

FINAL REPORT
REVIEW OF RATIO STUDIES AND ASSESSMENT OVERSIGHT
PROCESSES

Prepared for
THE LOUISIANA TAX COMMISSION

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EXECUTIVE SUMMARY

The Louisiana Tax Commission (LTC) asked Almy, Gloudemans, Jacobs & Denne (AGJD) to review its ratio study and assessment oversight programs in order to help identify ways to improve operations and to ensure that real property in Louisiana is assessed accurately and uniformly as required by law.

We interviewed members and staff of the Commission, as well as several parish assessors, and reviewed relevant statutes, documents, and work products. We also obtained and analyzed data provided by the Commission. We developed our findings and conclusions in the light of our knowledge of best practices throughout North America and the guidance offered by the International Association of Assessing Officers' (IAAO) standards and related materials to which we contributed heavily.

While the LTC is striving to improve its operations and has made some significant recent improvements, we find that Louisiana's ratio study and oversight programs are relatively weak compared with best practices in other states and that there is much that can be done to improve the reliability and effectiveness of current programs. The main problem is that presently ratio study results and findings are not always credible for a variety of reasons, including underlying data inadequacies, a tendency of assessors in many parishes to appraise sold properties differently from unsold properties, and an over-reliance by the LTC on appraisals versus sales in conducting its studies.

The body of our report analyzes these and other issues and makes recommendations for improving operations, which are summarized and prioritized in section 6. We conclude that the primary need at this time is for the Commission to build a reliable ratio study program that will generate accurate, credible results on which it and assessors alike can rely. The components of this system should include:

- Greater emphasis on sales and less on appraisals;
- Annual studies that employ the same methods and techniques each year (currently different studies are conducted in each of the four years following a quadrennial reappraisal);
- Construction of a statewide sales file that accounts for all recorded sales;
- Improved electronic transmission of data to the LTC;
- Improved sales screening based on standard validation codes;
- Use of all valid sales that occur during the defined study time frame (rather than a subset of such sales);
- Improved analytical capabilities, including procedures to detect and adjust for sales chasing where indicated;
- Improved presentation of findings and results, including measures of statistical confidence in indicated assessment levels;
- Improved communication of results and procedures, including the development of a sales ratio user's manual and a workshop on the role and conduct of ratio studies in Louisiana;
- Implementation of supporting software with the requisite analytical capabilities;
- Staff trained to conduct required analyses (it may be desirable to augment the current staff with a statistical analyst).

While there are a number of related procedural and technical improvements that can and should be made, the primary emphasis must be on achieving credibility, so that one can have confidence in the basic accuracy of reported results. Greater use of sales, which objectively reflect the market, is the main theme underlying many of the key components listed above. Once this foundation is built, additional refinements could be added.

Appraisals, when used, could be made more credible in several ways. Appraisal samples could be made more representative of the stratum being analyzed by selecting them more randomly. Greater use should be made of the sales comparison and income approaches to value. The current reliance on cost-approach appraisals of buildings essentially tests whether the parish assessor's appraiser and the LTC's appraiser can apply the Marshall & Swift cost manual consistently to a typical set of improvements rather than attempting to estimate the fair market values of a randomly selected sample of properties based on current market data.

We believe that a credible procedural audit program would also contribute to improved assessment procedures, as well as reinforce and supplement ratio study findings, particularly in smaller parishes with fewer resources and market data. We believe that some staff time now consumed in conducting appraisals could be more productively employed in this area. Of course, such a program will take time (2-3 years) to develop and implement. We recommend that LTC take a phased approach to implementing procedural audits, beginning with studying several other states with such programs and defining the goals, scope, frequency, and procedures to be used in the studies (initially at least, a survey questionnaire of current parish valuation practices could be made).

The goal of both assessors and the LTC is to ensure that all real property is appraised accurately and uniformly at fair market value as required by Louisiana law. The ratio study is a primary tool for both parties in this endeavor, since it provides feedback on the current relationship between assessments and market values, helping to identify where values meet legal requirements and where improvements can and should be made. It is in the interest of all assessment officials to improve ratio study programs, which share the same data at both the state and local level. We believe that part of the challenge going forward is to foster a better understanding of the importance of sales information in general and ratio studies in particular to sound assessment administration. The Commission's challenge includes (1) sharing the vision and benefits of an improved ratio study program consistent with IAAO standards with parish assessors and (2) gaining their commitment and cooperation to building the data infrastructure and exchange needed to ensure a successful program. Thus, we believe it important that LTC strive to impart this vision of education and partnership while considering and implementing the technical improvements enumerated in our report.

