maintains the assessment and tax lot layer of the GIS. OS is responsible for approving plats and the like and for mapping them. RPAD maintains assessment and tax lots, which correspond to surveyed lots, except when an owner has requested a split or combination.

An important component of the mapping system is the system of parcel identifiers. These are handy representations of often lengthy legal descriptions and less precise street addresses. They make it easier to link land records and related documents. In the District of Columbia, a parcel identifier is known as the Square-Suffix -Lot (SSL) . Each segment of the identifier has four characters. A square generally is a city block, and all properties have a square and lot identifier. Importantly, each SSL represents a single parcel configuration. That is, if the configuration of a parcel changes (through a combination or a split), that parcel's identifier is retired, and new identifiers are assigned.

Information on the location and land parcel characteristics that is maintained includes the SSL, address, area (in square feet), use (coded), zoning, appraiser defined neighborhood, and other delineated areas. In principle, these characteristics are sufficient for the valuation of urban land. In practice, there are opportunities for improvement. Currently, a single set of neighborhoods is used for all types of commercial properties. Often apartment, retail, office, and industrial submarkets do not coincide, and it would be desirable to analyze value patterns and delineate separate sets of market areas (neighborhoods). In addition, some current neighborhoods have too few properties for reliable statistical analysis. Additional characteristics should be considered, such as proximity to Metro Stations and traffic counts.

1. **We recommend that RPAD evaluate whether the current nine market areas are appropriate in the valuation of the types of commercial properties, as discussed later. A general issue is whether the areas are large enough to produce reliable samples of sales and I&E reports.**

The volume of appeals has prevented RPAD from carrying out regular field canvasses as standards recommend. However, properties that have been sold or appealed are inspected. The volume of appeals is such that most properties are inspected either in the field or via Pictometry's oblique aerial photographs.

The lack of regular field canvasses is potentially a more serious issue in the case of buildings because a variety of physical changes that can affect values are possible. As mentioned above, appraisers do inspect properties when they are sold and when they are under appeal. In addition, RPAD receives information about building permits from DCRA (the two agencies’ systems are not fully integrated). Appraisers also can obtain copies of building plans from DCRA. The Code (§ 47-820) gives appraisers the necessary authority to make on-site inspections. When a property is inspected, details necessary for determining the cost of the construction are recorded together with other important characteristics, such as use and effective area.

2. **We recommend that RPAD management develop a plan for periodically inspecting properties so there is reasonable assurance that property characteristics data are up-to-date.**

RPAD has established reasonable procedures for logging permits, extracting pertinent information from DCRA reports, identifying situations in which an inspection is required, and making inspections. Nonetheless, supplemental assessment provisions of the Code (§ 47-829) complicate inspection requirements. These provisions pertain to exempting new construction until it is 65 percent complete and to making semiannual supplementary assessments of increments in assessable new construction. Thus, it is necessary for RPAD staff to verify the property to which the permit belongs. Each property is assigned to a specific appraiser based on its use and location. The District’s use coding system consists of three-character numerical codes accompanied by their associated descriptions. Part of the description is the associated tax class, which is a good feature. When a property's use is changed, it may be assigned to a different appraiser. The permit-tracking module of the CAMA system does not contain full details of the status of new construction, necessitating a conference between the two appraisers. This can be difficult to arrange due to appeals schedules and other complications. Fortunately, the regulations contain guidelines for determining when a structure is 65 percent complete.

Sales Data Acquisition and Processing

Sales prices generally are disclosed to OTR. Deeds and other transfer documents are recorded with the Recorder of Deeds (ROD), a division of the OCFO. Throughout the year, ROD regularly transmits deed and sales information to RPAD.

Initially the Maps & Titles/Roll Unit receives the information. Ownership changes are recorded in ITS, and a sales record is created in the CAMA system. (When a new parcel is created or when an existing parcel is divided or combined with another, Maps & Titles updates the cadastral layer of the GIS, and appraisers are notified about the change.) The Standards and Services unit coordinates the processing of sales records. Sales questionnaires are used. Procedures are adequately documented.

Approximately weekly, when work schedules allow, appraisal unit supervisors assign batches of recent sales to appraisers for field review to ensure that the properties are correctly described and to confirm the details of the sales. Appraisers are expected to find two sources of confirmation (including industry reports such as Costar). Appraisers also must assign an “acceptance code." In keeping with recommended practice, a sale is deemed usable (that is, an open- market, arm's-length sale) unless there is a specific reason for deeming it unusable. Of course, a sale that is usable in appraisal may not be usable in a ratio study (when the physical characteristics of the property when sold differed from the characteristics when assessed). The District's screening procedure focuses on usability in appraisal rather than for both purposes (many assessment districts focus only on usability in ratio studies, ignoring sales potentially usable in valuation). Notably, the CAMA system allows for two usability codes.

RPAD has established 19 acceptance codes. There are nine codes that apply to single-property sales and a corresponding nine codes that apply to multi- parcel sales. (The treatment of multi-parcel sales as potentially usable is an improvement since AGJD's 2012 review of commercial assessment procedures.) Finally, there is a code for tax sales. For single- property sales, the default code is 01(a usable, market sale) . Strictly speaking, code 01 applies only to improved property sales, as code 09 applies to usable land sales. (The corresponding codes for multi-parcel sales are M1 and M9.) The remaining codes usually indicate that the sale has been deemed unusable.

3. **We recommend that RPAD reconfigure the CAMA system to begin recording sale qualifications with respect to sales-ratio study purposes as well as validations with respect to modeling purposes.**

In addition to implementing a system of dual acceptance codes (for appraisal and for ratio studies), two additional matters pertaining to acceptance codes merit consideration. The most important is code 07 (speculative). The motives of a buyer are difficult to discern uniformly, and a low price is not necessarily evidence of undue speculation. Almost all purchases involve some degree of speculation about the wisdom of the purchase. Code 04 (unusual) is a broad category; many assessment districts would have separate codes for each category.

4. **We recommend that RPAD not use code 07 unless there is convincing documentation that the sale was “speculative.”**

I&E Data and Processing

Appropriately, most commercial properties are valued by the income approach, which depends on I&E data, the primary source of which is I&E surveys completed by taxpayers or their agents. RPAD has reduced the number of I&E forms from five to three: one for apartments, one for hotels, and one for all other commercial property. To avoid a 10 percent penalty assessment, I&E forms must be returned by April15 of the year preceding the tax year (TY). That is, by April 15, 2017 based on operating data for calendar year 2016 data for use for TY 2018. The forms are mailed in late February or early March and, for TY 2016, were returned by approximately 50% of property owners. Later in the year, RPAD sends out a second notice to non-respondents to remind them to file or be subject to the penalty. This increases the response rate to approximately 70%. RPAD scans the returned forms and batches and sends them to a vendor for keying. The vendor saves the keyed data to Excel spreadsheets and sends them back to RPAD.

Although RPAD recently shortened the forms from five to three pages, it also added a separate "new lease abstract" form that requests information on new or renewed leases. Data on lease abstracts are keyed to a separate file and used in the determination of income rates. Additional revisions to the forms that could not be implemented for TY 2017 may be made for TY 2018.

RPAD has moved to streamline the I&E process by providing for electronic submissions. Taxpayers can now download forms, including lease abstracts, from the City's website or complete and submit them on-line. Last year about 15% of returns were submitted electronically.

While RPAD has taken strong steps to improve I&E forms and processing, additional improvements can be made.

5. **We recommend that submitted I&E forms be reviewed by RPAD before they are sent for keying.**

   Forms that are returned blank or largely incomplete should be returned to taxpayers for completion. Additionally, RPAD staff should screen completed forms and mark them as usable, questionable, or unusable. There is no point in keying unusable responses, although they could still be scanned for documentation purposes. Just as sales are screened prior to valuation analysis, income data should be screened, particularly given the fact the RPAD relies principally on the income approach for valuing commercial properties.

We note that RPAD's organization chart includes a vacant I&E auditor position intended to fill the present void.

6. **We recommend strongly that the I&E auditor position be filled by a competent, conscientious person with knowledge of I&E data.**

Understandably, some glitches occurred as the new CAMA software was updated, the most serious of which related to processing returns for economic units involving multiple parcels. Although electronic submissions enable taxpayers to input multiple parcel numbers, the system sometimes recorded only the lead parcel number, resulting in second mailers for associated parcels. One function the I&E auditor should perform is to ensure that all parcels in a submission have been accounted for. I&E software should be reviewed to make processing as accurate and efficient as possible. This is especially important with respect to on-line submissions, which stand to speed processing and save keying costs. One possibility being considered is to automatically populate certain fields for the preparer based on prior responses (e.g., retrieving certain descriptive data from the CAMA system if a valid account number is entered and automatically totaling I&E lines). At some point, once bugs have been worked out, and filers gain experience with and become more aware of its benefits, RPAD should consider requiring electronic filing.

7. **We recommend that I&E processing be further improved.**

Under current legislative code, TY 2018 assessments for both residential and commercial property must reflect a valuation date of January 1, 2017 (§ 47-802 (8)) and notices must be mailed by March 1, 2017 (§ 47-824 (a)). Yet I&E submissions are not due until April 15, 2017. This makes it impossible to use I&E data reflective of calendar 2016 in developing TY 2018 values. Additionally, other sources of commercial property data, such as industry surveys and trends, are not prepared until 4th quarter data can be analyzed and are not available until sometime in the first quarter of the following year. Moving the survey response deadline to earlier in the year (before April 15) is impractical because many or most businesses would not have completed their financial reports. However, moving the commercial notice date from March 1 to June 1 or later would help in that some I&E data, as well as industry publications, would be available for analysis in the preparation of income rates for the upcoming tax year. An improvement in electronic filing rates would also help.

8. **We recommend that RPAD seek to require I&E submissions before the assessment notice deadline.**

Mass Appraisal Modeling and Valuation Approach

Valuation Generally

RPAD maintains considerable documentation on the methods used to appraise property, as well as actual valuation rates and adjustments. The most impressive source is ARM, which is available on the District's website and contains a wealth of information on appraisal methods, valuation rates, sales ratios, and value changes. Other documentation includes the *Employee Handbook* and the "Pertinent Data Book," which contains tables, graphs, and maps of rental rates, vacancy rates, lease terms, tenant improvements, lease concessions, expense ratios, and capitalization rates for commercial properties. There are two versions of the "Pertinent Data Book": one for appraisers and a less detailed one for the general public.

In keeping with professional standards and best practices, the commercial unit generally employs the three basic approaches to value: the cost approach; the sales comparison approach; and the income approach. While the cost approach is applied to virtually all properties in the District and the sales comparison approach is used to appraise land, primary emphasis is on the income approach in the appraisal of commercial properties, and great improvements have been made in its application since AGJD's 2012 report.

Although the CAMA system supports mass appraisal applications of the income approach, previously it was used only for apartments. Most other income properties were valued one by one using spreadsheet templates that required appraisers to make tedious adjustments for differences between market and actual rents, expiring leases, and pending tenant improvements. Besides being time-consuming, the approach provided fodder to tax agents seeking to challenge selectively particular adjustments, and produced inequities between economically similar properties. However, both office and retail properties have now been converted to CAMA income tables. They are now appraised largely on a mass appraisal basis in which appraisers can make adjustments for submarkets and individual property features.

As recommended in AGJD's 2012 report, RPAD has created and filled a market analyst position in the Standards and Services unit. This key position analyses I&E submissions, including new lease abstracts, and determines typical rents and vacancy, expense, and capitalization ratios for various property types and locations. This process is enhanced by merging lease abstract spreadsheets with spreadsheets of key property characteristics, such as use code and neighborhood, extracted from the CAMA system. This allows the analyst to develop rates and adjustments that correspond to CAMA's income table structure.

Another major improvement relates to capitalization rates, which were previously based on a contracted survey of local real estate professionals. Capitalization rates are now developed in- house by studying the relationship between stabilized net rents and recent sales prices. As such, they are less subjective and more strongly rooted in market data. Because tax amounts are a function of the value being determined for the pending tax year, following best practice in the mass appraisal industry, tax rates are "loaded" into capitalization rates rather than treated as an allowable expense. With generally strong demand and continued declines in interest ratios, capitalization rates have fallen in recent years resulting in higher values.

Cost and Depreciation

Turning to the cost approach, building cost rates are updated each year in accordance with the Marshall Valuation Service. As described in the ARM, depreciation is based on a combination of construction grade, year built, and type and year of any renovations. The combination of these factors determines "effective age" used in depreciation tables. Appraisers can apply additional functional or economic obsolescence, if necessary, or enter an override percentage for individual properties.

Land Valuation

Individual appraisers are generally responsible for land values for the properties they oversee. They develop land rates that are reviewed by supervisors and then entered into the CAMA system. Although the District has little vacant land, land values are used in the cost approach and are important for transition properties. Because of staff limitations and the press of other responsibilities, with the exception of vacant land, land values are not updated each year. Rather, selected corridors, neighborhoods, and submarkets are updated each year as resources permit. Tear downs are used to supplement scarce vacant land sales.

While not as important in the District as in jurisdictions that rely more heavily on the cost approach, there is room for improving land appraisal by leveraging land residuals (sales prices for improved properties less improvement values) and conducting mass appraisal oriented analysis analogous to those used to develop income rates (particularly capitalization rates which also rely on sales). In any case, a goal should be to update land values annually along with other valuation rates.

9. **We recommend that RPAD update land values more regularly and refine the valuation approach.**

   Consideration should be given to assigning responsibility for land valuation to a single appraiser/analyst in each commercial unit, or assigning the responsibility entirely to the new commercial unit (the "C" team). One procedural refinement would be to increase sample sizes through land residuals derived from recent improved sales. Part of this effort could be a general reconsideration of commercial market areas. The basic question is whether the existing nine areas serve all types of commercial properties well.

Possessory Interests and Air Rights

An increasing challenge to RPAD is the valuation of possessory interests and air rights. Possessory interests are leasehold interests in government-owned or other tax-exempt properties *(e.g.,* fast food vendors in a federal office building or a hotel built on land leased from a government body under a long-term ground lease). Currently there are at least several hundred such interests in over 150 properties with many more in the pipeline. Much of the current Wharf development will consist of possessory interests.

Appropriately, possessory interests are largely valued on a discounted cash flow basis in which the appraiser determines a projected income stream that is discounted to present value. Since the lessee typically pays virtually all expenses, only a minimal expense allowance is necessary. Many leases are long term (*e.g.,* 60 to 99 year ground leases) to stable tenants, which affords comparatively little risk. Capitalization rates, derived largely from industry publications, typically range from 5% to 8%.

Air rights are the right to use the space above a specified land area above or between specified elevations. They are typically created when the owner of a property sells development rights to the specified space to another party. Air rights may also be leased. The District currently has over 500 recorded air rights. Because of the variation in air rights properties, a single mass appraisal approach may not be practical. Appraisals start with a consideration of each air rights interest. Applications of both the comparable sales and income approaches can be appropriate, with the income approach based on capitalization of the projected income stream less costs of development.

We note that the appraisal of possessory interests and air rights are not addressed in either the ARM *or* the *Employee Handbook.*

10. **We recommend that RPAD adopt procedures for valuing possessory interests and air rights and add them to the ARM and/or *Employee Handbook.***

Valuation of Offices

RPAD has successfully implemented the recommendations in AGJD's 2012 report regarding the valuation of office buildings. Beginning in TY 2015, offices were converted to CAMA income tables. These tables provide for valuation rates and adjustments based on various parameters. Rents used for TY 2017 are a function of nine geographic areas and 10 space types, ranging from basement spaces to class A and "trophy spaces (generally the top 2% of class A properties)." The nine geographic areas correspond roughly to office submarkets defined by CoStar, a leading commercial real property research platform. Thus, there are 90 rent rates (9 x 10) for offices based on space type and geographic submarket. Of course, any given property may have multiple space types (e.g., a class B office building may contain first floor retail space and basement office space). The system values each space at its appropriate rate. Appraisers may assign additional adjustments to properties based on (1) location and (2) tenant appeal (which resides in the *"use"* field in the CAMA income system). For example, assigning a location rating of *"good"* for a location near a metro station and/or other amenities would increase market rent by10%, while assigning a "poor" tenant appeal rating for deferred maintenance would decrease market rent by 20%.

Vacancy and expense ratios also vary by building class *(*C*,* B, A*,* and Trophy) and potentially by the same nine geographic submarkets. Since the valuation of offices begins with gross rents, expense ratios provide for all allowable operating and fixed expenses. For TY 2017, vacancy rates ranged from 7% to 9%. Expense ratios, exclusive of reserves for replacement, which are treated separately, ranged from 21% for trophy buildings to 36% for class C buildings. Appraisers can apply additional adjustments for poor, fair, *good,* and excellent properties.

Like vacancy and expense ratios, capitalization rates are based on building class, although appraisers can again apply additional adjustments. Before additional adjustments, TY 2017 office capitalization rates ranged from 5.8% for trophy properties to 7.2% for class C building.

The Pertinent Data Book contains income rates and adjustments used for office properties. The ARM explains and illustrates the process of income valuation in the CAMA system.

The migration of office buildings to the mass appraisal structure provided by the CAMA system is a positive development. While the process can be improved, it does provide a straightforward path to valuing offices accurately and consistently based on current market conditions. Table updates apply even-handedly to all office properties, and similarly classed properties in the same submarket are treated equally and should see similar values changes. Perhaps equally important, the process is transparent and easily updated, permitting appraisers more time to focus on ensuring data accuracy and analysis.

11. **We recommend that RPAD further improve the valuation of office buildings by reviewing property data for accuracy and consistency and by building data analysis skills.**

    Because capitalization rates are so critical to value determination and office sales are relatively scarce, office sales should be thoroughly researched and consideration should be given to expanding sample sizes through use of prior year sales time-adjusted to the valuation date. Again, building data analysis skills will help, and continuing to check capitalization and other income rates with those reported in industry publications and services will provide additional support.

Valuation of Retail Properties

RPAD has developed income tables for retail properties in the CAMA system that are similar to those used for office buildings except that rent rates are based on net rather than gross rents. Rent rates vary by size, use, floor level, and the same nine geographic market areas used for offices. Again, appraisers can apply additional adjustments for location and tenant appeal. Vacancy and expense ratios can vary by market area, and appraisers can apply adjustments for poor, fair, good, and excellent properties. Cap rates for TY 2017 were set at 6.6% for standard retail properties, 6.8% for shopping centers and malls, and 6.8% for department stores and supermarkets, with additional adjustments provided for very poor to excellent properties.

For TY 2017, RPAD attempted to value retail properties based on the CAMA income tables. However, because retail properties were previously undervalued, there was concern that value increases would be excessive and difficult to support. In the end, retail values were based on a combination of cost and trended prior year values. Thus, retail properties remain undervalued compared to other properties in the District.