1. INTRODUCTION

The Louisiana Tax Commission (LTC) asked Almy, Gloude-mans, Jacobs & Denne (AGJD) to review its ratio studies, appraisal program, and other supervisory activities. The review aims to identify ways to measure the performance of parish and district assessors more effectively and to ensure that real estate is assessed accurately and uniformly throughout the state. In addition to evaluating its ratio study and appraisal program, we were asked for advice on performance audits. The review is part of LTC's ongoing effort to address issues raised about the quality of assessments in the state by newspapers, public interest groups, and the legislative auditor.

We interviewed executive, supervisory, and technical personnel on the LTC staff in addition to talking with members of the commission itself. We reviewed the statutory, regulatory, and working procedural documents and forms establishing the current framework for the subject activities. We reviewed a sample of recent sales and appraisal ratio study reports. We obtained and analyzed the most recent available set of assessment, sales, and related data submitted electronically to LTC by the parishes and districts. We interviewed several parish assessors. We reviewed relevant recent studies by interested third parties, including the Legislative Auditor's performance audit of the Commission's ratio studies dated February 6, 2002, and the studies of the Bureau of Governmental Research. We considered our findings in the light of our knowledge of best practices throughout North America and the guidance offered by IAAO standards and related materials, some of which we have been privileged to have written. In addition, we consulted the LTC's website (www.latax.state.la.us).

Section 2 describes our understanding of the setting for real property assessment and assessment supervision in Louisiana. It also contains our general assessment of the resources provided for supervision and equalization. Section 3 examines the strengths of current ratio study procedures and identifies opportunities for improvement. Section 4 similarly reviews the LTC's appraisal program. Section 5 provides background information on the use of procedural audits in assessment supervision and suggests a strategy for beginning a program of procedural audits in Louisiana. Section 6 summarizes our conclusions and recommendations.

2. SETTING

2.1 Legal Framework

The Louisiana Constitution and Title 47, Revenue and Taxation, of the Revised Statutes (R.S.) of the State of Louisiana govern the taxation of property. Pursuant to RS 47:1837, the Louisiana Tax Commission (LTC) has promulgated rules. We summarize key features of the legal framework for real property assessment in this section. The powers and duties of LTC are discussed in section 2.3.

Except for certain agricultural and residential property, the basis of assessment is “fair market value” as of January 1 of the base year (August 1 in Orleans Parish). The current base year is 2003. Taxes on the 2003 base-year values were first levied in 2004 (except in Orleans Parish, which is on an accelerated implementation timetable). New construction and other physical changes may be assessed in subsequent years, but such properties are to be valued at base-year price levels. In addition, assessors may correct valuation errors that affect groups or classes of property. Assessors must make values open for inspection for a 15-day period beginning no earlier than August 15 and ending no later than September 15 (except in Orleans Parish where the dates are August 1-15). Assessors also submit their assessment lists to the LTC at this time for approval. Appeals are heard December and extending into the following year, sometimes as late as April or May. Reappraisals are required at least once every four years. Thus, the next mandatory reassessment year is 2007. The Constitution contains a provision that mandates that tax rates be adjusted after reappraisals to cushion the impact of higher assessments in rising markets.

Agricultural property is assessed on a use-value basis. Owner-occupied residences receive a \$75,000 exemption (\$7,500 of assessed value), and the assessments of certain homesteads are frozen as long as owner age and income requirements are met. Historically, a sizeable percentage of homes fell under the homestead exemption limit and thus were exempt from property taxes, although escalating prices have diminished properties eligible for full exemptions. Land and residential improvements are assessed at 10 percent of appraised value, while commercial improvements are assessed at 15 percent. As will be seen, the differential in assessment levels between commercial land and improvements creates problems for *assessment*-to-sale price ratio studies for improved commercial properties.