12. **We recommend that RPAD develop and vet a plan for valuing retail properties at market value consistent with other properties in the District. This could be accomplished by phasing in increases over a two or three year period.**

    The plan should include consideration of whether:

    - **The nine market areas used for offices are adequate for retail properties. Although the situation may well be different in the District, retail market areas or neighborhoods usually follow traffic corridors more than offices do. Again, while this may well not apply in the District, it would be prudent to consider whether retail areas should be defined separately from office areas.**
    - **Additional space types, easily accommodated in the CAMA system, would be helpful. One example is restaurants. Current rent tables provide a separate rate for restaurant spaces but do not distinguish between fast food and full service restaurants. Although appraisers can apply adjustments for "tenant appeal," standardizing rates creates consistency and lessens the need for individual property adjustments.**

    In any case, retail properties warrant special attention in the march to appraise all properties in the District equitably at market value. We believe that, as with office properties, the CAMA system provides an effective mechanism for generating accurate and equitable values. As noted, the CAMA system allows users to vary vacancy rates (along with rent rates) by market area, and analyses should be conducted to determine whether it would be appropriate to do so. Varying vacancy rates by market area could improve valuation equity while relieving appraisers of the need to apply as many

individual property adjustments. Although Version 7 of CAMA has the ability to apply per square foot (rather than percentage) adjustments for expenses, we see no merit in doing so since per square foot adjustments require more frequent updating than percentage adjustments.

Valuation of Industrial Properties

Unlike other properties in the District, industrial properties are a dying breed in that many are being converted to other uses. Industrial properties are individually appraised largely based on an examination of I&E responses and available sales (cost values are also computed and considered). Values are usually entered into the CAMA system as appraiser "override" values.

While we have no problem with the methodology used for industrial properties, bringing them into the mass appraisal fold would help ensure objectivity and consistency.

13. **We recommend that RPAD develop additional mass appraisal tools for valuing industrial properties.**

    While we have no issue with the appraisal approaches used for industrial properties, we recommend that, like most other properties in the District, they be appraised largely on a mass appraisal basis. Income rates could be developed and entered in CAMA, and sales-based models could be developed. As with other commercial properties, considering prior year sales (appropriately adjusted to the valuation date) could help improve sample sizes. Values should be based on whichever valuation approach works best, or the appraiser could enter an override value. Procedures related to the valuation of industrial properties should be included in the Employee Handbook and/or ARM.

Valuation of Hotels

The District has a vibrant hotel market, with many new hotels either planned or in construction. Hotels are a distinctive class of property, which the appraisal industry treats separately from other properties. RPAD values its over 100 hotel properties individually using a direct capitalization approach tied closely to information obtained on I&E statements. The number of rooms is multiplied by average daily rate and occupancy ratio to obtain gross income from accommodations, to which is added income from food and beverages and other sources to obtain gross revenues. Departmental, unallocated, and fixed expenses are subtracted from gross revenues to obtain gross profit. Percentage reductions are applied for reserves for replacements, management and franchise fees, and return of furniture, fixtures, and equipment to yield Net Operating Income (NOI) to real and personal property. Finally, an estimate is made of net income attributable to personal property, which is subtracted from total NOI to yield NOI attributable to real property. Applying an appropriate capitalization rate (loaded for real estate taxes) results in estimated real property value.

While necessarily detailed, this process (often termed the Rushmore method) is well accepted and typical of that used in other jurisdictions. A crucial step in the process is determination of the capitalization rate. To this end, RPAD analyzes hotel sales in the District (there were 11 usable sales in 2015) and reviews capitalization rates reported in industry sources, including PWC -Korpacz, CBRE Group, Inc. and Real Estate Research Corporation. Capitalization rates used for TY 2017 ranged from 6.8% for ultra-luxury hotels (there were seven in the District) to 7.75% for limited service and economy hotels/motels. They seem well supported by available sales and industry benchmarks.

We conclude that RPAD's valuation procedures follow industry accepted practice and comport well with information obtained from I&E statements.

Valuation of Apartments

At the time of AGJD's 2012 report, apartment properties were already being successfully valued based on income tables. Appraisers can enter 40 different rental rates based on number of bedrooms, baths, and unit size. Rents can further vary by each of the nine market areas used for commercial properties. Table 1 shows 2017 rents developed for one-bedroom apartments in five of the nine market areas. Additional rates apply to efficiency (bachelor), 2-bedroom, 3-bedroom, 4-bedroom, and 5-bedroom units, as well as to the other four market areas. As with other property types, appraisers may apply additional adjustments for relative location and tenant appeal.

Table 1: Illustration of Apartment Valuation Parameters

		Area				
		Capitol Hill	**Central Business District**	**Georgetown**	**Northeast**	**Southwest**
Vacancy Ratio (Percent)		5	8	4	7	8
Expense Ratio (Percent)		40	39	37	54	60
Monthly rent (Dollars)						
Code	**Description**					
1101	1BR, 1BA	1,530	2,345	2,100	1,100	870
1102	1BR, 1BA, SM	1,380	2,110	1,890	980	780
1103	1BR, 1BA, LG	1,680	2,580	2,310	1,210	960
1111	1BR+DEN, 1BA	1,825	2,690	2,125	1,270	1,200

Note: 'Code' is unit type code, a described. 'BR' is number of bedrooms; 'BA' is number of bathrooms.

As Table 1 shows, vacancy and expense ratios both vary by market area. Expense rates include all expenses except property taxes and include reserves for replacements. As with other commercial properties, appraisers may assign additional adjustments for relatively poor, fair, good, or excellent properties.

Capitalization rates vary between low-rise and high-rise apartments within each of three geographic areas: Southeast, Northeast, and "other" (Central Business District, Georgetown, and Uptown West). For TY 2017, cap rates ranged from 4.9% for high-rise buildings in the "other" area to 6.7% for low-rise buildings in the Southeast. Again, additional modifiers may be applied based on relative desirability.

Subsidized or "non- market" apartments can be valued in the CAMA income tables by overriding gross rent based on what is reported on I&E submissions. The tables provide separate rent, vacancy, and expense adjustments for non- market apartments. Alternatively (as is current practice), appraisers can value non-market apartments outside the CAMA system and enter override values.

The apartment valuation methodology serves the District well. While we have no recommendations for specific changes, there are a few areas in which further improvements might be possible.

14. **We recommend that RPAD evaluate whether improvements in rent table structures, market areas, and the treatment of reserves for replacement are feasible.**

    We wonder whether the 40 distinctions in rent rate tables are productive; that is, whether the required data is fully known and consistently applied. By way of contrast, we note that the apartment I&E mailer only provides for six unit types (efficiency, 1-bedroom, 2-bedroom, 2-bedroom + den, 3-bedroom, and 3-bedroom +den) plus an "Other (list)" category. Although we do not recommend that income rent tables be similarly collapsed,

we think it would be helpful to discuss the issue and either affirm the present categories or simplify them going forward.

As with other categories of commercial property, consideration should also be given to whether the nine market areas originally based on CoStar office submarkets are still relevant to apartments or whether the residential neighborhoods assigned to apartment market areas should now be refined (we do not suggest that this is necessarily the case— only that it be reviewed and considered).

During the course of our interviews and documentation review, we encountered different descriptions of how reserves for replacement are handled. While the CAMA income system provides a means of accounting for them separately, they can also be built into standard expense ratios in the income tables. Decisions should be made on how reserves for replacement will be handled for each property type: apartments, office buildings, and retail properties. Documentation should reflect, and appraisers be aware of and consistently follow, that policy.

15. **We recommend that RPAD strive to keep documentation of appraisal procedures and practices current and consistent across property types when appropriate.**

    Updating appraisal documentation is always a challenge as valuation processes are improved. Although both the ARM and Employee Handbook provide relevant, well-written explanations and instructions, we do recommend that a conscious effort be made to keep them current and consistent. While the current Employee Handbook reflects the incorporation of office buildings into the Vision income tables for TY 2017, the ARM are written specifically for apartments and do not appear to have been similarly updated.

RPTA Ratio Studies

Ratio studies, the pre-eminent measure of valuation accuracy in assessment performance, are conducted and published annually by the RPTA. Since AGJD's 2012 review, they have been published in a freestanding report, and a version of each of them is also included as part of the annual ARM, both of which are freely available from the official Internet site. An important improvement in the separately published ratio studies is that they now include not only single-parcel sales, as previously, but also sales involving multiple parcels. Multi- parcel sales occur frequently for large commercial transactions, making their omission a potential source of distortion for ratio studies. When they have occurred, an informative ratio can be calculated by dividing the sum of the constituent parcels' assessments by the transaction price for the economic unit. This improvement in ratio study design, following a recommendation in the prior evaluation, improves the utility of the ratio study by removing a source of potential distortion resulting from excluding some high-value properties from the study. The process of including the multiple-parcel sales is somewhat time-consuming, which explains their omission from the ARM version of the studies—a minor weakness. Tying parcels that comprise a single economic unit together into economic unit identifiers would further improve the identification and use of multiple parcel sales.

The studies include generally appropriate explanatory material, and compare the performance achieved by the office to internationally recognized standards promulgated by the IAAO. Further, RPTA makes available (at a reasonable cost) a so-called "Pre-Compact Disk – Read- Only Optical Memory (CD-ROM)" disk containing all the data necessary for interested persons to conduct their own studies of assessment performance.

However, some opportunity for further improvement exists in the current ratio studies. The ratios being reported summarize the results of dividing assessments by sale prices that were mostly known to appraisers at the time the assessments were finalized (that is, before the 2015 notice deadline for the 2016 study). The ratios, thus, are open to what is colloquially known as "sales chasing"—treating recently sold properties differently than properties that were not sold recently, thereby presenting a distorted picture of the assessment performance on the totality of properties, sold and unsold. Nothing extraordinary in the mechanisms employed in the appraisals of such properties as described above was noted during the evaluation that would highlight the need to be wary of this possibility, nor did any persuasive evidence of it arise in tests for it using small samples of post-assessment sales. Nevertheless, given the lag with which reports are generated on prior assessments, it would seem advisable to test formally for the possibility with adequately sized post-assessment sales.

16. **We recommend that RPAD begin reporting ratio study statistics with respect to assessed values on the roll at the time of sale rather than, or in addition to, assessed values anticipated to be enrolled later, as are currently reported.**

As is normal, the number of commercial sales is smaller than the number of residential sales. Thus, a problem arises in RPAD's applying a stratification system appropriate for residential property to commercial property. The available commercial property sales sample sizes in each residential neighborhood are rarely adequate to permit conclusions about whether an acceptable job is being done. This could be resolved in several ways. Two obvious ones are to stratify on the basis of types of commercial properties rather than small residential geographic areas; and to aggregate neighborhoods into a smaller number of neighborhood groups or economic areas that reflect the realities of commercial real estate markets, with the goal of preserving substantial economic homogeneity within each group. Although residential neighborhoods are grouped for appraisal purposes, such areas are not used for ratio-study purposes, nor are ratio study results reported by property types. Both would display data more usefully, would conform better to standards, and would be reasonably easy to implement.

17. **We recommend that RPAD transition to computing and reporting ratio statistics by property type and market area.**

Another problem is that ratio study results are reported without revealing that the validated sales have been trimmed of so-called "outliers" and "extremes," leaving the reader to conclude that the report represents the results obtained from all sales judged to have been valid indicators of market value (i.e., to have been unaffected by the inclusion of family transfers, foreclosure, excessive personal property, etc.). In fact, the reported results would have been substantially worse if all sales that assessors affirmatively indicated to be valid indicators of market value were included in the calculations. Trimming extremely high and low ratios is permitted, but not required by the IAAO standard, which has the following to say on the subject:

> The preferred method of handling an outlier ratio is to subject it to additional scrutiny to determine whether the sale is a non- market transaction or contains an error in fact. If an error can be corrected (for example, data entry), the property should be left in the sample. If the error cannot be corrected or inclusion of the identified outlier would reduce sample representativeness, the sale should be excluded... However, trimming of outliers using arbitrary limits, for example, eliminating all ratios less than 50 percent or greater than 150 percent, tends to distort results and should not be employed... If a trimming method has been used to reject ratios from the sample, this fact must be stated in the resulting statistical analysis... It is also appropriate to set maximum trimming limits. For small samples, no more than 10 percent (20 percent in the most extreme cases) of the ratios should be removed. For larger samples, this threshold can be lowered to 5 to 10 percent depending on the distribution of the ratios and the degree to which sales have been screened or validated. Trim limits should be developed in consideration of the extent of sales verification... Ratio study reports or accompanying documentation should clearly state the basis for excluding outlier ratios. Statistics calculated from trimmed distributions, obviously, cannot be compared to those from untrimmed distributions or interpreted in the same way.[1]

For calendar year 2014 sales, which are destined for use in the 2016 ratio study, validated single-parcel commercial sales numbered 319, which were subsequently trimmed to 300, for a loss of about 6 percent. This is a substantial improvement over the trimmed fraction noted in the 2012 review, which was about 15

[1] Standard on Ratio Studies, IAAO, 2013, pages 53-54.

percent. Still, the procedure employed is specifically criticized in the IAAO standard. The trimming was done by excluding sales with ratios more than 60 percent lower or higher than the target ratio, just as IAAO in the quote above says should not be done, although in that example the percentage used was 50 percent, not 60 percent.

18. **We recommend that RPAD begin to adopt a standard-accepted trimming rule rather than the arbitrary ratio boundaries of 0.40 to 1.60 presently employed.**

An interesting issue in sales ratio analysis is the treatment of properties for which data were changed after sale. Appraisers routinely inspect sold properties and make appropriate corrections for data errors. They also routinely inspect building permits and make updates to reflect changes in use, renovations, additions, and the like. As long as data are correct as of the time of sale, a sale that meets the requirements of a valid, arm's-length transfer can and should be used in modeling. However, should these sales be included in published ratio studies intended to portray how accurately all properties (both sold and unsold) are appraised? Assume that a property sold in July 2015 and, on inspection, the appraiser changed tenant appeal to a more accurate rating that would produce appraisals more in line with price paid. While the correction is welcome for appraisal analysis and valuation, should the sale be used in official ratio studies? Or do such data corrections potentially distort those studies because changes made as a result of sales research are, by definition, limited only to sold (not unsold) properties? This is not an easily answered question.

The CAMA database used by the District includes provision for two sale validation codes. In other jurisdictions the two codes are used to record separate validation determinations of sales qualified to be used for modeling and for ratio-study purposes. In the cases of the above July 2015 sale, the sale could be coded as usable for appraisal analysis but unusable for ratio analysis because data were changed after sale. Although the District does not presently use the second validation code, its presence would make implementing a second set of acceptance codes easy. Alternatively, properties for which data were changed after sale could be automatically excluded from official ratio statistics, assuming that the CAMA system is able to successfully date stamp data changes.

While current ratio studies report standard metrics, most notably the median and coefficient of dispersion (COD), the utility of the reports could be enhanced by including additional analytics, particularly confidence limits and the coefficient of price-related bias (PRB), which is superior to the presently reported price-related differential (PRD). Selected graphs could be useful in illustrating the distribution of ratios and the consistency of appraisal levels among property types and value ranges. It would also be helpful to include indications of whether relevant performance thresholds have or have not been met for such key statistics as the median, COD, and PRB.

19. **We recommend that RPAD take steps to compute and, when appropriate, publish confidence intervals for important statistics. This would enable readers to judge whether an apparent success or failure is more likely to reflect a fluke of small samples than a real problem.**

20. **We recommend that RPAD begin to compute and, when appropriate, publish PRBs.**

The PRB is recognized to be a superior test of vertical inequities than the traditional PRD. Especially when sample sizes are small, the PRD is known to indicate falsely regressive assessments.

21. **We recommend that RPAD begin to produce statistical graphics to facilitate quick comprehension of patterns not immediately observable from numeric tables.**

Communications

As is typical, RPAD communicates regularly with several audiences. It does so through, and on behalf of, the OTR, a division of the OCFO. It uses the usual channels: face-to-face communications with taxpayers and other stakeholders, the website, published materials, etc.

The Code (§ 47-820, § 47-823, and § 47-824) sets out requirements related to the publication and inspection of rolls and assessment notices. Notably, it requires the publication of ratio studies. We are aware of no deficiencies related to legal requirements.

Professional standards for evaluating communication efforts are general in nature. USPAP, in Standard 6, Mass Appraisal, states that "an appraiser must be aware of, understand, and correctly employ those recognized methods and techniques necessary to produce and *communicate credible* (emphasis supplied) mass appraisals." Accordingly, our focus is on communications related to valuation methods and values and not on property tax relief measures and the like. The IAAO *Standard on Public Relations* contains some relevant recommendations, which we have taken into consideration. In general, however, we relied mostly on a comparison between the information available on the OTR 's website (http://otr.cfo.dc.gov/service/real-property-taxpayers) and the information available on the websites of other major urban assessment districts, as this comparison provides a more concrete basis for evaluation.

In general, the OTR website compares favorably. As expected, it provides well-written descriptions of the basics of assessment. It has a video that explains basic assessment and taxation matters. It provides access to assessment data for specific properties and access to sales information. Searches can be made by SSL and by address. Properties can be mapped. OTR has begun to enable online transactions, such as paying taxes, filing required I&E statements, and filing first-level appeals.

For the purposes of this review, the most relevant feature of the website is the link to "assessment materials and reports." There one can find by year a document entitled ARM and a report of a sales ratio study made by RPAD. Few assessment districts publish sales ratio study reports and few provide as much detail as RPAD's reports.

The audience for the ARM report nominally is the appraisal staff of RPAD. However, it is written at a level that would be accessible to interested members of the public with some background in real estate appraisal and the relevant mathematics and an interest in the District’s appraisal procedures. Some significant additions were made to the 2017 edition, namely a letter from the chief appraiser containing highlights of RPAD developments and also a description of residential valuation procedures based on models developed from an analysis of sales. The report continued to provide a walkthrough of the CAMA system's market-adjusted cost approach for residential and commercial property. ARM also contains a basic introduction to the CAMA system's income approach application. There is no discussion of recent improvements in income approach appraisal procedures, however. ARM also contains the previously mentioned sales ratio study report and other statistics of interest, such as changes in total assessments by neighborhood for the year.

In summary, however, the ARM only represents the kernel of the mass appraisal report envisaged in USPAP. What is missing from the ARM is a report that blends procedural narratives with statistical data on valuation parameters (such as rents, expense ratios, and capitalization rates) and provides public evidence of the credibility of assessments.

22. **We recommend that RPTA produce a USPAP-compliant mass appraisal report based on the ARM.**

    The report would blend procedural narratives with statistical data on valuation parameters such as rents, expense ratios, and capitalization rates. The aim is to make public more evidence of the credibility of assessments. The recent additions related to residential and residential land valuation provide a template for changes that would be desirable in the discussion of commercial valuation procedures.

Appeals Defense

The prior RPTA evaluation touched on the defense of commercial property appeals at the second level, i.e., following the internal review with RPAD and preceding any potential recourse to the judicial system.

At that time the responsible appeal body was in transition from BRPAA to RPTAC, and the matter was of some notoriety. That notoriety has substantially abated in the interim. The large percentage reductions in assessed property value for a few high-value properties noted in the past are now largely gone. Also, with the exception of TY 2015, discussed further below, both the percentage of properties requiring reductions and the average percentage reductions in value for those that are given reductions have fallen substantially, as shown in Table 2.

Table 2: Patterns of Appeals for Commercial Properties and Their Results at Level 2 (Board of Re-view or Tax Appeals Commission), by Tax Year, 2008-2016

Tax Year	Number of Level 2 Appeals	Overall Average Percentage Reduction	Number of Appeals that Obtained a Reduction	Average Percentage Reduction if Reduced	Percentage of Appeals Obtaining a Reduction
2008	2,311	9.25	1,019	21.18	44
2009	3,064	11.32	2,129	19.64	69
2010	4,441	5.54	1,921	13.06	43
2011	2,633	6.64	1,528	14.92	58
2012	2,366	7.45	1,146	16.57	48
2013	2,431	4.48	833	15.70	34
2014	2,393	3.57	779	11.49	33
2015	3,606	5.75	1,829	12.01	51
2016	3,302	2.34	709	10.92	21

Source: Statistics calculated based on data extracted from tables Appeals and BRPAA in RPTA's appeals tracking database. Appeals that resulted in increases or in reductions to zero have been excluded in calculating the above statistics.

In Figures 1 through 5, it should be noted that the plotted points represent the pre-appeal assessed value on the horizontal axis and the post-appeal value on the vertical axis. Thus, parcels that lie on the diagonal line were unchanged on appeal, and those that plot below the line obtained a reduction on appeal in the amount of their vertical distances from the diagonal. Note that the logarithmic axes that make it possible to fit the huge range of data into a manageable plot also make precise measurement of such reductions on the graph a little difficult. The parcels plotted atop the horizontal axis are those that were exempted upon appeal, and those above the diagonal are properties whose assessments were raised upon appeal. In comparison with the equivalent plots from the 2012 review, these figures reveal a diminished tendency for the District's highest valued properties to have great reductions from their original assessments.

The anomalous results for TY 2015 observable in Table 2 and Table 3 are dominated by appeals of multi-family residential properties, 80% of which are coded as investor type vertical condominiums (buildings that were converted to condominiums but the units did not sell and are therefore being rented rather than owner-occupied).

Figure 1: Scatter Plot of Values after Appeal to Initially Proposed Value: Tax Year 2012

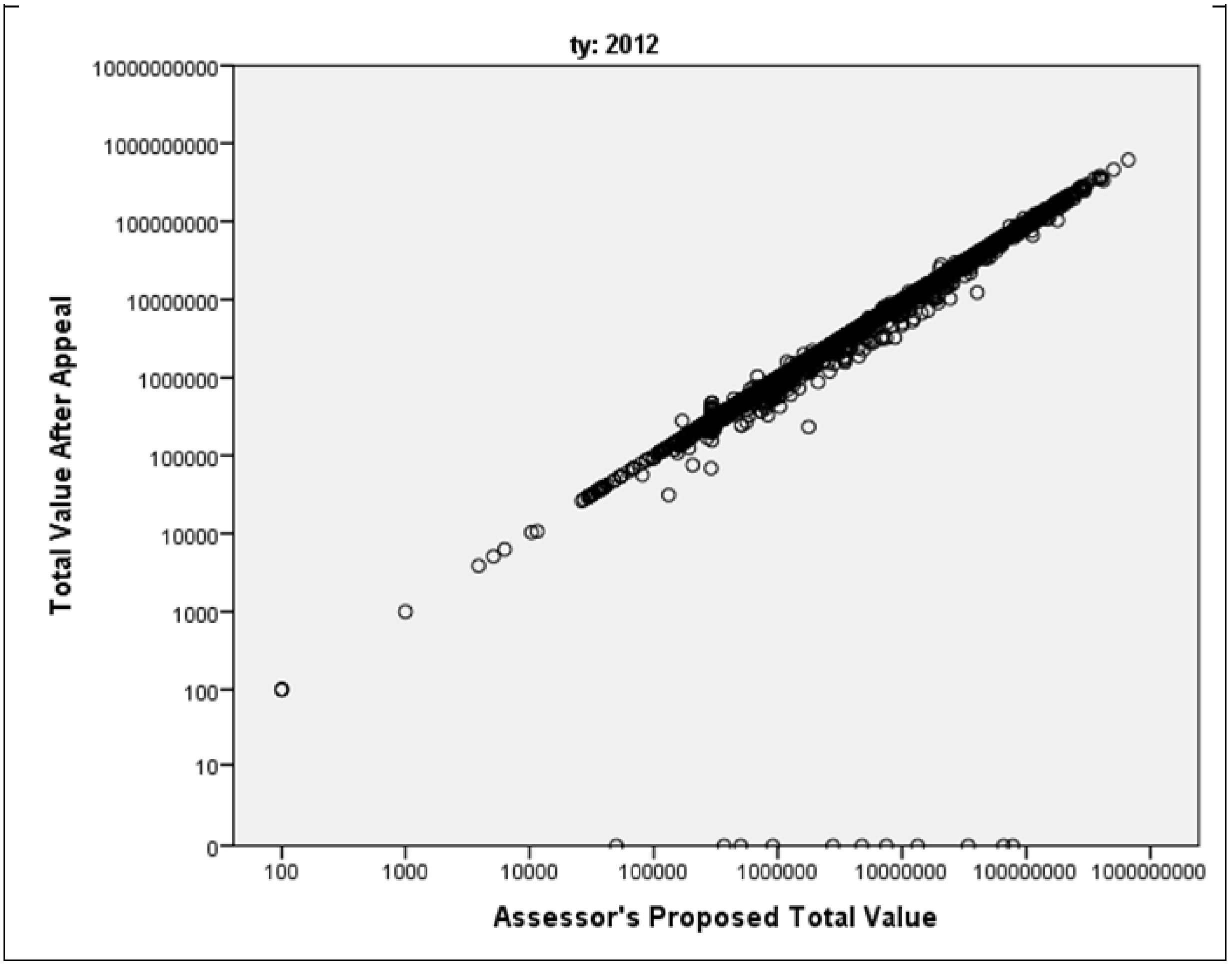


Figure 2: Scatter Plot of Values after Appeal to Initially Proposed Value: Tax Year 2013

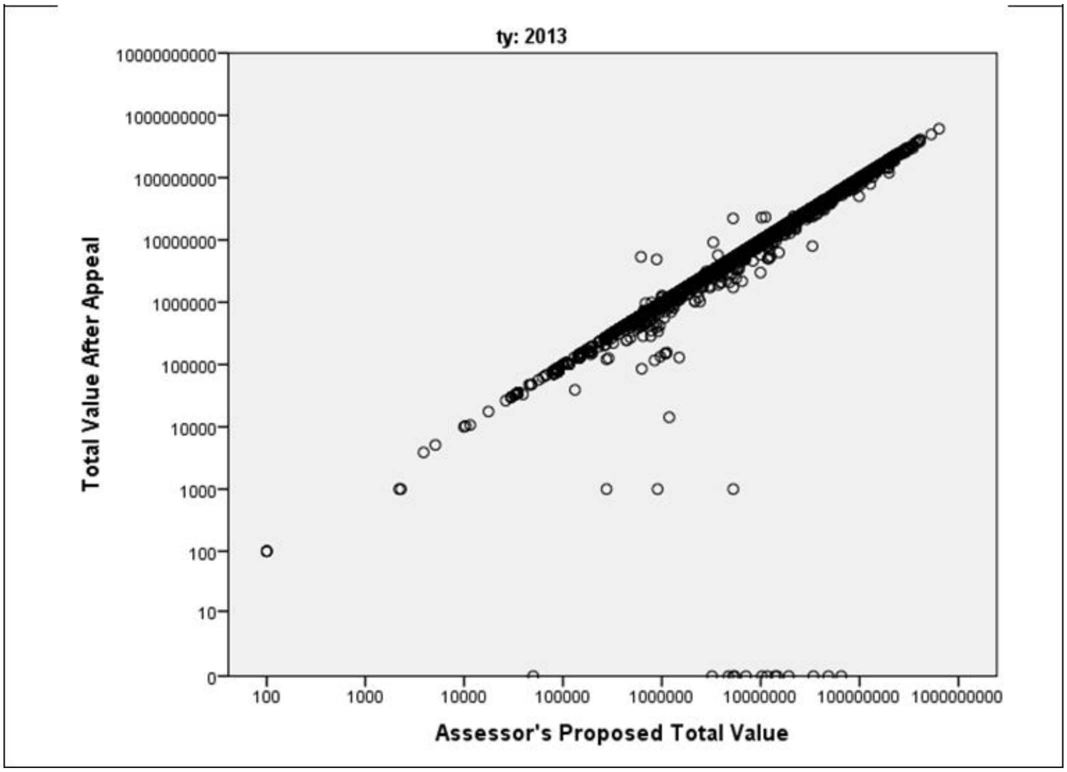


Figure 3: Scatter Plot of Values after Appeal to Initially Proposed Value: Tax Year 2014

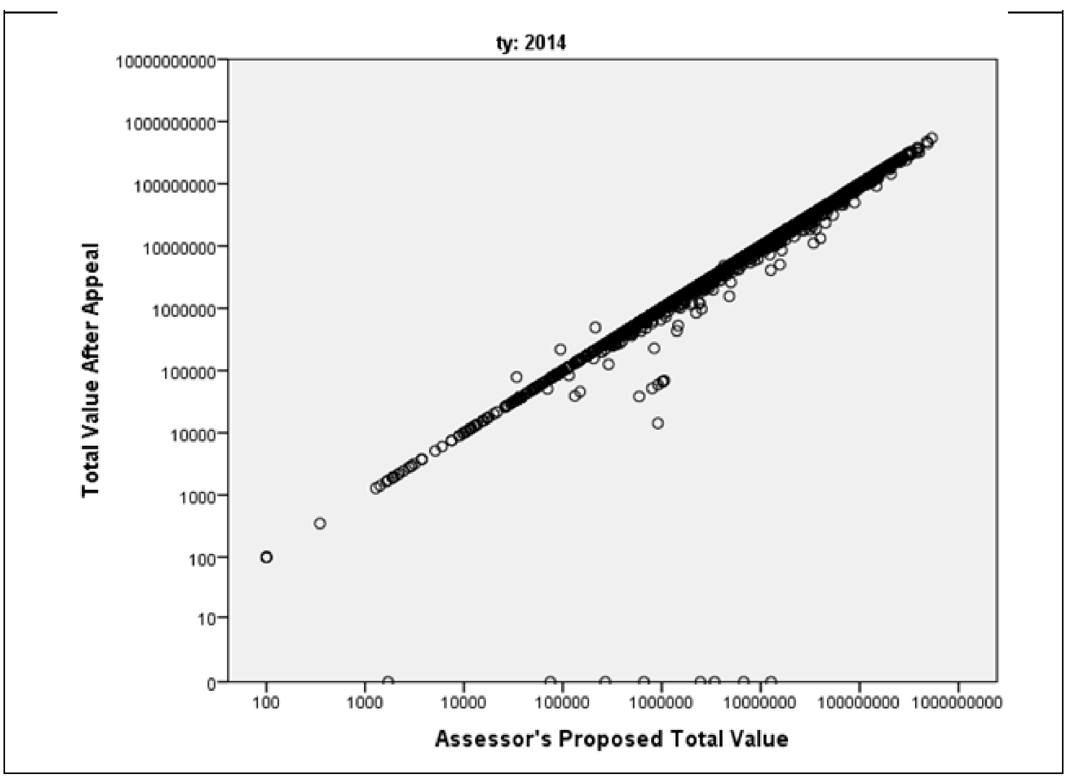


Figure 4: Scatter Plot of Values after Appeal to Initially Proposed Value: Tax Year 2015

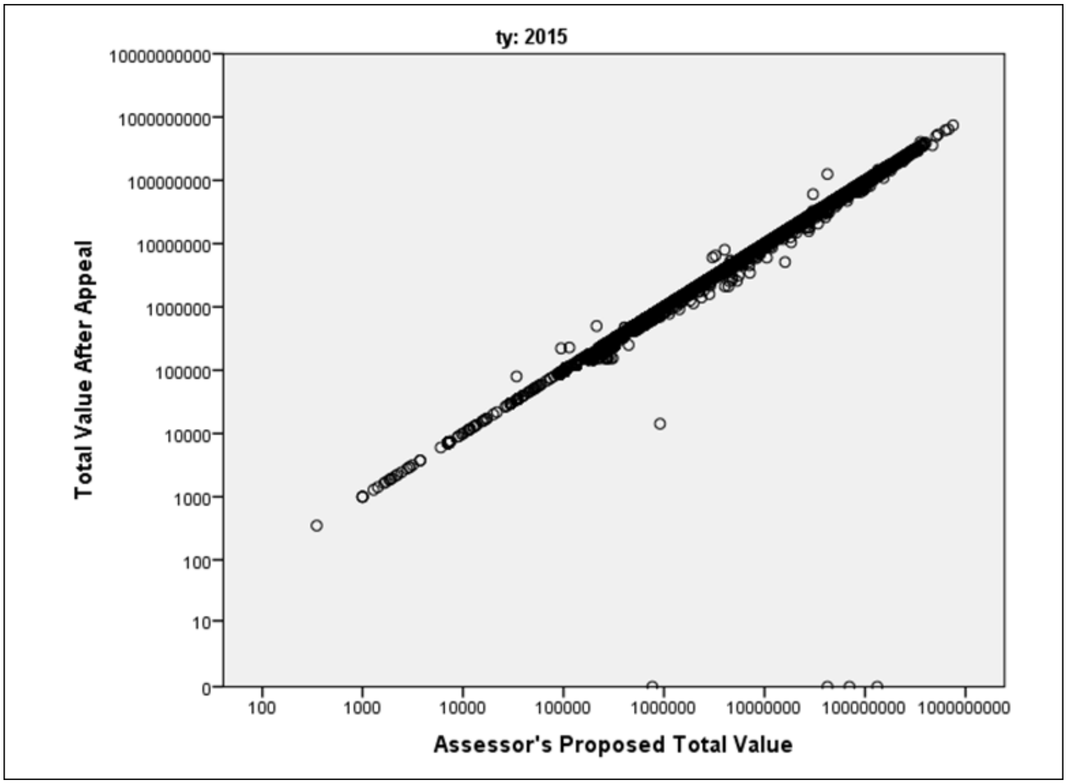


Figure 5: Scatter Plot of Values after Appeal to Initially Proposed Value: Tax Year 2016

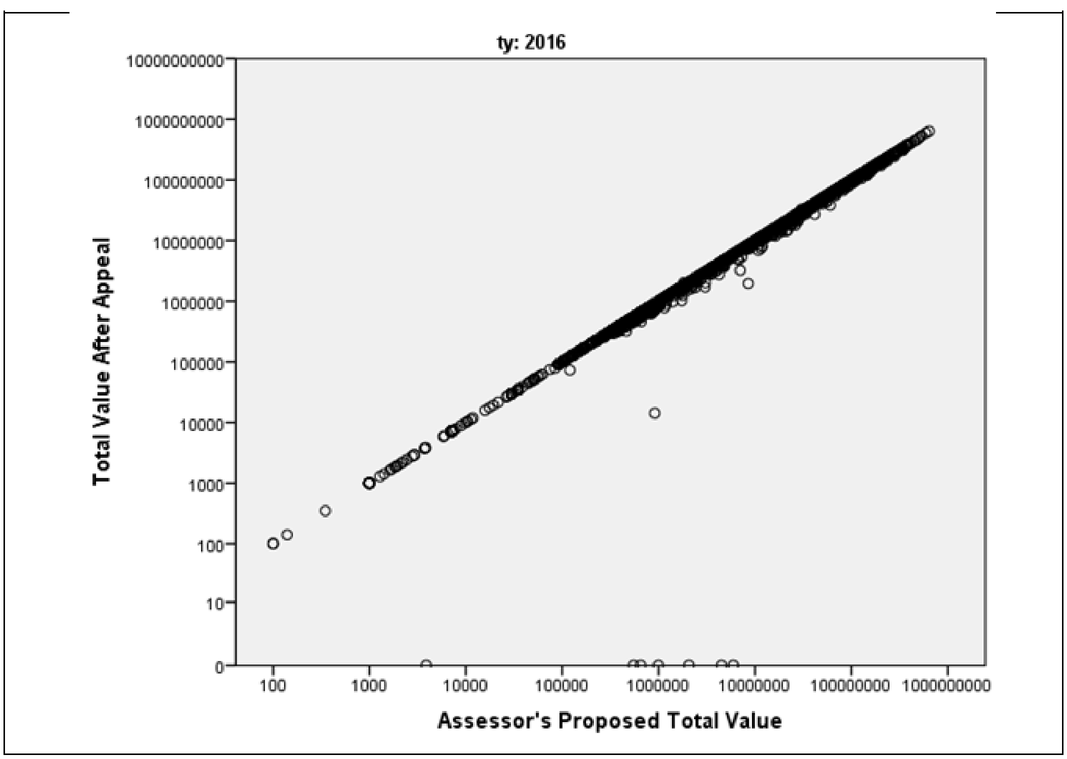


Table 3: Level 2 Appeal Reductions by Use Type and Tax Year since the 2012 Review

Tax Year	Use Group	BRPAA/RPTAC Reduction Percent Category											Total
		<5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	>50	
2013	Residential Multi-Family	5	58	144	12	9	5	22	1	3	2	10	271
	Residential Transient	6	13	3	5	4	1	0	1	0	0	0	33
	Commercial Retail	8	16	11	5	3	11	0	2	0	2	3	61
	Commercial Office	61	109	43	42	15	9	4	2	0	1	0	286
	Commercial Specific Purpose	1	18	12	4	4	2	1	2	0	1	3	48
	Industrial	0	13	8	5	4	0	0	0	1	0	2	33
	Special Purpose	1	2	3	1	1	2	1	0	0	0	4	15
	Vacant	0	11	2	8	6	0	2	0	3	0	5	37
	Total	**82**	**240**	**226**	**82**	**46**	**30**	**30**	**8**	**7**	**6**	**27**	**784**
2014	Nonconforming Use	0	0	0	0	1	0	0	0	0	0	0	1
	Residential Single Family	0	1	0	0	0	0	0	0	0	0	0	1
	Residential Multi-Family	203	19	9	18	15	2	2	0	1	0	7	276
	Residential Transient	6	22	6	6	5	5	0	0	2	0	0	52
	Commercial Retail	2	12	4	4	4	6	2	0	2	4	3	43
	Commercial Office	75	128	59	19	9	10	7	2	0	1	1	311
	Commercial Specific Purpose	3	5	3	1	3	3	1	0	0	0	1	20
	Industrial	2	2	5	4	1	0	0	0	0	0	0	14
	Special Purpose	1	3	3	1	2	1	0	0	0	0	1	12
	Vacant	0	3	1	2	5	0	0	0	1	0	6	18
	Total	**292**	**195**	**90**	**55**	**45**	**27**	**12**	**2**	**6**	**5**	**19**	**748**
2015	Residential Single Family	0	0	0	1	0	0	0	0	0	0	0	1
	Residential Multi-Family	7	716	177	275	9	164	4	2	6	1	1	1362
	Residential Transient	11	15	10	4	3	1	0	1	1	0	0	46
	Commercial Retail	0	20	4	6	1	1	1	1	1	0	2	37
	Commercial Office	74	125	63	29	11	7	1	3	1	0	0	314
	Commercial Specific Purpose	1	15	3	0	1	0	0	0	0	0	2	22
	Industrial	1	2	5	2	0	2	0	0	0	0	1	13
	Special Purpose	0	1	5	1	0	2	1	0	0	0	0	10
	Vacant	0	6	0	1	0	0	0	0	1	0	0	8
	Total	**94**	**900**	**267**	**319**	**25**	**177**	**7**	**7**	**10**	**1**	**6**	**1813**
2016	Residential Multi-Family	9	30	145	85	5	1	0	0	1		0	276
	Residential Transient	2	19	6	2	1	0	0	0	0		0	30
	Commercial Retail	2	14	7	2	3	1	0	3	0		2	34
	Commercial Office	130	121	31	21	5	3	2	0	0		0	313
	Commercial Specific Purpose	3	4	4	0	0	1	6	0	1		1	20
	Industrial	0	4	2	4	4	3	2	0	0		0	19
	Special Purpose	0	0	2	1	1	0	0	0	0		0	4
	Vacant	0	2	1	1	0	0	2	2	0		0	8
	Total	**146**	**194**	**198**	**116**	**19**	**9**	**12**	**5**	**2**		**3**	**704**

Appeals beyond RPTAC to the judicial system have generated a troublingly high backlog of approximately 2,000 cases, especially in comparison to the rate at which such cases are tried each year, which is in the single digits. Also troublesome is the slow rate at which opinions are issued; decisions can remain unavailable for years after the trial. The resulting environment produces little guidance on the law coupled with intense pressure to settle rather than try cases. As was noted in recommendation 18 of the 2012 review, the caseload for the relevant RPTA personnel is problematic. Management is researching the possibility that the procurement of a more capable appeals management system may minimize the need to augment staff in this area, as had been recommended in the 2012 review. The specifications included in the request for proposals to provide such a system seem reasonable. In the meantime, RPTA utilizes a stop-gap litigation tracking system built in house. Although this not optimal, it should help displace multiple clerical levels of effort.