An anachronistic statute (RS 47:2325) requires assessors to supply property owners with self-reporting (LAT) forms annually and for property owners to self-report property characteristics data. Failure to declare jeopardizes appeal rights. Experience has shown that property owners are not reliable sources for consistently and accurately supplying data on the factors needed in mass appraisal.¹ Following good practice, most assessors do not rely on data supplied on these forms and assign staff to property data collection. Some assessors, however, still rely on problematic self-reporting. We recommend that provisions for self-reporting of *real property physi-*

¹ Separate forms have been developed for single-family residences, apartments, commercial and industrial properties, and vacant land.

cal characteristics be stripped from the law and replaced by a requirement that assessors review property data either on-site or electronically (e.g., through aerial or ground photos) as part of each quadrennial revaluation.²

Like approximately 15 other states, Louisiana is not a “full disclosure state,” meaning that buyers and sellers need not sign an affidavit or similar document disclosing the price paid and other relevant sales information. While several progressive assessors have recommended adoption of a full disclosure law, the Louisiana Assessors Association unfortunately has not backed the proposal. Lack of a transfer affidavit limits the sales information available to both assessors and the LTC and thus hampers valuation procedures and the ability to conduct accurate sales ratio studies. We strongly recommend that all Louisiana assessment officials work toward the adoption of a full disclosure provision similar to those enjoyed by the majority of other states. In the absence of a required affidavit, LTC should consider the development of a standard voluntary questionnaire that parishes could use to obtain information about recent sales.

It might be noted that although quadrennial reassessments are considered acceptable, more frequent reappraisals have the benefits of greater tax uniformity (as measured by the uniformity of effective tax rates within a class of property, which largely are determined by the uniformity of assessments), greater public acceptance of the property tax (because tax burdens change gradually in an understandable manner), and better financial management (for the same reason). Having a standard valuation date is essential to tax fairness, but having that date in a distant past year presents challenges. To achieve uniformity, an assessor’s appraisal system must successfully deal with several types of changes: (1) general changes in price levels in various real property market segments (such as the market for single-family houses), (2) more localized value changes related to changes in supply and demand in each market segment, and (3) specific changes to individual properties (e.g., splits and combinations of land parcels, new construction, and demolitions). By definition, a distant base-year virtually ignores the first two types of changes. An event like Hurricane Katrina dramatically demonstrates the kinds of market disruptions to real estate markets that can occur. Equally obvious, such disruptions make it virtually impossible to achieve property tax equity using assessments based on earlier market conditions. At the same time, it is equally difficult to generate meaningful estimates of either the *current* value of properties in the affected areas or of what they hypothetically would be worth as a hurricane-damaged property in the base year (which is what a base-year standard implies when the interval between reappraisals is greater than a year). Before computerization, it was considered logistically necessary to spread out the work of reappraisal *projects* over several years. Nowadays, annual reassessment *programs* are feasible with integrated computer-assisted mass appraisal (CAMA) systems and geographic information systems (GIS).

2.2 Economic and fiscal framework

The combination of depressed property values in rural parishes, the large homestead exemption, and low effective tax rates (due in large part to taxes and royalties paid by oil and gas properties) has diminished the relative importance of the property tax in Louisiana compared with most

² Professional standards encourage rolling reinspection programs that ensure that each property is reviewed at least once every four years.

states. As a general matter the “bang for the buck” achieved through equalization is proportional to the tax base involved. When property taxes are relatively low, as in Louisiana, equalization efforts and procedures need not be as thorough and rigorous as when property taxes are high. This is not to say that the property tax is not a large and steadily growing revenue source in Louisiana and that strong property valuation standards are not required. However, in terms of cost-effectiveness, the enforcement mechanism need not be as detailed as in high property tax states.

As in Kentucky, the state legislature sets salaries for assessors, which has the advantage of guaranteeing at least minimum salary levels. Currently there are three salary levels based on population of the parish. We perceive this as positive as long as the salaries are set at sufficient levels to attract and retain qualified professionals. Also on the positive side, the legislature has provided a 7% salary increase for those who obtain the certified Louisiana assessor (CLA) designation.

2.3 Institutional Framework

2.3.1 Overview

As in other states, responsibility for property tax administration is shared between state and local government. Parish and district assessors are responsible for assessing property at fair market value. The Louisiana Tax Commission (LTC), a five-member board, supervises parish and district assessors. There are sixty-four parishes. Sixty-three have a single elected assessor. Orleans Parish (New Orleans) currently has seven elected district assessors; beginning in 2010, it too will have a single assessor. Parish sheriffs are responsible for property tax collection. Initial appeals are to the assessor; thereafter to the parish Board of Review and then to the LTC

2.3.2 State Supervision

Pursuant to RS 47:1837 and other sections of the statutes, the LTC has a broad range of supervisory powers and duties. Sub-section B requires the LTC to study the level and uniformity of assessments in the state. When actual levels of assessment deviate by more than 10 percent from the legal level, sub-section B requires the LTC to issue orders to assessors to bring rolls into compliance with the law within one year. If the assessor fails to comply with the order, the LTC may not certify the roll, thereby halting taxation. Sub-section C gives the LTC additional investigatory powers, which could serve as the basis for audits of assessment procedures (as discussed in section 5). Under sub-section D, the LTC has the authority to adopt rules and regulations related to minimum standards of assessment and appraisal performance. Of current rules, perhaps the most relevant for our purpose are standard property classification codes and electronic submission of assessment rolls. The LTC’s power and duty to prescribe forms also has important implications for the efficiency and uniformity of assessment practices. In addition to its oversight and enforcement requirements, RS 47:1837 requires the LTC to provide assistance to assessors.

The LTC maintains a useful rules and regulations manual that summarizes legal requirements related to property assessment. Of particular note is section 111 of the manual, which discusses the criteria for determining fair market value and emphasizes the importance of uniform valuation procedures. Although emphasis is on the cost approach, the manual endorses use of all three traditional approaches to value and declaration forms provide for collecting income and expense data. Section 303 also is worthy of note. It addresses the appraisal of real property and discourages selective reappraisal of sold properties (“sales chasing”). It requires that properties appraised after a general reappraisal be valued at price levels as of the general reappraisal date. Although Louisiana does have a commendable provision for providing salary incentives to assessors obtaining the certified Louisiana Assessor (CLA) designation, unlike most states, it does not have mandatory certification or training requirements for assessors, key professional staff responsible for valuation, or both.³ Some assessors are well qualified for their positions and are strongly involved in their profession, while others would appear to have little relevant background or training. Although it is tangential to our assignment, we recommend that Louisiana establish minimum certification requirements for assessors and professional staff responsible for property valuation. The general aim of the requirements would be to ensure that each parish assessor’s office has staff with the technical proficiency to value property accurately and equitably in accordance with Louisiana law. Mandatory certification program requirements vary. To be certified, a person may have to have a specified level of formal education. A post-secondary degree in a relevant field would be highly desirable, although a certain amount of relevant experience could be substituted for a degree requirement. Virtually all programs require some combination of course work and training. Some have experience and demonstration appraisal requirements. The areas to be tested would include mastery of basic appraisal principles, an understanding of mass appraisal technology, knowledge of assessment administration, and knowledge of Louisiana property tax law. The CLA covers the first area adequately by requiring IAAO courses 1 and 2 (or their equivalents). Louisiana could choose its certification requirements from one of several models. The assessor could be required to obtain certification within a stipulated period after winning election or the assessor could be required to employ a certified person to oversee reappraisals and the issuance of assessment rolls. Some states establish levels of certification requirements, such that certified assessing officers in larger urban parishes would have to demonstrate a higher level of technical proficiency than those in smaller rural parishes. Usually when mandatory certification requirements are introduced, a certain amount of time is allowed for parishes to come into compliance, and the incumbent elected assessor may be “grandfathered in.” Enforcement remedies run the gamut from removing the assessor from office and having the LTC designate a replacement to refusing to approve the tax roll in the parish to having the LTC temporarily assume responsibility for assessment at parish expense). Such minimum requirements seem especially appropriate since the Legislature sets the salaries of assessors.

Happily, all but two parishes have a single school district (the other two parishes have two school districts each). This largely eliminates the need to determine whether properties in different school districts in the same parish are assessed at different percentages of market value.

³ RS 47::1837 F authorizes the LTC to provide or co-sponsor assessor training.