The accuracy of commercial assessments in the District, as measured by post-appeal valuations, is reasonably good and has improved over the period since the 2012 review. The burgeoning litigation backlog of level-3 (i.e., judicial) appeals is troubling both in view of the accumulated potential liability for refund requirements, plus tax base loss and in view of the demands associated with managing the process. It also is troublesome that from a game-theory perspective the incentives are unbalanced. Appellants have a low- cost right to appeal and a non-trivial likelihood of a reward in the form of an assessment reduction, especially in the event of split-the-difference mediation or negotiated settlements. RPTA has very limited options for counter-strategies. A rebalancing of incentives, either of an economic or a public-shaming nature, may eventually be required to remedy the situation.

23. **We recommend that efforts continue to improve how RPTA defends assessments under appeal.**

    This can be done by:

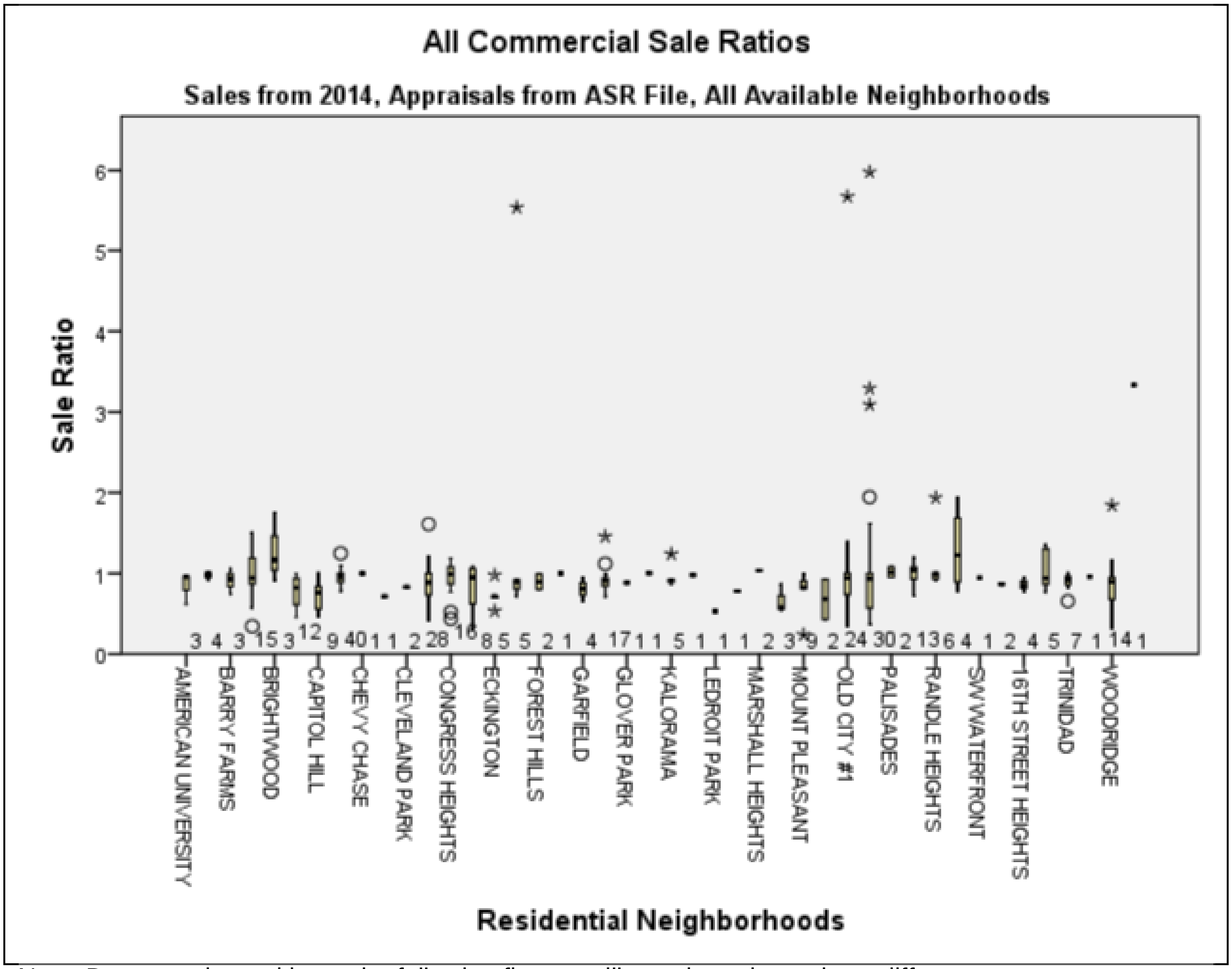
    - **Continuing to monitor the quality of its valuation performance as it already does via its appeals tracking system, recognizing that a superior measure of performance is found in assessment to sales price ratio studies;**
    - **Augmenting its efforts to manage its appeal/litigation management system, with attention not only to monitoring conditional liabilities and calendar related workflows, but also to the management of related documents and professional services; and**
    - **Considering whether to advocate for a redress in the appeal incentives from a game-theoretic perspective, either by advocating for an increase in the cost to property owners of filing an appeal, perhaps on a recurring basis to spur their prompt resolution, or by adopting social pressures rather than, or in addition to, economic incentives to address the situation.**

Evaluator’s Analyses of Assessment Performance via Ratio Studies

As noted, RPTA presently prepares its assessment ratio reports using a statistical software system popularly used in assessment administration, and the addition of the capabilities recommended above could be programmed into that system. Using the data underlying the District's reports, we illustrate some of our recommendations in the following figures and tables.

Figure 6 and Table 4 summarize ratio study statistics using all of the qualified commercial sales from calendar year 2014 and their related assessments for TY 2016; no trimming of these data has been done. As can be seen, the greatest discrepancies between assessments and sale price are on the order of a factor of 6, far better than the orders of magnitude noted in the 2012 review-- clearly sales qualification and data entry are being done more accurately. Nevertheless, such sizable discrepancies cannot be taken as indicative of actual performance, but rather reflect problems with sales reporting that need to be removed from the sample to increase its representativeness. As we recommended, this is best done following the guidance in the IAAO standard, which is based on interquartile ranges.

Figure 6: Box Plot of Sales Ratios by Neighborhoods



Note: Data not trimmed here; the following figures will use data trimmed two different ways.

Table 4: Ratio Statistics for Assessed Values/Sale Prices from 2014

Neighborhood	Sale Count	Median	95% Confidence Interval for Median		Price Related Differential	Coefficient of Dispersion
			Lower Bound	Upper Bound		
AMERICAN UNIVERSITY	3	.958	.617	.966	.982	.121
ANACOSTIA	4	.993	.919	1.014	.996	.029
BARRY FARMS	3	.930	.738	1.055	.989	.114
BRENTWOOD	15	.945	.857	1.276	.975	.247
BRIGHTWOOD	3	1.166	.911	1.755	1.092	.241
BROOKLAND	12	.819	.506	.941	.982	.202
CAPITOL HILL	9	.757	.482	.940	.967	.198
CENTRAL	40	.955	.919	.990	.986	.081
CHEVY CHASE	1	.999			1.000	.000
CHILLUM	1	.711			1.000	.000
CLEVELAND PARK	2	.829	.818	.839	1.003	.012
COLUMBIA HEIGHTS	28	.888	.796	1.000	1.257	.198
CONGRESS HEIGHTS	16	.991	.778	1.084	.944	.146
DEANWOOD	8	.950	.310	1.079	1.069	.222
ECKINGTON	5	.709	.530	.978	.899	.132
FOGGY BOTTOM	5	.892	.711	5.536	.368	1.108
FOREST HILLS	2	.895	.798	.992	.912	.108
FORT DUPONT PARK	1	1.000			1.000	.000
GARFIELD	4	.808	.650	.950	.910	.095
GEORGETOWN	17	.912	.843	.942	.989	.112
GLOVER PARK	1	.885			1.000	.000
HILLCREST	1	1.001			1.000	.000
KALORAMA	5	.913	.871	1.239	1.024	.085
KENT	1	.978			1.000	.000
LEDROIT PARK	1	.529			1.000	.000
LILY PONDS	1	.774			1.000	.000
MARSHALL HEIGHTS	2	1.036	1.035	1.038	1.000	.001
MICHIGAN PARK	3	.571	.543	.868	1.092	.189
MOUNT PLEASANT	9	.826	.806	.967	1.025	.149
N. CLEVELAND PARK	2	.677	.428	.926	1.312	.368
OLD CITY #1	24	.943	.732	.998	.937	.379
OLD CITY #2	30	.935	.617	1.000	.995	.628
PALISADES	2	1.016	.953	1.078	.960	.061
PETWORTH	13	1.038	.926	1.168	.971	.099
RANDLE HEIGHTS	6	.985	.917	1.937	.742	.192
NOMA	4	1.224	.776	1.936	1.348	.323
SW WATERFRONT	1	.946			1.000	.000
SHEPHERD PARK	2	.867	.856	.877	1.004	.013
16TH STREET HEIGHTS	4	.856	.770	.952	1.009	.054
TAKOMA PARK	5	.941	.762	1.358	1.246	.219
TRINIDAD	7	.930	.652	1.004	.988	.085
WAKEFIELD	1	.959			1.000	.000
WOODRIDGE	14	.896	.503	1.090	1.304	.267
undefined	1	3.333			1.000	.000
Overall	**319**	**.930**	**.915**	**.942**	**.990**	**.250**

Tables 5 through 8 illustrate the results of trimming the data based on the boundaries recommended in the IAAO standard. These boundaries are defined in terms of the difference between the 25th and 75th percentiles of the ratios, the interquartile range (IQR) and extend three IQRs below the 25th percentile and 3 IQRs above the 75th percentile. They can be calculated either based on the raw ratios, as done in Tables 5 and 6, and Figures 7 and 8 or on the basis of the logarithms of the ratios, as done in Tables 7 and 8, and Figures 9 and 10. The advantage of using logarithms is that extreme low ratios, say 10 percent of the median, are more likely to be trimmed, since they are treated as being as far from a median of 1.0 on the low side as a ratio of 10.0 is on the high side. Using the raw ratios rather than their logs as the basis for IQR-based trimming makes low-side outliers much more likely to be retained. Log-based IQR trimming is preferable. Using it, the total pool of retained ratios dropped from 319 to 307, while raw-ratio trimming retained 308 rather than the 300 used in the official report.

Table 5: Ratio Statistics for Assessed Values/Sale Prices from 2014, 3 IQR Extremes Trimmed Naively

Group	Sale Count	Median	95% Confidence Interval for Median		PRD	COD	PRB Coef-ficient	95% Confidence Interval for PRB		Compliance Test Results Pass/Fail/?=Depends		
			Lower Bound	Upper Bound				Lower Bound	Upper Bound	Median	COD	PRB
Non-Conforming Use	1	.96			1.00	.00						
Residential Multi-Family	74	.96	.93	1.00	1.07	.12	26.5	-11.0	63.9	P	P	P
Residential Transient	5	.93	.62	1.43	.93	.22	-112.7	-480.9	255.5	P	P	P
Retail	93	.84	.74	.91	.92	.20	-56.8	-120.8	7.2	?	P	P
Office	72	.93	.92	.97	.95	.11	-19.3	-43.8	5.2	?	P	P
Special Commercial	27	.91	.77	1.00	1.11	.26	123.8	-102.7	350.4	P	F	P
Industrial	22	.92	.86	1.10	1.00	.20	60.9	-145.1	266.9	P	P	P
Special Purpose	14	.99	.76	1.08	1.11	.20	54.3	-170.3	278.9	P	F	P
Overall	**308**	**.93**	**.91**	**.94**	**.95**	**.17**	**0.9**	**-0.2**	**2.0**	**?**	**P**	**P**

Table 6: Ratio Statistics for Assessed Values/Sale Prices from 2014, 3IQR Extremes Trimmed Naively

Neighborhood	Sale Count	Median	95% Confidence Interval for Median		PRD	COD	PRB Co-efficient	95% Confidence Interval for PRB		Compliance Test Results Pass/Fail/?=Depends		
			Lower Bound	Upper Bound				Lower Bound	Upper Bound	Median	COD	PRB
AMERICAN UNIVERSITY	3	.96	.617	.966	.982	.121	-1.3	-143.5	140.8			
ANACOSTIA	4	.99	.92	1.01	1.00	.03	1.1	-14.7	16.9			
BARRY FARMS	3	.93	.74	1.06	.99	.11	62.8	-17.0	142.7			
BRENTWOOD	15	.94	.86	1.28	.98	.25	-1.6	-16.9	13.7			
BRIGHTWOOD	2	1.04	.91	1.17	.90	.12	5.6	5.6	5.6			
BROOKLAND	12	.82	.51	.94	.98	.20	1.9	-8.6	12.5			
CAPITOL HILL	9	.76	.48	.94	.97	.20	11.0	-8.9	30.9			
CENTRAL	40	.96	.92	.99	.99	.08	-0.1	-1.2	1.0	?	P	P
CHEVY CHASE	1	1.00			1.00	.00						
CHILLUM	1	.71			1.00	.00						
CLEVELAND PARK	2	.83	.82	.84	1.00	.01	-3.8	-3.8	-3.8			
COLUMBIA HEIGHTS	28	.89	.80	1.00	1.26	.20	-6.4	-11.2	-1.6	P	P	P
CONGRESS HEIGHTS	16	.99	.78	1.08	.94	.15	1.8	-4.7	8.3			
DEANWOOD	8	.95	.31	1.08	1.07	.22	6.3	-20.8	33.4			
ECKINGTON	5	.71	.53	.98	.90	.13	16.0	-8.7	40.7			
FOGGY BOTTOM	4	.85	.71	.92	1.02	.09	-3.8	-41.1	33.4			
FOREST HILLS	2	.90	.80	.99	.91	.11	5.1	5.1	5.1			
FORT DUPONT PARK	1	1.00			1.00	.00						
GARFIELD	4	.81	.65	.95	.91	.10	2.0	-13.3	17.4			
GEORGETOWN	17	.91	.84	.94	.99	.11	-0.5	-5.7	4.7			
GLOVER PARK	1	.89			1.00	.00						
HILLCREST	1	1.00			1.00	.00						
KALORAMA	5	.91	.87	1.24	1.02	.09	1.3	-16.1	18.8			
KENT	1	.98			1.00	.00						
LEDROIT PARK	1	.53			1.00	.00						
LILY PONDS	1	.77			1.00	.00						
MARSHALL HEIGHTS	2	1.04	1.03	1.04	1.00	.00	1.5	1.5	1.5			
MICHIGAN PARK	3	.57	.54	.87	1.09	.19	-10.5	-303.8	282.8			
MOUNT PLEASANT	9	.83	.81	.97	1.02	.15	-0.8	-17.9	16.3			
N. CLEVELAND PARK	2	.68	.43	.93	1.31	.37	-43.8	-43.8	-43.8			

Neighborhood	Sale Count	Median	95% Confidence Interval for Median		PRD	COD	PRB Co-efficient	95% Confidence Interval for PRB		Compliance Test Results Pass/Fail/?=Depends		
			Lower Bound	Upper Bound				Lower Bound	Upper Bound	Median	COD	PRB
OLD CITY #1	23	.93	.73	.99	1.01	.18	-0.8	-8.8	7.1	?	P	P
OLD CITY #2	26	.76	.57	1.00	.90	.34	8.5	-1.1	18.2	?	F	P
PALISADES	2	1.02	.95	1.08	.96	.06	5.0	5.0	5.0			
PETWORTH	13	1.04	.93	1.17	.97	.10	3.3	-3.4	10.0			
RANDLE HEIGHTS	5	.97	.92	1.01	1.00	.03	0.5	-6.0	7.0			
NOMA	3	1.01	.78	1.43	1.17	.22	-34.4	-176.1	107.2			
SW WATERFRONT	1	.95			1.00	.00						
SHEPHERD PARK	2	.87	.86	.88	1.00	.01	-2.5	-2.5	-2.5			
16TH ST. HEIGHTS	4	.86	.77	.95	1.01	.05	-6.0	-54.4	42.4			
TAKOMA PARK	5	.94	.76	1.36	1.25	.22	-7.5	-34.1	19.1			
TRINIDAD	7	.93	.65	1.00	.99	.09	2.0	-6.0	10.0			
WAKEFIELD	1	.96			1.00	.00						
WOODRIDGE	13	.88	.50	.95	1.24	.21	-2.3	-15.8	11.2			
Overall	**308**	**.93**	**.91**	**.94**	**.95**	**.17**	**0.9**	**-0.2**	**2.0**	**?**	**P**	**P**

Table 7: Ratio Statistics for Assessed Values/Sale Prices from 2014, 3IQR Extremes Trimmed Logarithmically

Group	Sale Count	Median	95% Confidence Interval for Median		PRD	COD	PRB Co-efficient	95% Confidence Interval for PRB		Compliance Test Results Pass/Fail/?=Depends		
			Lower Bound	Upper Bound				Lower Bound	Upper Bound	Median	COD	PRB
Non-Conforming Use	1	.96			1.00	.00						
Residential Multi-Family	74	.96	.93	1.00	1.07	.12	-1.4	-3.2	0.3	P	P	P
Residential Transient	5	.93	.62	1.43	.93	.22	5.0	-10.9	20.9	P	P	P
Retail	92	.85	.78	.91	.88	.21	4.4	1.0	7.7	?	P	P
Office	71	.94	.92	.98	.96	.10	0.6	-0.4	1.6	?	P	P
Special Commercial	26	.93	.80	1.00	1.15	.25	-7.6	-18.0	2.8	P	F	P
Industrial	22	.93	.87	1.28	1.00	.22	-3.5	-13.8	6.9	P	P	P
Special Purpose	16	1.01	.81	1.39	1.01	.29	3.7	-10.0	17.4	P	F	P
Overall	**307**	**.93**	**.91**	**.94**	**.97**	**.17**	**1.0**	**-0.2**	**2.2**	**?**	**P**	**P**

Table 8: Ratio Statistics for Assessed Values/Sale Prices from 2014, 3IQR Extremes Trimmed Logarithmically

Neighborhood	Sale Count	Median	95% Confidence Interval for Median		PRD	COD	PRB Coefficient	95% Confidence Interval for PRB		Compliance Test Results Pass/Fail/?=Depends		
			Lower Bound	Upper Bound				Lower Bound	Upper Bound	Median	COD	PRB
AMERICAN UNIVERSITY	3	.96	.62	.97	.98	.12	-1.3	-143.5	140.8			
ANACOSTIA	4	.99	.92	1.01	1.00	.03	1.1	-14.7	16.9			
BARRY FARMS	3	.93	.74	1.06	.99	.11	62.8	-17.0	142.7			
BRENTWOOD	14	.96	.86	1.39	.99	.22	-3.6	-16.5	9.4			
BRIGHTWOOD	3	1.17	.91	1.76	1.09	.24	-4.1	-174.5	166.3			
BROOKLAND	12	.82	.51	.94	.98	.20	1.9	-8.6	12.5			
CAPITOL HILL	9	.76	.48	.94	.97	.20	11.0	-8.9	30.9			
CENTRAL	40	.96	.92	.99	.99	.08	-0.1	-1.2	1.0	?	P	P
CHEVY CHASE	1	1.00			1.00	.00						
CHILLUM	1	.71			1.00	.00						
CLEVELAND PARK	2	.83	.82	.84	1.00	.01	-3.8	-3.8	-3.8			
COLUMBIA HEIGHTS	28	.89	.80	1.00	1.26	.20	-6.4	-11.2	-1.6	P	P	P
CONGRESS HEIGHTS	16	.99	.78	1.08	.94	.15	1.8	-4.7	8.3			
DEANWOOD	7	.97	.41	1.08	1.14	.15	-17.6	-44.5	9.3			
ECKINGTON	5	.71	.53	.98	.90	.13	16.0	-8.7	40.7			
FOGGY BOTTOM	4	.85	.71	.92	1.02	.09	-3.8	-41.1	33.4			
FOREST HILLS	2	.90	.80	.99	.91	.11	5.1	5.1	5.1			
FORT DUPONT PARK	1	1.00			1.00	.00						
GARFIELD	4	.81	.65	.95	.91	.10	2.0	-13.3	17.4			
GEORGETOWN	17	.91	.84	.94	.99	.11	-0.5	-5.7	4.7			
GLOVER PARK	1	.89			1.00	.00						
HILLCREST	1	1.00			1.00	.00						
KALORAMA	5	.91	.87	1.24	1.02	.09	1.3	-16.1	18.8			
KENT	1	.98			1.00	.00						
LEDROIT PARK	1	.53			1.00	.00						
LILY PONDS	1	.77			1.00	.00						
MARSHALL HEIGHTS	2	1.04	1.03	1.04	1.00	.00	1.5	1.5	1.5			
MICHIGAN PARK	3	.57	.54	.87	1.09	.19	-10.5	-303.8	282.8			
MOUNT PLEASANT	8	.86	.81	1.00	1.05	.08	-1.7	-7.3	3.9			
N. CLEVELAND PARK	2	.68	.43	.93	1.31	.37	-43.8	-43.8	-43.8			
OLD CITY #1	22	.94	.73	1.00	.99	.16	1.0	-5.9	8.0	?	P	P

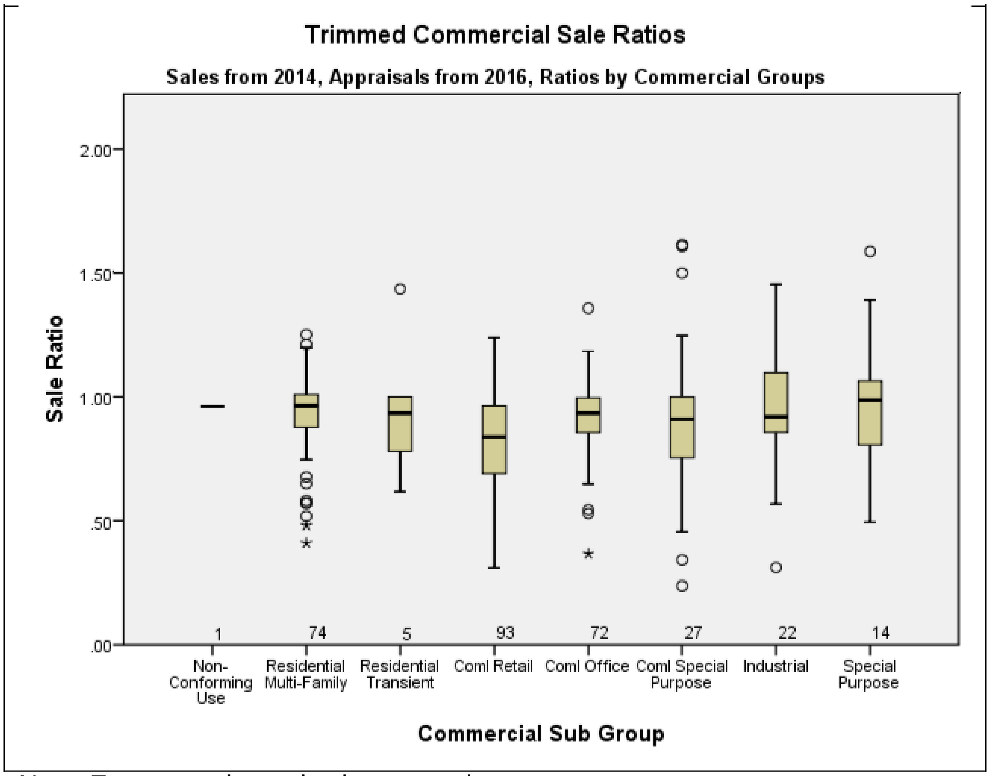
Neighborhood	Sale Count	Median	95% Confidence Interval for Median		PRD	COD	PRB Coefficient	95% Confidence Interval for PRB		Compliance Test Results Pass/Fail/?=Depends		
			Lower Bound	Upper Bound				Lower Bound	Upper Bound	Median	COD	PRB
OLD CITY #2	26	.84	.58	1.00	.95	.34	5.7	-5.1	16.6	?	F	P
PALISADES	2	1.02	.95	1.08	.96	.06	5.0	5.0	5.0			
PETWORTH	13	1.04	.93	1.17	.97	.10	3.3	-3.4	10.0			
RANDLE HEIGHTS	6	.98	.92	1.94	.74	.19	18.0	0.7	35.2			
NOMA	4	1.22	.78	1.94	1.35	.32	-28.8	-43.3	-14.3			
SW WATERFRONT	1	.95			1.00	.00						
SHEPHERD PARK	2	.87	.86	.88	1.00	.01	-2.5	-2.5	-2.5			
16TH STREET HEIGHTS	4	.86	.77	.95	1.01	.05	-6.0	-54.4	42.4			
TAKOMA PARK	5	.94	.76	1.36	1.25	.22	-7.5	-34.1	19.1			
TRINIDAD	7	.93	.65	1.00	.99	.09	2.0	-6.0	10.0			
WAKEFIELD	1	.96			1.00	.00						
WOODRIDGE	13	.91	.68	1.09	1.03	.23	6.8	-14.5	28.1			
Overall	**307**	**.93**	**.91**	**.94**	**.97**	**.17**	**1.0**	**-0.2**	**2.2**	**?**	**P**	**P**

Tables 5 through 8 also present confidence intervals for the median, COD, and the PRB, which are not included in the official report. The IAAO standard cautions that the statistic as calculated should not be determinative of a failure to comply with the standard unless the data indicate at a 95 percent level of confidence that such is the case. The standard adopts the convention that such a determination can be made on the basis of 95 percent confidence intervals for the statistic by interpreting the effective threshold as the relevant boundary of such intervals. For the median and the PRB this can be done relatively easily. For the COD and the PRO the situation is more difficult. The COD's significance or reliability can be approximated by recourse to a table published by IAAO, but the PRD's significance can only be obtained by Monte Carlo methods, which are generally not worth carrying out in view of the PRD's inferiority relative to the PRB. Given a target median of 1.0, a COD less than 20, and a PRD between 0.98 and 1.03, the IAAO target numbers, several lines in each of the tables are suggestive of compliance failures. But two considerations largely contradict this: small sample sizes and normal sampling variability. Implicitly the District has established a minimum sample size of 20 as necessary for reliable results. Some jurisdictions go as low as 5, but 20 is reasonable, and the IAAO standard is silent on this issue. The sample variability issue is addressed by the use of confidence intervals noted above. Thus, for example, all the indications of possible regressivity or progressivity indicated by the PRD are seen to be false when considered in the light of PRB results. In general, no significant vertical inequity was found by the PRB in contrast to the indications of the PRD. Similar considerations apply to the other statistics.

The District’s published Ratio Study Report includes a page with icons indicating whether the various strata have passed or failed the standard's criteria. For residential property, icons appear for the median ratio, the COD (a measure of general accuracy), and the PRD. For commercial properties, there is only one column of icons, reporting on the median ratio, while the significance of the COD, PRD, and PRB is unaddressed. Curiously, two deficiencies are noted, which would not necessarily have been counted as failures in Tables 6 or 8. Columbia Heights is noted as a compliance failure in the published report, but as indicated in the tables above the confidence interval for the median encompasses 1.00, so it is deemed compliant. Old City #2, the other failure flagged with an icon, is a failure if the District rejects the IAAO standard's option to consider level failures only if the confidence interval fails to overlap a tolerance interval, which can be set at plus or minus 5 or 10 percent. Implicitly the District's compliance determinations reflect a rejection of this layering of intervals, a posture that is conceptually to be applauded, but since the more lenient layering is contemplated under the IAAO standard, a "?" mark is used in the compliance column of tables 5 through 8 to reflect this ambiguity. Those tables also note that only two of the several possible failures in respect of the COD are shown to be reliable (according to the reference table mentioned above). Note, too, as mentioned above, that there were no vertical equity failures according to the PRB despite PRD indications of regressivity.

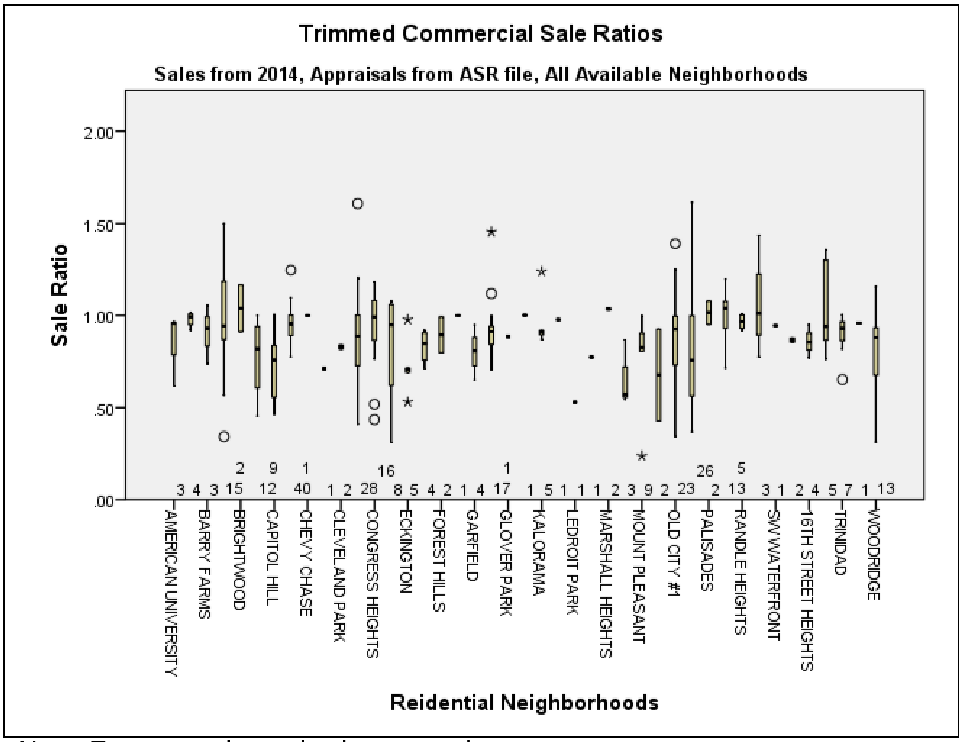
The Box Plots in Figures 7 through 8 collectively allow the reader to infer which observations were trimmed by each of the trimming alternatives. More importantly, they allow a quick understanding of the overall accuracy of the ratios in the various neighborhoods and sub classes. The bars (or boxes) indicate the range within which half of the ratio data in each category lie, with the horizontal line within each box indicating the median ratio. The vertical lines extending from the bars indicate the range of the data that would not be considered either extreme (3 IQRs from the closer quartile) or outliers (1.5 IQRs from the closer quartile). Category-based extremes and outliers are indicated by asterisks and open circles respectively. It should be noted that such extremes have been recalculated for the remaining data after the removal of extremes calculated on the basis of the commercial group as a whole. The IAAO standard explicitly prohibits multiple iterations of trimming. As can be seen, the medians generally line up appropriately, although some scatter is evident among the neighborhoods as a result of the very small sample size for most of them. Figures 7 and 9 reveal that retail properties may be assessed at a slightly lower ratio than other commercial sub types. The numbers above the horizontal axis give the sample size in each group, and the group labels immediately below normally appear for each group rather than every other one as shown for individual neighborhoods since there are so many of them. Such depictions would be much more useful if made for the nine commercial neighborhoods or economic areas previously mentioned, as can be seen in comparing the use and neighborhood groupings of Figures 8 and 10. Recoding the residentially appropriate number of neighborhoods into the nine commercially appropriate ones could be easily accomplished.

Figure 7: Box Plot of Ratios by Commercial Groups



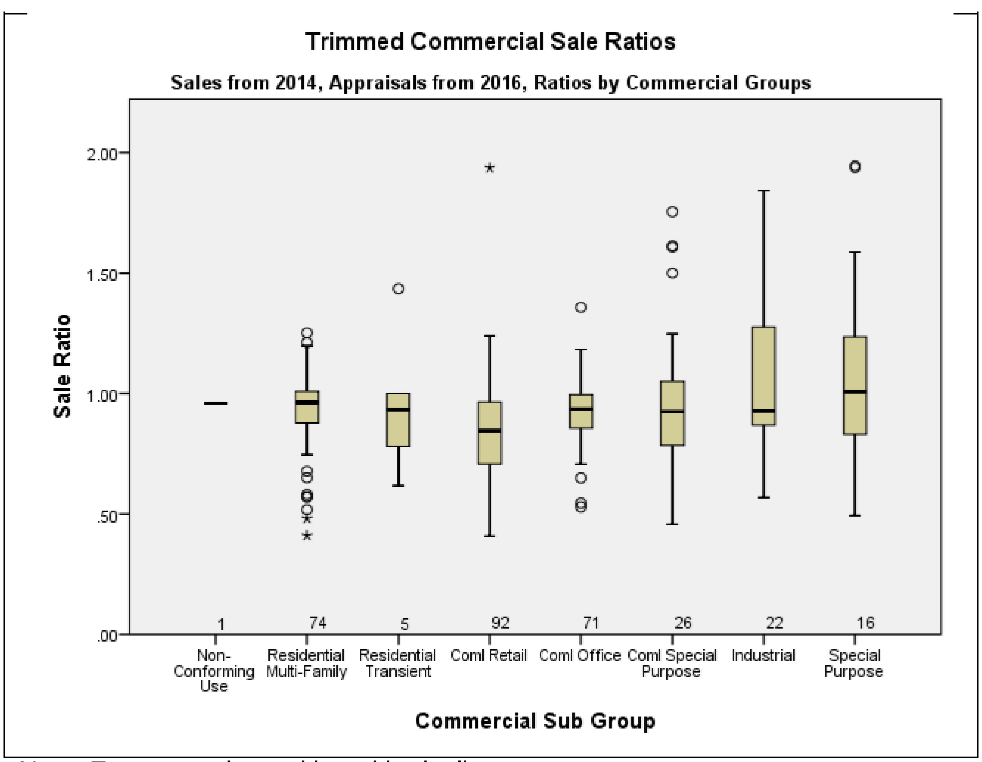
Note: Extremes trimmed using raw ratios.

Figure 8: Box Plot of Commercial Ratios by Residential Neighborhoods



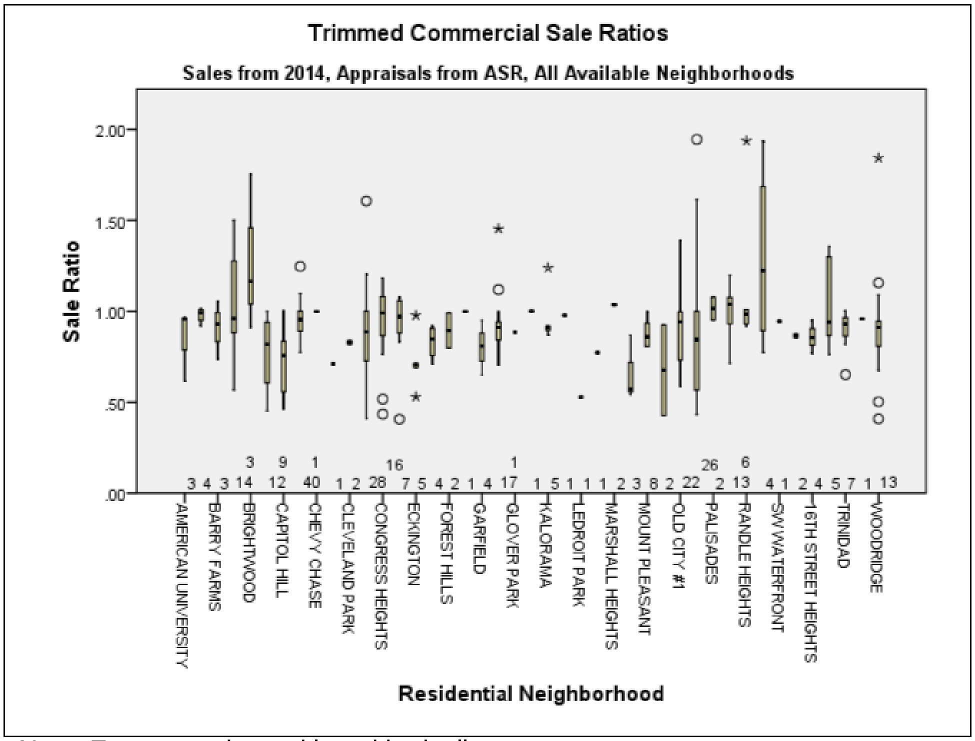
Note: Extremes trimmed using raw ratios.