2.4 Program Management

As the LTC and its staff recognize, property tax supervisory agencies have a set of inherently difficult and sometimes seemingly contradictory responsibilities. In general, they set standards and specifications, provide assistance and counseling, monitor performance, and take corrective action when necessary to ensure that standards are met. Although crucial to effective supervision, monitoring activities and enforcement actions (“policing”) usually are a source of tension between local governments and the state. A supervisory agency faces the challenge of achieving the balance of activities that results in the highest level of performance with the least consumption of resources and the least amount of stress. In other words, the more effectively a supervisory agency encourages high-level performance and the more effective its assistance activities are, the less onerous its enforcement activities will need to be. Effective supervision deters the destructively competitive underassessment that may occur when state aid is based on relative local property tax wealth. An effective property tax supervisory agency encourages competence in local assessment offices. In essence, effective assessment supervision combines effective programs for monitoring local conditions and assessment performance, a strong commitment to assisting when necessary, “counselling” when performance falls below expectations, and firm and consistent enforcement of legal standards.

2.4.1 Organization and Staffing

As noted, the LTC is responsible for supervision of parish and district assessors, central assessment of public service property, and hearing appeals. The five-member commission serves as the executive head of the agency and as an appeals tribunal. The commission selects an administrator, a career civil servant, who is responsible for day-to-day operations. Currently, the bulk of the 37-member staff is housed in one of four sections, each of which is responsible for a general program area. Supervision of assessors is the responsibility of the appraisal section. It has nineteen authorized positions: a director, an assistant director, an administrative secretary, three supervisors, and thirteen appraisers. Each of the supervisors is responsible for a region (South, North, and Central/Southwest) and has a team of appraisers working under him. The section draws on other members of the LTC staff for specialized services, such as information technology support.

The appraisers and their supervisors work out of their homes to lessen unproductive travel. Supervisors are in frequent contact with their team members to track progress and to address problems. All the staff periodically meets to discuss plans and strategies.

2.4.2 Planning and Budgeting

Commendably, the LTC engages in strategic planning, and the appraisal section reviewed its plans this year. The stated mission (and goal) of the appraisal section is to “ensure accurate and uniform assessments of all real property in the state.” The section recognizes a need to improve the quality of its appraisals and its ratio studies so that they conform to professional standards. It appreciates the value of acquiring sales information in electronic format. As discussed below, it plans to upgrade the skills of the staff through in-service training and external courses. It envisages drawing upon experiences of other jurisdictions through research and conference atten-

dance. Ultimately, the section hopes to provide assistance to assessors in technical areas. We believe that the section has identified the main strategies for achieving its goal. However, objectives are not stated in a way that makes progress measurable. The section does have some tangible performance targets, which are reviewed and adjusted quarterly, and management of the appraisal section tracks actual production in terms of appraisals completed per week.

It is unclear whether budget requests are tied to plans, as details on budgeting were not readily available. However, the current budget of the appraisal section is approximately \$1.5 million.

2.4.3 Professional Development and Involvement

While the staff of the LTC are experienced and exhibit strong professionalism, we perceive that they are primarily focused on making the appraisals used in three of the four ratio studies and secondarily on sales ratio methodology and procedures.

2.4.4 Conclusions

The resources provided for a function like assessment supervision are a reflection of support for uniform assessments. Although there are no norms for funding and staffing assessment supervision agencies, table 2-1 provides three commonly used benchmarks. With a current budget of \$1.5 million and statewide property tax revenues in excess of \$1.7 billion, the appraisal section's budget equates to less than 0.1 percent of total statewide property tax revenues, which some regard as a reasonable level of expenditure, and to less than the median figure of 0.14 percent in table 2-1. With a current total of seventy assessment districts, the per-district expenditure of \$21,400 also is less than typical.⁴ Finally, based on a total staff of nineteen, the ratio of districts per staff member of 3.7 is greater than typical. Thus, we conclude that funding and staffing for assessment supervision certainly are less than typical for comparable agencies.

We recommend that the LTC determine which members of the appraisal section would benefit from formal training in ratio study analyses and in mass appraisal and develop a program for meeting those needs. In a similar vein, we recommend that funding be provided for attending IAAO conferences and seminars.

We also recommend that the LTC explore the possibility of augmenting LTC staff with someone specifically trained in such statistical analyses. This person would perform time trend and various sales ratio analyses using the broader set of sales recommended in section 3 below.

⁴ Even if the seven districts in Orleans Parish were regarded as a single parish, the expenditures-per-district benchmark would be less than typical, and districts per staff member would be greater than typical.