Figure 9: Box Plot of Ratios by Commercial Groups



Note: Extremes trimmed logarithmically.

Figure 10: Box Plot of Commercial Ratios by Residential Neighborhoods



Note: Extremes trimmed logarithmically.

Evaluation of Organizational Structure, Workload Statistics, Performance Measures, Compensation Requirements, Staffing Levels, Training, Qualifications, Staff Development Functions, and Hiring Practices

Organizational Strategy

In our efforts to assess the organizational structure's ability to effectively support RPTA's organizational strategy, we discovered that RPTA did not possess or operate on an explicit, discrete, and coherent organizational strategy. We found that RPTA management operates on unwritten operational and tactical plans that are not clearly aligned with the OCFO's strategic objectives and initiatives. In the absence of this strategy, a meaningful evaluation of RPTA's organizational structure to support its organizational strategy could not be executed.

24. **We recommend that RPTA develop and implement a clear, bold, and pragmatic organizational strategy through an annual strategic planning process. This strategy should clearly articulate clear choices (what to pursue and what to not, what capabilities and assets to leverage) in operational and tactical terms - in the shape of goals, objectives, policies and procedures- on how to execute the OCFO's strategic objectives and initiatives. RPTA should then continuously assess whether the organizational structure is capable of effectively supporting the execution of this strategy. The strategy should be continuously iterated through the use of a well-defined feedback loop to adapt and ensure alignment with the OCFO's strategic objectives and initiatives in the face of exogenous regulatory, technological, economic, and demographic changes. An organizational structure impact analysis should then be conducted in the event of a recalibration of the organizational strategy.**

Standards and Services Unit

The Standards and Services unit lacks a written charter. Consequently, there appears to be a lack of clarity with respect to the unit's position in the organizational structure and its reporting relationships. Two organizational charts that were divergent on the position and reporting relationship of this unit were prepared and provided for review. In the absence of an organizational strategy and a departmental charter, we could not assess the optimal position of this unit within the RPTA's organizational structure.

25. **We recommend that RPTA develop a written charter for the Standards and Services Unit and optimally position this unit, taking into account RPTA's organizational strategy.**

CAMA Team

RPTA's assessment functions are undertaken by the following units working collaboratively:

- 3 commercial units;
- 3 residential units;
- Maps and titles unit;
- Standards and services unit; and
- Appeals unit.

RPTA's CAMA-related functions are presently grouped within the Standards and Services Unit, which executes a wide range of functions such as: exemptions, class 3 and class 4 programs, assessments for cooperatives, New York Avenue special assessments, I&E reporting program, and maintaining the policies and procedures manual, assessors reference materials, Pertinent Data Book (published in April), and market analytics books (published in August) containing market norms for rents and expenses, expenses for office building, cap rates, etc. In prior years, the exemptions function was organized as a distinct unit. Given the sweep of his responsibilities, it is unrealistic for this unit leader to exercise adequate oversight over RPTA's CAMA functions.

26. **We recommend that RPTA organize the CAMA function into a separate unit. The unit should be adequately staffed. Additionally, RPTA should assign leadership responsibilities for the unit to the current CAMA manager, who should report to the Deputy Chief Appraiser.**

Appraiser Leadership

Each commercial unit has Senior Appraisers, Staff Appraisers and Assessment Technicians. Senior and Staff Appraisers execute the same level of responsibilities. All personnel within each commercial unit report directly to the Unit Supervisor. This arrangement has resulted in very few opportunities for leadership development that is critical to ensure a seamless transition when supervisory positions become vacant.

27. **We recommend that RPTA reconfigure reporting relationships within the commercial units by assigning oversight responsibilities of Staff Appraisers and Assessment Technicians to both Supervisors and Senior Appraisers.**

Office of Quality Assurance, Best Practices and Innovation

RPTA currently lacks independent quality assurance mechanisms to drive excellence in its assessments. Most quality reviews are limited to Supervisory level reviews. Apparently, little or no effort is expended on compiling best practices in all core processes or applying leading thinking by studying the assessment practices of state and local government entities geared towards utilizing better methods, enhancing the quality of service output, controlling and reducing process waste, reducing processing costs, improving process efficiency, improving productivity, and reducing processing times.

28. **We recommend that RPTA establish an Office of Quality Assurance, Best Practices and Innovation to: (a) conduct random and regular independent assessments of quality in all core processes; (b) assess performance against best practices; (c) study the commercial real property assessment practices of state and local government entities across the United States; and (d) engage in process innovation to enhance service delivery. This office must report directly to the Director of RPTA and report yearly to the District's CFO.**

Cross-training Assessors

RPTA's assessment units are organized on the basis of the nature of assessments (commercial or residential). When vacancies unexpectedly arise in the commercial unit, work is impacted adversely owing to a combination of RPTA's specialization of assessments functions and the realities of the labor market. While specialization has its benefits, we believe such benefits are far outweighed by the agility that a cross-trained workforce will accord. Additionally, we believe cross-training will yield rich insights stemming from exposure to diverse situations. We also believe it will enhance the quality of both commercial and residential assessments.

29. **We recommend that RPTA cross-train assessors in both commercial and residential assessments. This will enhance job enrichment and ensure that the workforce is flexible, agile, and able to effectively deal with uncertainties.**

Workload Measurement System

RPTA collects workload data with respect to number of assessments and appeals. There are no credible mechanisms to capture and measure data that link the work of non- appraiser personnel to these two activities. We believe this measurement framework is too simplistic to accurately assess the impact of the workload level on performance of appraisers, employee morale, or the quality of assessments, which are impacted by the quality of available data, the cooperation of the property owner and the complexity of the assessment among other factors.

30. **We recommend that RPTA develop and implement a credible workload measurement system to evaluate the efficiency and effectiveness of the assessment process.**

Strategic and Operational Human Resources Plans

The Office of the Chief Human Resources Officer (OCHRO) has not developed strategic (3-5 year outlook) and operational (outlook of one year or less) human resources plans. The absence of a strategic human resources plan can result in wide gaps between human resources practices and the OCFO's strategic plan thereby undermining OCFO's overall efforts to achieve its strategic goals and that of RPTA. The absence of a human resources operational plan is a key contributing factor to RPTA's inability to meet their future labor needs proactively. An effective human resources operational plan compares present workforce capabilities with future demands and is a useful tool in enhancing organizational agility in the face of uncertainties.

31. **We recommend that OCHRO develop a strategic human resources plan that addresses the needs of RPTA. The plan should:**

    - **Assess current human resources capacity;**
    - **Forecast human resources requirements;**
    - **Perform a gap analysis; and**
    - **Develop and document a human resources strategic plan to support the OCFO's strategic plan and the RPTA's organizational and operational strategies. This strategy should include the following:**
        - **Restructuring strategies;**
        - **Training and development strategies;**
        - **Recruitment strategies;**
        - **Hiring strategies;**
        - **Outsourcing strategies; and**
        - **Collaboration strategies.**

    We also recommend that RPTA adopt an operational human resources plan that incorporates the following activities:

    - **Forecasting labor demand;**
    - **Estimating labor supply from existing employees or the external labor market; and**
    - **Crafting an appropriate response depending on whether (a) labor demand exceeds labor supply, (b) labor supply exceeds labor demand, and (c) labor demand equals labor supply.**

Balanced Scorecard

RPTA has not established any organizational level performance or strategic benchmarks, metrics or indicators to manage organizational performance or its human resources functions.

Establishing and measuring key performance parameters is critical to optimizing RPTA operations by driving improvements; focusing resources on strategic and operational priorities; measuring progress against missional goals; making informed decisions; and comparing performance against industry ratios. This will help management to learn from successes and correct failures.

32. **We recommend that RPTA adopt measures to link operational activities to its organizational strategic plan and mission. In addition, key human resources metrics, such as Yield Ratios (ratio of offers to acceptance, interview-to-offer ratio, invitations-to-interview ratio, advertisements or contacts-to-applicant ratio), should be established. No set of performance measures or benchmarks are as effective as a balanced scorecard, which is designed to provide a fast and comprehensive view of an organization's business. RPTA personnel should compile an effective set of financial measures and operational measures (on customer satisfaction, internal processes, and the RPTA's innovation and improvement activities) that will put RPTA's strategy and vision at the center of its operations. This tool would drive its personnel to adopt behaviors and invest in actions that are critical to arrive at strategic and operational goals and align them toward an overall vision.**

Structured Employee Development Program

There exists no written and structured employee development plan. The primary purpose of which should be to develop and train the replacements for current RPTA supervisors, managers, and leaders.

33. **We recommend that RPTA organize, formalize, and document its employee development program. This should consist of the following phases:**

    - ***Assessment:* This includes identifying an employee's strengths and weaknesses to help employees choose a career that is realistically obtainable and represents a good fit; and to determine the weaknesses they need to overcome to achieve their career goals. Assessment can be achieved through employee self-assessment by way of skills assessment exercises, an interest inventory, and values clarification; and organizational assessment through situational exercises, such as interviews, in-basket exercises, business games, promotability forecasts, that would allow RPTA to identify people who appear to have high advancement potential.**
    - ***Direction:* This phase involves determining the type of career that employees want and the steps they must take to realize their career goals. This should be based on a thorough assessment of the current situation. Two key ways to achieve this are individual career counseling and information services, such as skills inventories, career paths and a career resource center.**
    - ***Development:* This phase is meant to foster growth and self-improvement necessary to move up in RPTA and involves taking actions to create and increase skills to prepare for future job opportunities. This can be achieved through programs such as mentoring, coaching and job rotation, which includes: project rotation, partial rotation, cross-functional rotation, temporary rotations, and interdepartmental mentoring.**

Structured Training Program

We observed that there is little or no correlation between RPTA's training programs and its strategic needs reflected in the OCFO's strategic plan. Additionally, we observed the following in relation to training design:

- Little or no individual needs assessment is performed prior to training design;
- Little or no organizational analysis is performed prior to training design;
- Little or no task (or job) analysis to determine Knowledge, Skills, and Abilities (KSA) required to perform individual functions prior to training design; and
- Training goals are not clearly articulated.

There also exists no clear criteria by which training effectiveness is measured. All these can result in a workforce that is ill equipped to accomplish the OCFO's strategic goals.

34. We recommend that RPTA develop a structured training program that is based on the following:

- **An effective assessment of individual needs;**
- **An organizational analysis; and**
- **A job analysis of KSA for each function.**

Also, RPTA should clearly articulate training goals for each individual and establish criteria by which the effects of training can be measured.

Job Descriptions

From interviews with RPTA personnel, we understood that job descriptions are not accurately reflected in the related vacancy notices. This could hinder the ability of RPTA to fill vacancies timely. Also, failure to accurately describe job responsibilities can result in new hires being unprepared for their duties and requiring extra training to fulfil their jobs.

35. We recommend that RPTA undertake a detailed job analysis prior to crafting position descriptions for vacancy notices. An effectively conducted job analysis will help the human resources department to: generate a higher-quality pool of job applicants by making it easy to target and screen qualified job applicants, and to make selection choices, determine training needs, and compare the relative worth of each job's contributions to RPTA's overall performance, which can be key determinants of the job's pay level. This analysis should include the following:

- **Task inventory analysis: This involves interviews, surveys, and preparing a knowledge, skills, and abilities matrix.**
- **Critical incident techniques: This is where supervisors and other employees generate behavioral incidents of job performance. This step involves identifying the major dimensions of a job, generating critical incidents of behavior that represent high, moderate, and low levels of performance on each dimension and ensuring that these incidents are viewed the same way by other employees.**
- **Position analysis questionnaire: This involves determining the degree to which 194 different job elements are involved in performing a particular job.**
- **Functional job analysis: This is a technique that mobilizes information on certain aspects of the job, including:**
  - **The effect the job incumbent has on other people, data, and things;**
  - **Methods and techniques the job incumbent uses to perform the job;**
  - **Equipment used by the job incumbent; and**
  - **Materials and services produced by the job incumbent.**

Succession and Contingency Plans

We noted that RPTA does not have written succession and contingency plans for the key roles of Director and Chief Appraiser. The cost of not designing or implementing an effective succession plan program is the enhanced risk of hiring and promotion mistakes, loss of institutional knowledge, and the adverse impact of turnover in key roles, which includes the risk of discontinuity of key strategies and operational initiatives.

36. We recommend that RPTA design, document, and implement effective succession and contingency plans. This will ensure seamless continuity of RPTA strategy and operations in the event of an unanticipated vacancy in either role. The succession plans should be

approved by senior management. To ensure accountability, responsibility for this key program should be embodied within the position description for each role. Key metrics should be designed to periodically monitor and evaluate the program.

Hiring Processes

RPTA has experienced significant delays in finding permanent placements for key positions. As examples, the position of Chief Appraiser was not filled permanently for approximately a year, the position of Supervisory Appraiser for Litigation and Appeals was not filled permanently for approximately eight (8) months, and the Position of Director has been filled temporarily since December 2015. Additionally, two (2) appraiser positions in the commercial unit have been unfilled for a year and one has been vacant for approximately 6 months. The Agency's hiring practices may be divorced from market realities and therefore reactive rather than proactive. Permanently unfilled positions can result in a surge in employee workload and work backlogs. This could undermine employee morale and compromise an organization's internal control system.

37. **We recommend that the OCFO undertake a comprehensive review of its hiring practices and processes with respect to RPTA. Deficiencies that may be inducing these delays should thereafter be addressed. OCFO should design and implement a recruiting and hiring strategy that is proactive and anticipatory - one that will effectively and continuously support the Agency's mission in the face of uncertainty.**

Appendix: Table of Acronyms

AGJD	Almy, Gloudemans, Jacobs, and Denne
ARM	Appraiser Reference Materials
BRPAA	Board of Real Property Assessments and Appeals
CAMA	Computer-Assisted Mass Appraisal
CD-ROM	Compact Disk - Read-Only Optical Memory
CFO	Chief Financial Officer
COD	Coefficient of Dispersion
DCRA	Department of Consumer and Regulatory Affairs
GIS	Geographic Information System
I&E	Income and Expense
IAAO	International Association of Assessing Officers
IQR	Interquartile Range
ITS	Integrated Tax System
NOI	Net Operating Income
OCFO	Office of the Chief Financial Officer
OCHRO	Office of the Chief Human Resources Officer
OS	Office of the Surveyor
OTR	Office of Tax and Revenue
PRB	Price-Related Bias
PRD	Price-Related Differential
ROD	Recorder of Deeds
RPAD	Real Property Assessment Division
RPTA	Real Property Tax Administration
RPTAC	Real Property Tax Appeals Commission
SSL	Square-Suffix-Lot
TY	Tax Year
USPAP	Uniform Standards of Professional Appraisal Practices

APPENDIX A. AGENCY'S RESPONSE TO THE DRAFT REPORT

1. **We recommend that RPAD evaluate whether the current nine market areas are appropriate in the valuation of the types of commercial properties, as discussed later. A general issue is whether the areas are large enough to produce reliable samples of sales and I&E reports.**

   The sizes of areas are less important than ensuring that an area is subject to the same market influences. OTR believes that the office market area, closely resembling CoStar's boundaries, is the single most important delineation in the District for commercial property. Upon examination, OTR has determined that, to an acceptable degree, the apartment and retail markets are adequately distinguished utilizing the office market overlay. Individual appraisers also have the discretion to make adjustments to valuations based on discrepancies from an idealized solution. We are currently exploring options for a new billing system and will consider including this enhanced capability for delineation in our requirements.

2. **We recommend that RPAD management develop a plan for periodically inspecting properties so there is reasonable assurance that property characteristics data are up-to-date.**

   The division is always striving to improve the quality of our property attribute data. The division is exploring the use of iPad field devices for this purpose. These tablets will have all the capability of replicating CAMA records along with oblique image libraries, sketching and image capture. Deployment is expected during the Summer of 2017. This will ensure complete coverage of the inventory. This initiative will be in addition to the field-work conducted as a result of sales and supplemental assessments.

   The improvements that are being made to our I&E filing program will also go towards improving the quality of the income characteristics of our commercial inventory.

3. **We recommend that RPAD reconfigure the CAMA system to begin recording sale qualifications with respect to sales-ratio study purposes as well as validations with respect to modeling purposes.**

   The division's primary use with respect to sale information is to help analyze and develop the appropriate capitalization rates for the various types and classes of commercial property where the income approach to value is employed as the primary indication of value. We collect and qualify as much data as possible to ensure our analysis reflects the activity in the market. However, the number of sales of various types of commercial property rarely meets levels that would allow for meaningful assessment to sales ratio studies. For TY 2018, OTR utilized sixteen office sales in its analysis.

   OTR cannot see a scenario wherein it would disqualify a sale for modeling and use the same sale in a sales-ratio study, and vice versa. Sales are so rare and so critical to the income approach analysis that OTR goes to great length to thoroughly research a sale before it must be disqualified.

4. **We recommend that RPAD not use code 07 unless there is convincing documentation that the sale was "speculative."**

   The "speculative" code is defined as "Sale is unqualified; the prime motivation of purchaser is quick profit through resale either before or after renovation. While these types of transactions tend to be below market value, they may represent market value and may be coded "01" (market), provided that the physical attributes of the sale represent the condition at the time of the sale, and the assessor

APPENDIX A. AGENCY'S RESPONSE TO THE DRAFT REPORT

believes the transaction represents an arm-length sale. When the property characteristics have changed subsequent to the sale the sale must be unqualified."

When an appraiser selects this code, he or she is convinced that the sale is speculative. This is easily made manifest when: 1) the property has a renovation permit associated with it, or 2) the appraiser notes on-going construction, or 3) the property characteristics in our records have recently been improved on the property, or 4) the property located in a neighborhood is experiencing transition, or 5) the buyer is a known speculator. There are innumerable legitimate reasons for an appraiser to code a sale "07, and management does not believe it is an issue that warrants attention.

5. **We recommend that submitted I&E forms be reviewed by RPAD before they are sent for keying. Forms that are returned blank or largely incomplete should be returned to taxpayers for completion. Additionally, RPAD staff should screen completed forms and mark them as usable, questionable, or unusable. There is no point in keying unusable responses, although they could still be scanned for documentation purposes. Just as sales are screened prior to valuation analysis, income data should be screened, particularly given the fact the RPAD relies principally on the income approach for valuing commercial properties.**

   This function is being done in the Standards and Commercial units as a matter of course. Within the Standards Unit, both the Assessment Program Coordinator and more particularly the Market Analyst, review the submitted forms for completeness and accuracy. Also, individual appraisers in the Commercial units scrutinize I&E forms corresponding to their assigned properties. When forms are not submitted, are inaccurate or deemed incomplete, OTR notifies the filer and if the filer is non-responsive, OTR subjects them to a ten percent penalty on their next tax bill. We recognize that more effort needs to occur in this activity, and as noted in Recommendation #6 below, we have developed a full-time position and are recruiting for it.

6. **We recommend strongly that the I&E auditor position be filled by a competent, conscientious person with knowledge of I&E data.**

   We concur with this recommendation and continue to recruit for this position. In an effort to get more qualified candidates we have changed the position title from I&E Auditor to I&E Analyst to ensure that we attract candidates with the desired appraisal and analytical skills.

7. **We recommend that I&E processing be further improved.**

   The I&E process is under constant improvement. For the CY 2017 season, the division has made significant improvements to the filing process in both the user's experience and the back-end database functionality. The ability to file as an economic unit is an example of the many improvements made this year. These improvements are expected to increase the number of e-filers along with making the I&E data available to the staff months earlier than before. Whereas, last year the division received aggregated data in October, we anticipate having aggregated data in June. This extra time will be extraordinarily beneficial as we model and calibrate our income models for TY 2019. As the on-line I&E filing process improves, the ultimate goal is to require electronic submission and eliminate paper filing entirely.

APPENDIX A. AGENCY'S RESPONSE TO THE DRAFT REPORT

8. We recommend that RPAD seek to require I&E submissions before the assessment notice deadline.

This recommendation was also cited as Recommendation 8 in the first performance audit dated September 30, 2012. We concur with this recommendation. Our efforts to stream-line the I&E filing process is one part of a multi-part effort to allow RPAD to utilize the most timely income and expense information in its valuations. The other aspects to implementing this initiative involve gaining support from the commercial community and acquiring legislative authority to change the assessment calendar. The latter two efforts are underway; however, they are beyond the control of the division. Expectations are that the necessary changes will be developed and implemented for the TY 2019 valuation.

9. We recommend that RPAD update land values more regularly and refine the valuation approach. Consideration should be given to assigning responsibility for land valuation to a single appraiser/analyst in each commercial unit, or assigning the responsibility entirely to the new commercial unit (the "C" team). One procedural refinement would be to increase sample sizes through land residuals derived from recent improved sales. Part of this effort could be a general reconsideration of commercial market areas. The basic question is whether the existing nine areas serve all types of commercial properties well.

Based upon recommendations #7 and #24 of the September 30, 2012 performance audit, the division moved to having the commercial appraisers specialize their assignments. This has been an effective means to ensure accurate and consistent valuations. There are two appraisers assigned to land valuation along with other minor property types. OTR agrees that the quantity of sales of commercial vacant land is low and that by using the land residual techniques to extract land values from newly constructed commercial properties would supplement the limited number of sales that are used to establish reliable land rates. OTR will institute this technique and document its use in manuals at the first opportunity, which will be the TY 2019 valuation.

Additionally, OTR will make more use of GIS/CAMA tools to enhance the valuation of land.

10. We recommend that RPAD adopt procedures for valuing possessory interests and air rights and add them to the ARM and/or Employee Handbook.

Both of these categories of property are unique and the industry has not fully settled how best to value them, except in the most general of terms. For example, possessory interests should be valued by discounting the value of the lease and air rights should be valued based on an apportionment of the total fee value of the ground lot. The issues come in when a lease is not typical of the market or upper air-rights lots have a superior view.

The division concurs that these types of appraisals need to be documented and will continue to refine our approach; however, we are reluctant to publish anything prematurely, without thorough and complete vetting. The Almy, Gloudemans, and Denne auditors admit, in recommendation 15 below, that this is a difficult endeavor. OTR will, however, ensure that the topics are formally addressed in our procedures and documented in our ARM and/or Employee Handbook for the TY 2019 reappraisal.

APPENDIX A. AGENCY'S RESPONSE TO THE DRAFT REPORT

11. We recommend that RPAD further improve the valuation of office buildings by reviewing property data for accuracy and consistency and by building data analysis skills. Because capitalization rates are so critical to value determination and office sales are relatively scarce, office sales should be thoroughly researched and consideration should be given to expanding sample sizes through use of prior year sales time-adjusted to the valuation date. Again, building data analysis skills will help, and continuing to check capitalization and other income rates with those reported in industry publications and services will provide additional support.

When sales are adequate, we generally use the most current year to develop our capitalization rates. When the number of sales is determined to be inadequate to develop reliable market capitalization rates, we will expand our sales to include time-adjusted sales over a period of no more than two years commencing with the TY 2019 revaluation effort. Additionally, we generally rely more on survey data when sales are scarce.

12. We recommend that RPAD develop and vet a plan for valuing retail properties at market value consistent with other properties in the District. This could be accomplished by phasing in increases over a two or three year period. The plan should include consideration of whether:

- The nine market areas used for offices are adequate for retail properties. Although the situation may well be different in the District, retail market areas or neighborhoods usually follow traffic corridors more than offices do. Again, while this may well not apply in the District, it would be prudent to consider whether retail areas should be defined separately from office areas.

  OTR agrees with this point, as outlined in our response to recommendation #1 above.

- Additional space types, easily accommodated in the CAMA system, would be helpful. One example is restaurants. Current rent tables provide a separate rate for restaurant spaces but do not distinguish between fast food and full service restaurants. Although appraisers can apply adjustments for "tenant appeal," standardizing rates creates consistency and lessens the need for individual property adjustments. In any case, retail properties warrant special attention in the march to appraise all properties in the District equitably at market value. We believe that, as with office properties, the CAMA system provides an effective mechanism for generating accurate and equitable values. As noted, the CAMA system allows users to vary vacancy rates (along with rent rates) by market area, and analyses should be conducted to determine whether it would be appropriate to do so. Varying vacancy rates by market area could improve valuation equity while relieving appraisers of the need to apply as many individual property adjustments. Although Version 7 of CAMA has the ability to apply per square foot (rather than percentage) adjustments for expenses, we see no merit in doing so since per square foot adjustments require more frequent updating than percentage adjustments.

  The division has recently implemented a retail income model in CAMA where it was used for the second year with the TY 2018 valuation. As OTR gains experience with the model, it will be continuously updated and re-calibrated as more accurate data becomes available through more and better income and expense information and more accurate property attribute data. OTR has a schedule of field inspections scheduled in advance of the TY 2019 revaluation to improve property attribute data. OTR's Market Analyst is focused on identifying those value characteristics that the market deems significant in establishing accurate values across the many and diverse types of retail property.

APPENDIX A. AGENCY'S RESPONSE TO THE DRAFT REPORT

13. We recommend that RPAD develop additional mass appraisal tools for valuing industrial properties. While we have no issue with the appraisal approaches used for industrial properties, we recommend that, like most other properties in the District, they be appraised largely on a mass appraisal basis. Income rates could be developed and entered in CAMA, and sales based models could be developed. As with other commercial properties, considering prior year sales (appropriately adjusted to the valuation date) could help improve sample sizes. Values should be based on whichever valuation approach works best, or the appraiser could enter an override value. Procedures related to the valuation of industrial properties should be included in the Employee Handbook and/or ARM.

Unlike other city or urban jurisdictions, the District of Columbia has no meaningful industrial development. In the District of Columbia there are 482 industrial properties in total of which 392 are storage facilities or warehouses. Sales-based models would be difficult to develop as there are little to no qualified sales of these properties, even over an extended period of time. A rudimentary model could be developed using industry standards for calibration, however, finding statistics and survey data on industrial properties other than storage facilities is problematic. Also note that except for some well-positioned self-storage facilities; most industrial properties in the District are likely not at their highest and best use. The OTR will consider the income approach for TY2019; however, if it is not deemed feasible and reliable, we will continue to rely on the cost approach to valuation for this small sub-set of properties.

14. We recommend that RPAD evaluate whether improvements in rent table structures, market areas, and the treatment of reserves for replacement are feasible. We wonder whether the 40 distinctions in rent rate tables are productive; that is, whether the required data is fully known and consistently applied. By way of contrast, we note that the apartment I&E mailer only provides for six unit types (efficiency, 1-bedroom, 2-bedroom, 2-bedroom +den, 3-bedroom, and 3-bedroom +den) plus an "Other (list)"category. Although we do not recommend that income rent tables be similarly collapsed, we think it would be helpful to discuss the issue and either affirm the present categories or simplify them going forward. As with other categories of commercial property, consideration should also be given to whether the nine market areas originally based on Costar office submarkets are still relevant to apartments or whether the residential neighborhoods assigned to apartment market areas should now be refined (we do not suggest that this is necessarily the case only that it be reviewed and considered).

We concur that our models need continuous scrutiny to ensure that the model replicates the actions of buyer and seller in the market. The apartment model will be re-evaluated for the TY 2019 to include having our I&E form and our valuation model more represent the mix of units found in the market. In addition to ensuring rents are appropriate, OTR will also define the apartment building in a similar manner to what is utilized in the industry, specifically Class A, Class B and Class C delineations. We also intend to better reflect the treatment of low-income, subsidized units in our model for the next valuation cycle, TY2019. Reserves for replacements have been properly accounted for in OTR's most recent, TY2018, valuation.

With regard to the application of CoStar's office sub-market delineation as applied to apartments, we have seen a high correlation of the two and therefore believe that no further refinement of the apartment submarket boundaries is warranted. On those minor occasions where discrepancies occur, the appraiser has a full suite of tools available to make appropriate adjustments to compensate for the differences.

APPENDIX A. AGENCY'S RESPONSE TO THE DRAFT REPORT

15. **We recommend that RPAD strive to keep documentation of appraisal procedures and practices current and consistent across property types when appropriate. Updating appraisal documentation is always a challenge as valuation processes are improved. Although both the ARM and Employee Handbook provide relevant, well-written explanations and instructions, we do recommend that a conscious effort be made to keep them current and consistent. While the current Employee Handbook reflects the incorporation of office buildings into the Vision income tables for TY 2017, the ARM are written specifically for apartments and do not appear to have been similarly updated.**

    We agree that documentation needs to be consistent with practice and will make the update of our documentation a priority. OTR publishes an Appraiser's Reference Materials manual, an Employee Handbook, a Customer Service Manual, a Pertinent Data Book and a Market Analysis book. OTR will make every effort to keep these publications current and consistent.

16. **We recommend that RPAD begin reporting ratio study statistics with respect to assessed values on the roll at the time of sale rather than, or in addition to, assessed values anticipated to be enrolled later, as are currently reported.**

    After the revaluation is concluded each year, the District has the opportunity to examine the results of the revaluation against sales that occurred after the date when the models were calibrated. This is in effect a "hold-out sample" that gives the managers an opportunity to ensure that the appraisers are not "chasing sales." The report mentions that there is no indication of "sales chasing" and OTR concurs with this conclusion.

    Also, as represented in the chart below, OTR does not have a significant number of commercial sales that would allow a "hold-out" sample to be practical.

17. **We recommend that RPAD transition to computing and reporting ratio statistics by property type and market area.**

    Ideally, this would be the most beneficial way to report commercial ratio statistics but the qualified sales of commercial properties are limited. See table below:

Number of Qualified Sales Used by Tax Year and Property Type

Tax Year	Property Type	Office	Apartment-HR	Apartment-LR	Retail	Hotel
2015		21	9	22	N/A	7
2016		20	5	12	N/A	8
2017		25	8	48	106	11
2018		16	6	47	N/A	N/A

2017 is the first year that sales were directly tracked for retail-No retail analysis done as of yet for 2018
No Sales list compiled as of yet for hotels in 2018

Sample sizes of less than 30 are not reliable indicators of ratio statistics.

APPENDIX A. AGENCY'S RESPONSE TO THE DRAFT REPORT

18. We recommend that RPAD begin to adopt a standard-accepted trimming rule rather than the arbitrary ratio boundaries of 0.40 to 1.60 presently employed.

As discussed in our response to recommendation #3, our primary use of qualified sales of commercial property is to help develop and support the various capitalization rates used in the income approach to valuation. OTR contends our established trim range is not arbitrary, and most importantly, is sufficiently large and few if any ratios are excluded. Only the most extreme of the outliers would be excluded, as would be appropriate. OTR does not intend to modify this methodology.

19. We recommend that RPAD take steps to compute and, when appropriate, publish confidence intervals for important statistics. This would enable readers to judge whether an apparent success or failure is more likely to reflect a fluke of small samples than a real problem.

The confidence interval would be a good test to ensure the reliability of our median calculation. It is easily developed from modern statistical software packages. OTR will include it in their annual published ratio report and provide a narrative about it in the report that is published typically in August or September of 2017.

20. We recommend that RPAD begin to compute and, when appropriate, publish PRBs.

Vertical inequity is currently being measure by the price-related differential. The price-related bias test is one of several additional tools to measure this bias. In our experience, adequate sales exist in our residential inventory to make a price-bias test meaningful when values are generated from our CAMA system which applies OTR's sales-calibrated cost approach. For example, "economies of scale" have been known to introduce systemic errors in CAMA valuation models. However, in the valuation of commercial properties, where the income approach is the primary indicator of value those limitations rarely, if ever, occur. The marginal square foot of rentable area is identical to the first square foot. Additionally, in general, commercial properties, collectively, are much more heterogeneous than residential properties, making a bias test difficult to interpret. We do not see the merit of computing and publishing the PRB for commercial property.

21. We recommend that RPAD begin to produce statistical graphics to facilitate quick comprehension of patterns not immediately observable from numeric tables.

RPAD includes a histogram depicting the distribution of ratios for all residential property in the District. This chart easily illustrates both the level of assessment and the dispersion of ratios as measured by the standard deviation. RPAD will display a similar chart for the ratios of all commercial properties in its next report typically published in August or September of 2017.

“

APPENDIX A. AGENCY'S RESPONSE TO THE DRAFT REPORT

22. We recommend that RPTA produce a USPAP-compliant mass appraisal report based on the ARM. The report would blend procedural narratives with statistical data on valuation parameters such as rents, expense ratios, and capitalization rates. The aim is to make public more evidence of the credibility of assessments. The recent additions related to residential and residential land valuation provide a template for changes that would be desirable in the discussion of commercial valuation procedures.

The information discussed in the recommendation such as statistical data on valuation parameters such as rents, expense ratios, and capitalization rates and the like are contained in the division's Pertinent Data book and Market Analysis book. OTR will make the Pertinent Data book available to the public for no charge and will also publish it on its website along the other publications.

23. We recommend that efforts continue to improve how RPTA defends assessments under appeal. This can be done by:

- Continuing to monitor the quality of its valuation performance as it already does via its appeals tracking system, recognizing that a superior measure of performance is found in assessment to sales price ratio studies;
- Augmenting its efforts to manage its appeal/litigation management system, with attention not only to monitoring conditional liabilities and calendar related workflows, but also to the management of related documents and professional services; and
- Considering whether to advocate for a redress in the appeal incentives from a game theoretic perspective, either by advocating for an increase in the cost to property owners of filing an appeal, perhaps on a recurring basis to spur their prompt resolution, or by adopting social pressures rather than, or in addition to, economic incentives to address the situation.

OTR intends to substantially improve it appeal/litigation management system by procuring an Appeals Tracking system from an outside vendor to replace its legacy FoxPro system. We expect to have a system selected and in place for the TY2019 appeal season that starts on our about Aprill, 2018.

With regard to the unbalanced incentives for appellants at the 3rd level of appeal, OTR currently, as noted in the report, has "limited options" for counter-strategies. Presently, OTR imposes no impediments to a property owner's right to appeal his/her property valuation. Speedy resolution of cases at the 3rd level would be the most beneficial resolution to this issue. As such, OTR would like to engage policy makers in discussion of the establishment of a tax court.

APPENDIX A. AGENCY'S RESPONSE TO THE DRAFT REPORT

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

EVALUATION OF ORGANIZATIONAL STRUCTURE, WORKLOAD STATISTICS, PERFORMANCE MEASURES, COMPENSATION REQUIREMENTS, STAFFING LEVELS, TRAINING, QUALIFICATIONS, STAFF DEVELOPMENT FUNCTIONS, AND HIRING PRACTICES

Organizational Strategy

In our efforts to assess the organizational structure's ability to effectively support RPTA's organizational strategy, we discovered that RPTA did not possess or operate on an explicit, discrete, and coherent organizational strategy. We found that RPTA management operates on unwritten operational and tactical plans that are not clearly aligned with the OCFO's strategic objectives and initiatives. In the absence of this strategy, a meaningful evaluation of RPTA's organizational structure to support its organizational strategy could not be executed.

24. We recommend that RPTA develop and implement a clear, bold, and pragmatic organizational strategy through an annual strategic planning process. This strategy should clearly articulate clear choices (what to pursue and what to not, what capabilities and assets to leverage) in operational and tactical terms - in the shape of goals, objectives, policies and procedures- on how to execute the OCFO's strategic objectives and initiatives. RPTA should then continuously assess whether the organizational structure is capable of effectively supporting the execution of this strategy.The strategy should be continuously iterated through the use of a well-defined feedback loop to adapt and ensure alignment with the OCFO's strategic objectives and initiatives in the face of exogenous regulatory, technological, economic, and demographic changes. An organizational structure impact analysis should then be conducted in the event of a recalibration of the organizational strategy.

This finding, as well as several others in this report, seems to demonstrate a lack of understanding of RPTA and how it functions in the city. It completely ignores previous work such as the 2012 Almy, Glaudemans, Denne best practice study and other changes made in 2015 as a result of an intensive review by the CFO to improve operations in the assessment division. This and other recommendations appear more text book than pragmatic. As a result, we strongly disagree with the auditor's assessment that RPTA's operational and tactical plans do not align with the OCFO's strategic objectives and initiatives. RPAD responsibilities, plans and activities perfectly align with strategic objective #7 of the OCFO strategic plan; that objective is to manage a fair and equitable system to fully collect District revenues. This strategic objective was developed to ensure that only the proper amount of taxes are collected, and any amounts owed taxpayers are properly and promptly refunded. RPAD is responsible for annual assessment of all properties in the District of Columbia. This is the core duty of Assessment Division. The division is appropriately structured to perform to perform its duties. Title 47 of District of Columbia Official Code clearly describes various aspects of RPAD tasks in fulfilling its core duties. RPAD consistently meet this goal statutorily, and in the context of the OCFO's overall goals and strategic initiatives. Apart from District of Columbia Official Code, written policies and procedures are available to all staff in RPAD, and are relied upon in carrying out their core duties. These documents have evolved over years and were recently updated as part of the -continuous effort of aligning RPAD business process with achieving its operational goals.