Table 2-1: Supervisory Agency Budget & Staffing Benchmarks

	Budget as a percentage of 1996 total property tax		Agency budget (\$) per assessment district		Assessment districts per staff member	
	1992	1999	1992	1999	1992	1999
Minimum	0.014	0.003	1,098	170	0.14	0.24
Median	0.140	0.141	24,941	30,779	2.03	1.79
Maximum	3.211	0.551	508,333	306,153	43.75	299.00

Source: International Association of Assessing Officers, 2000, *Property Tax Policies and Administrative Practices in Canada and the United States*, page 12, Exhibit 4-3.

We recommend that the LTC acquire a statistical program suitable for ratio study analyses. Currently, the staff utilizes Excel spreadsheets for this purpose. While Excel is suitable for rudimentary ratio analyses, such as the agency presently performs, more sophisticated applications that we recommend later in this report are much more effectively undertaken with statistical software. We recommend that the LTC consider acquiring SPSS or a similar statistical package (the cost of SPSS is approximately \$1,500 per license) at an appropriate time to facilitate such analyses.

2.5 Assessment Practices

Assessment practices across the state are uneven but generally rudimentary compared with other states. With certain exceptions, assessors rely on the cost approach based on Marshall & Swift cost tables. While Marshall & Swift costs tend to provide a reliable starting point for cost calculations and are well-regarded in the appraisal industry, depreciation and land values are more difficult to determine, especially for older properties in built-up or depressed areas with few (if any) vacant land sales. In such cases assessors often adjust values to the market based on sales ratio studies, further underscoring the usefulness of such studies to both local and state level assessment officials.

We were able to see demonstrations of two of the (CAMA) systems used by parish assessors. One vendor (Software and Services) serves over half of the parishes. Its system (AIS) appears to provide adequately for important assessment functions, will save data in both Excel and SPSS format (e.g., for provision to the LTC), and is favorably regarded by the users with whom we spoke. Other parishes use software from other private sector vendors or maintain in-house systems. Although still in infancy compared to some states, many parishes have or are implementing state-of-the-art geographic information (GIS) systems which, among many other powerful functions, can be used to plot sales ratios to help visualize the degree of spatial or geographic uniformity of assessments.

The LTC does not have detailed, systematic knowledge of local assessment practices and, for example, does not maintain a list of CAMA systems used in each parish. Hence, the survey we recommend in section 5 should address CAMA systems and GIS usage among other things.

3. EVALUATION OF RATIO STUDY PROCEDURES AND PRACTICES

A ratio study is the main tool assessors and supervisory agencies use to evaluate the accuracy and uniformity of assessments. In a ratio study, the ratios formed by dividing assessments by an indication of market value are analyzed statistically to determine the typical level of assessment (which in Louisiana should approximate 10 percent or 15 percent depending on the class of property), the uniformity (or concentration of the ratios), and other things. Most commonly, arm's-length, open-market sales are used as indication of market values, although independent appraisals may also be used (as is the case in Louisiana). A ratio study involves several steps: assembling the data, determining the study groups ("strata"), making statistical analyses, evaluating the results, and report the results (which in Louisiana are chiefly used to determine whether the State's standards have been met or whether corrective action should be ordered. Section 3 examines current practices and recommends changes designed to increase the credibility of the LTC's ratio studies.

3.1 Ratio Study Requirements

RS 47:1837 requires the Commission to measure the level and uniformity of assessments for each major class and type of property in each parish and to notify each parish in writing of its results each year. The level of appraisal must be within 10% of the statutory requirement, namely 9% to 11% for residential property and land and 13.5% to 16.5% for commercial improvements, although the same could be achieved by determining whether full values (before application of statutory assessment ratios) fall between 0.90 and 1.10, which would be consistent with IAAO standards. If these standards are not met, the Commission must order the assessor to conduct a reappraisal to correct the problem in the coming year. If the assessor fails to achieve compliance the following year, the Commission cannot certify the parish roll.

The Commission has adopted standards for the uniformity of assessments based on the coefficient of dispersion (COD). The COD measures the average percentage difference of assessment ratios about the median ratio and can be likened to the average assessment error. The Commission's previous standard for the COD was 20%. Based on recommendations of the Legislative Auditor, it tightened this standard to conform closely to IAAO standards and now requires a COD of 15% for residential properties. The Commission also computes and reports the price-related differential (PRD), the most common statistic for evaluating the uniformity of assessments between low-value and high-value properties.