APPENDIX A. AGENCY'S RESPONSE TO THE DRAFT REPORT

Standards and Services Unit

The Standards and Services unit lacks a written charter. Consequently, there appears to be a lack of clarity with respect to the unit's position in the organizational structure and its reporting relationships. Two organizational charts that were divergent on the position and reporting relationship of this unit were prepared and provided for review. In the absence of an organizational strategy and a departmental charter, we could not assess the optimal position of this unit within the RPTA's organizational structure.

25. We recommend that RPTA develop a written charter for the Standards and Services Unit and optimally position this unit, taking into account RPTA's organizational strategy.

We strongly disagree with the auditor's assessment of the unit. Standards and Services Unit is fully integrated unit of RPAD. Its functions include development of market rates and ratios used in calibration of appraisal models; management of exemption, mixed-use and class 3-4 programs. Like any other RPAD unit, Standards and Services unit's operation is governed by established RPAD policies and procedure.

CAMA Team

RPTA's assessment functions are undertaken by the following units working collaboratively:

- 3 commercial units;
- 3 residential units;
- Maps and titles unit;
- Standards and services unit; and
- Appeals unit.

RPTA's CAMA-related functions are presently grouped within the Standards and Services Unit, which executes a wide range of functions such as: exemptions, class 3 and class 4 programs, assessments for cooperatives , New York Avenue special assessments, I&E reporting program , and maintaining the policies and procedures manual, assessors reference materials, Pertinent Data Book (published in April),and market analytics books (published in August) containing market norms for rents and expenses, expenses for office building, cap rates, etc. In prior years, the exemptions function was organized as a distinct unit. Given the sweep of his responsibilities, it is unrealistic for this unit leader to exercise adequate oversight over RPTA's CAMA functions.

26. We recommend that RPTA organize the CAMA function into a separate unit. The unit should be adequately staffed. Additionally, RPTA should assign leadership responsibilities for the unit to the current CAMA manager who should report to the Deputy Chief Appraiser.

We strongly disagree with this recommendation. Management and maintenance of the CAMA system is crucial to RPAD technical duties. RPAD is currently exploring direct initiative that will make Vision CAMA more flexible in delivering RPAD objectives. The risk involved with very limited staff with knowledge of CAMA function is well recognized. Organizing CAMA function under a different unit is not necessarily a solution for this challenge in our view. However, we do believe that the current team should be expanded to include two additional professionals with thorough knowledge of Vision CAMA software to mitigate the risk of limited staffing in this area. Resources will be reassigned internally to address this need.

APPENDIX A. AGENCY'S RESPONSE TO THE DRAFT REPORT

Appraiser Leadership

Each commercial unit has Senior Appraisers, Staff Appraisers and Assessment Technicians. Senior and Staff App raisers execute the same level of responsibilities. All personnel within each commercial unit report directly to the Unit Supervisor. This arrangement has resulted in very few opportunities for leadership development that is critical to ensure a seamless transition when supervisory positions become vacant.

27. We recommend that RPTA reconfigure reporting relationships within the commercial units by assigning oversight responsibilities of Staff Appraisers and Assessment Technicians to both Supervisors and Senior Appraisers.

We disagree with the auditor's assessment that there a limited leadership development opportunities. RPAD recently added two new units to the existing four appraisal units. The impetuses for additional unit are [in part] to establish property type specialization for each appraisal unit; allow unit supervisors to have better oversight of unit activities by reducing the number of direct report from initial average of ten staff to now average of six staff. Supervisory appraisers are working managers. They are responsible for administrative and technical operations of the unit. Senior Appraiser provides guidance and training to staff appraisers but arenot responsible for their administrative supervision.

Office of Quality Assurance, Best Practices and Innovation

RPTA currently lacks independent quality assurance mechanisms to drive excellence in its assessments. Most quality reviews are limited to Supervisory level reviews. Apparently, little or no effort is expended on compiling best practices in all core processes or applying leading thinking by studying the assessment practices of state and local government entities geared towards utilizing better methods, enhancing the quality of service output, controlling and reducing process waste, reducing processing costs, improving process efficiency, improving productivity, and reducing processing times.

28. We recommend that RPTA establish an Office of Quality Assurance, Best Practices and Innovation to: (a) conduct random and regular independent assessments of quality in all core processes; (b) assess performance against best practices;(c) study the commercial real property assessment practices of state and local government entities across the United States; and (d) engage in process innovation to enhance service deliver. This office must report directly to the Director of RPTA and report yearly to the District's CFO.

We strongly disagree with the auditor's assessment of RPAD having no quality assurance mechanism, and believe that it is indicative of an extreme lack of understanding of the environment and how RPAD operates within the District. The uniqueness of the District of Columbia as "all-in-all" assessment jurisdiction vest oversight authorities [unlike States Assessment Administration] in the District itself. RPAD consistently adheres to IAAO standards and practices in effort to maintain best practices in carrying out its assessment duties. In addition, under the auspices of the Office of the Inspector General, an independent best practice review is conducted on a regular basis to ensure that RPAD stays abreast and adheres to practices reflecting the leading thinking and methodologies in property assessment. Such a review has just occurred. In addition to the OIG's review, OCFO Risk Officer has established periodic risk controls and assessment of RPAD functions. This is a form of direct oversight of RPAD

APPENDIX A. AGENCY'S RESPONSE TO THE DRAFT REPORT

business functions that is independent of RPAD itself. Also, the OCFO's Office of Integrity and Oversight also conduct periodic audits of the assessment division to ensure the unit's adherence to its written policies and procedures. In addition, there is extensive external training of appraisers as well as a new appraiser certification program that ensures that all appraisers are exposed to industry best practices. All of these combined efforts ensure that RPAD maintains a focus on quality in its assessments and service delivery. These facts were clearly ignored by the auditor.

Cross-training Assessors

RPTA's assessment units are organized on the basis of the nature of assessments (commercial or residential). When vacancies unexpectedly arise in the commercial unit, work is impacted adversely owing to a combination of RPTA's specialization of assessments functions and the realities of the labor market. While specialization has its benefits, we believe such benefits are far outweighed by the agility that a cross-trained workforce will accord. Additionally, we believe cross-training will yield rich insights stemming from exposure to diverse situations. We also believe it will enhance the quality of both commercial and residential assessments.

29. We recommend that RPTA cross-train assessors in both commercial and residential assessments. This will enhance job enrichment and ensure that the workforce is flexible, agile, and able to effectively deal with uncertainties.

We disagree with this recommendation as it directly contradicts the recommendation of the previous Almy, Glaudemans, Denne best practice consultant's report. Recommendation 3.2.3.3 of OIG [No. 13-2-01 AT] audit of RPAD Commercial Real Property Assessment conducted in November 2012 emphasizes that RPAD assign commercial staff appraiser to specific property. This recommendation is currently the policy of the division. This policy has given the management the ability to deploy staff appraiser to different unit tasked with specific property as a basis for cross training.

RPAD sponsor annual assessor school exposes staff appraisers to various appraisal educations. Classes offered at the Assessor School covers wide scope of appraisal practice and specialty that allows individual appraiser to hone their skill in different types of properties.

Implementing special cross-training program will be contrary to the 2012 OIG audit referenced above. RPAD has implemented this recommendation.

Workload Measurement System

RPTA collects workload data with respect to number of assessments and appeals. There are no credible mechanisms to capture and measure data that link the work of non-appraiser personnel to these two activities. We believe this measurement framework is too simplistic to accurately assess the impact of the workload level on performance of appraisers, employee morale, or the quality of assessments, which are impacted by the quality of available data, the cooperation of the property owner and the complexity of the assessment among other factors.

APPENDIX A. AGENCY'S RESPONSE TO THE DRAFT REPORT

30. We recommend that RPTA develop and implement a credible workload measurement system to evaluate the efficiency and effectiveness of the assessment process.

We disagree with this recommendation. Appraiser Technicians [non-appraiser personnel] are mainly support staff for the appraisal unit. RPAD continues to conduct annual re-assessment and appeals exercises consistent with the statutory dates [deadlines]. There are sufficient statistical data and bench marks in RPAD procedures to determine the quality of results of these technical assignments.

Strategic and Operational Human Resources Plans

The Office of the Chief Human Resources Officer (OCHRO) has not developed strategic (3-5 year outlook) and operational (outlook of one year or less) human resources plans. The absence of a strategic human resources plan can result in wide gaps between human resources practices and the OCFO's strategic plan thereby undermining OCFO's overall efforts to achieve its strategic goals and that of RPTA. The absence of a human resources operational plan is a key contributing factor to RPTA's inability to meet their future labor needs proactively. An effective human resources operational plan compares present workforce capabilities with future demands and is a useful tool in enhancing organizational agility in the face of uncertainties.

31. We recommend that OCHRO develop a strategic human resources plan that addresses the needs of RPTA. The plan should:

- **Assess current human resources capacity;**
- **Forecast human resources requirements;**
- **Perform a gap analysis; and**
- **Develop and document a human resources strategic plan to support the OCFO's strategic plan and the RPTA's organizational and operational strategies. This strategy should include the following:**
  - **Restructuring strategies;**
  - **Training and development strategies;**
  - **Recruitment strategies;**
  - **Hiring strategies;**
  - **Outsourcing strategies; and**
  - **Collaboration strategies.**

We also recommend that RPTA adopt an operational human resources plan that incorporates the following activities:

- **Forecasting labor demand;**
- **Estimating labor supply from existing employees or the external labor market; and**
- **Crafting an appropriate response depending on whether (a) labor demand exceeds labor supply, (b) labor supply exceeds labor demand, and (c) labor demand equals labor supply.**

We strongly disagree with the auditor's assessment of the HR division. The Human Resources Division has seventeen dedicated staff to service the Real Property Tax Administration (RPTA). A team of this size with a broad background and expertise in a

APPENDIX A. AGENCY'S RESPONSE TO THE DRAFT REPORT

variety of Human Resources disciplines can adequately support the human capital needs of this administration.

The OCFO has a restructuring process in place; a training and development strategy; an outsourcing strategy; and a recruitment and hiring strategy.

To address the current and immediate labor demands of RPTA, we are training our workforce to ensure that they have the requisite skills necessary to perform in varies capacities and at advanced levels; we have established and maintain a pipeline of relevant talent; and we have partnered with varies networking groups, universities, social media outlets, and organizations in order to quickly identify needed talent.

Balanced Scorecard

RPTA has not established any organizational level performance or strategic benchmarks, metrics orindicators to manage organizational performance or its human resources functions.

Establishing and measuring key performance parameters is critical to optimizing RPTA operations by driving improvements; focusing resources on strategic and operational priorities; measuring progress against missional goals; making informed decisions; and comparing performance against industry ratios. This will help management to learn from successes and correct failures.

32. We recommend that RPTA adopt measures to link operational activities to its organizational strategic plan and mission. In addition, key human resources metrics, such as Yield Ratios (ratio of offers to acceptance, interview-to-offer ratio, invitations-to- interview ratio, advertisements or contacts-to-applicant ratio), should be established. No set of performance measures or benchmarks are as effective as a balanced scorecard, which is designed to provide a fast and comprehensive view of an organization's business. RPTA personnel should compile an effective set of financial measures and operational measures (on customer satisfaction, internal processes, and the RPTA's innovation and improvement activities) that will put RPTA's strategy and vision at the center of its operations. This tool would drive its personnel to adopt behaviors and invest in actions that are critical to arrive at strategic and operational goals and align them toward an overall vision.

We disagree with the auditor's assessment. The OCFO implemented a new automated applicant tracking system (ATS) in August 2016. One of the purposes of implementing an ATS is to aid in capturing necessary data to develop and track the relevant rations related to HR service delivery within the agency. We have also developed key performance indicators (KPI's) for the assessment division related to the value of assessment changes to the value of assessments appealed.

Structured Employee Development Program

There exists no written and structured employee development plan. The primary purpose of which should be to develop and train the replacements for current RPTA supervisors, managers, and leaders.

33. We recommend that RPTA organize, formalize, and document its employee development program. This should consist of the following phases:

- ***Assessment:*** **This includes identifying an employee's strengths and weaknesses to help employees choose a career that is realistically obtainable and represents**

APPENDIX A. AGENCY'S RESPONSE TO THE DRAFT REPORT

a good fit; and to determine the weaknesses they need to overcome to achieve their career goals. Assessment can be achieved through employee self-assessment by way of skills assessment exercises, an interest inventory, and values clarification; and organizational assessment through situational exercises, such as interviews, in-basket exercises, business games, promotability forecasts, that would allow RPTA to identify people who appear to have high advancement potential.

- *Direction:* This phase involves determining the type of career that employees want and the steps they must take to realize their career goals.This should be based on a thorough assessment of the current situation. Two key ways to achieve this are individual career counseling and information services, such as skills inventories, career paths and a career resource center.
- *Development:* This phase is meant to foster growth and self-improvement necessary to move up in RPTA and involves taking actions to create and increase skills to prepare for future job opportunities. This can be achieved through programs such as mentoring, coaching and job rotation, which includes project rotation, partial rotation, cross-functional rotation, temporary rotations, and interdepartmental mentoring.

We disagree with the auditor's assessment of the agency's development plans. OCFO annually develops and updates Individual Development Plan for each of its employees which outlines the employee's career goals and determines a path to advancement. Additionally, it offers targeted job specific training, as well as other developmental courses to allow employees to gain expertise and advance in their careers.

Structured Training Program

We observed that there is little or no correlation between RPTA's training programs and its strategic needs reflected in the OCFO's strategic plan. Additionally, we observed the following in relation to training design:

- Little or no individual needs assessment is performed prior to training design;
- Little or no organizational analysis is performed prior to training design;
Little or no task (or job) analysis to determine Knowledge, Skills, and Abilities (KSA) required to perform individual functions prior to training design; and Training goals are not clearly articulated.

There also exists no clear criteria by which training effectiveness is measured. All these can result in a workforce that is ill equipped to accomplish the OCFO's strategic goals.

34. We recommend that RPTA develop a structured training program that is based on the following:

- An effective assessment of individual needs;
- An organizational analysis; and
- A job analysis of KSA for each function.

Also, RPTA should clearly articulate training goals for each individual and establish criteria by which the effects of training can be measured.

We strongly disagree with the auditor's assessment of our programs and the characterization of our staff as ill-equipped. First of all, the KSA's for each function are established prior to

APPENDIX A. AGENCY'S RESPONSE TO THE DRAFT REPORT

recruitment and hiring of the employee and form the basis of the determination of qualification of each applicant. Regarding individual; training needs, managers in the division consistently and at least on an annual basis evaluate employees' training needs. Appraisers within RPAD have the opportunity to attend Assessor School sponsored by RPTA annually. Apart from the Assessor school RPAD employees participate in webinars and organized seminars and educational training on specialized topics on as need basis. In addition to these training opportunities, the evaluation allows for mentoring and coaching from more seasoned staff. Recently, RPAD established an Education Certification Program for RPAD with three levels of designation. The program has been well received, with appraisers receiving increased levels of designation. The auditor was provided information on the enhanced training and certification programs but appears to have ignored it.

Job Descriptions

From interviews with RPTA personnel, we understood that job descriptions are not accurately reflected in the related vacancy notices. This could hinder the ability of RPTA to fill vacancies timely. Also, failure to accurately describe job responsibilities can result in new hires being unprepared for their duties and requiring extra training to fulfil their jobs.

35. We recommend that RPTA undertake a detailed job analysis prior to crafting position descriptions for vacancy notices. An effectively conducted job analysis will help the human resources department to: generate a higher-quality pool of job applicants by making it easy to target and screen qualified job applicants, and to make selection choices, determine training needs, and compare the relative worth of each job's contributions to RPTA's overall performance, which can be key determinants of the job's pay level. This analysis should include the following:

- **Task inventory analysis: This involves interviews, surveys, and preparing a knowledge, skills, and abilities matrix.**
- **Critical incident techniques: This is where supervisors and other employees generate behavioral incidents of job performance. This step involves identifying the major dimensions of a job, generating critical incidents of behavior that represent high, moderate, and low levels of performance on each dimension and ensuring that these incidents are viewed the same way by other employees.**
- **Position analysis questionnaire: This involves determining the degree to which 194 different job elements are involved in performing a particular job.**
- **Functional job analysis: This is a technique that mobilizes information on certain aspects of the job, including:**
  - **The effect the job incumbent has on other people, data, and things;**
  - **Methods and techniques the job incumbent uses to perform the job;**
  - **Equipment used by the job incumbent; and**
  - **Materials and services produced by the job incumbent.**

We strongly disagree with the auditor's assessment. The OCFO conducts a job analysis prior to developing and finalizing any OCFO position description. Position descriptions are reviewed and updated every three years. In addition, prior to beginning any RPTA recruitment search, HR meets with the hiring manager to ensure that there have been no changes and/or updates to the written position description, to determine the unit's highest priorities, and to identify specific and needed skillsets.

APPENDIX A. AGENCY'S RESPONSE TO THE DRAFT REPORT

Succession and Contingency Plans

We noted that RPTA does not have written succession and contingency plans for the key roles of Director and Chief Appraiser. The cost of not designing or implementing an effective succession plan program is the enhanced risk of hiring and promotion mistakes, loss of institutional knowledge, and the adverse impact of turnover in key roles, which includes the risk of discontinuity of key strategies and operational initiatives.

36. We recommend that RPTA design document, and implement effective succession and contingency plans. This will ensure seamless continuity of RPTA strategy and operations in the event of an unanticipated vacancy in either role. The succession plans should be approved by senior management. To ensure accountability, responsibility for this key program should be embodied within the position description for each role. Key metrics should be designed to periodically monitor and evaluate the program.

The OCFO Human Resources Division is currently working to implement a OCFO-wide succession plan to ensure that the OCFO is positioned for business continuity by identifying and developing replacement talent for executive leaders and key staff.

Hiring Processes

RPTA has experienced significant delays in finding permanent placements for key positions. As examples, the position of Chief Appraiser was not filled permanently for approximately a year, the position of Supervisory Appraiser for Litigation and Appeals was not filled permanently for approximately eight (8) months, and the Position of Director has been filled temporarily since December 2015. Additionally, two (2) appraiser positions in the commercial unit have been unfilled for a year and one has been vacant for approximately 6 months. The Agency's hiring practices may be divorced from market realities and therefore reactive rather than proactive. Permanently unfilled positions can result in a surge in employee workload and work backlogs. This could undermine employee morale and compromise an organization's internal control system.

37. We recommend that the OCFO undertake a comprehensive review of its hiring practices and processes with respect to RPTA. Deficiencies that may be inducing these delays should thereafter be addressed. OCFO should design and implement a recruiting and hiring strategy that is proactive and anticipatory- one that will effectively and

We disagree with the assessment that HR is reactive in nature. The OCFO/HR does take proactive approach to recruiting and hiring. We have established recruitment sources, a pipeline of potential candidates, and have established relationships with the organizations such as the Appraiser Institute and International Association of Assessing Officers (IAAO). In the event that hiring is delayed, it is not because OCFO HR practices are divorced from market realities. Rather, the delay is because of market realities and a current lack of availability of highly qualified candidates.