3.2 Current Ratio Study Procedures

As mentioned, Louisiana is not a full disclosure state. Deeds provide the initial source of sales data and, fortunately, generally contain accurate sales prices. Parish clerks process them and forward copies to the assessor's office, often in electronic format. Assessors review the deeds to determine, as well as they can, whether they represent open market, arm's-length transactions usable for appraisal and sales ratio purposes. LTC appraisers visit assessors' offices to collect

sales data using the TC-1 form. Although the form provides for the collection of sufficient data to identify a property and record its assessed value, it does not provide for systematically recording how the property is used, whether the sale included personal property or involved the assumption of existing leases, or other information needed to understand the transaction fully.

Existing rules require assessors to submit assessment and other information to the LTC annually in electronic format (ASCII text files). However, much of the data, including sales data and property descriptive information, is optional, and usually only required information is provided by the parishes. The submissions are made in August to coincide with the open-book period. Changes to the roll must be submitted separately and are subject to the approval of the Commission. In addition to data received from assessors, the LTC buys MLS data for six parishes, from the New Orleans Board of Realtors.

The LTC currently conducts four ratio studies on an annual rotating basis: (1) a sales ratio study of improved residential property, (2) a residential appraisal ratio study, (3) an appraisal ratio study of commercial improvements, and (4) an appraisal ratio study for land. For the most recent revaluation, these studies were done in 2004 through 2007, respectively, reflecting a revaluation date of January 1, 2003.

The procedures followed for a sales ratio study entail: (1) gathering from the assessor's office all sales occurring in a twelve-month span centered on the most recent reappraisal date, although the span may be extended an extra six months in both directions if deemed necessary; (2) drawing a systematic sample of size 400, 250, or 150 sales, depending on the size of the jurisdiction, by selecting every second, third, fourth, etc. sale from the list compiled above; (3) screening sales to eliminate those not indicative of market value according to a list of five accepted criteria; (4) eliminating sales of three or more acres as being outside the scope of the study; (5) entering the data into an Excel worksheet; (6) trimming outliers according to the IQR criteria recommended by IAAO and discussed further below in section 3.3.4; (7) calculating median, COD, and PRD statistics for the remaining sales; and (8) preparing a very brief write up of the results. Improvements that could be made to these procedures will be discussed below.

The procedures followed for an appraisal ratio study entail: (1) selecting a sample size corresponding to, although somewhat smaller than, those given above; (2) selecting a number of typical "key subjects" for the sample; (3) selecting a number (10-15 for land, other numbers for other property types) of additional subjects that are near and comparable to each key subject; (4) photographing, sketching, coding/describing, and generating appraisals for the properties using the sales comparison approach; and (5) summarizing and reporting the comparisons of assessments to appraisals in somewhat the same way as described above for sales.

As indicated above, samples used in appraisal ratio studies are not randomly drawn. Rather LTC appraisers select samples that reflect typical properties in the category being studied. For commercial properties, newer properties are generally selected to minimize difficulties of estimating effective depreciation. Once appraisals are completed, the appraiser obtains assessed value for the properties, enters the assessments and appraisals into the ratio study template (an Excel file), and submits the file to the regional supervisor

Because appraisals for the commercial improvement study are derived from the same cost manuals and since LTC appraisers are not prevented from viewing the assessor's property records, the two estimates can be identical, resulting in implausibly good reports of assessment level, uniformity, and vertical equity. Improvements that could be made to these procedures will be discussed below.

3.3 Recommended Ratio Study Procedures

We have a number of recommendations regarding conduct of ratio studies. They are divided into several subject areas and discussed below.

3.3.1 Study Design

Rather than use assessments as the numerators in its ratio studies, we recommend that the LTC use appraised values before application of assessment ratios. This would eliminate the need to conduct separate land and building appraisal ratio studies for commercial properties. Instead, total property values could be matched against sales prices or total property appraisals made by LTC staff where sales are lacking.

We recommend that LTC emphasize sales in ratio studies wherever possible. Sales directly reflect the market and increase the objectivity of the study. We question the meaningfulness of appraisal ratio studies conducted in thin markets with little sales data or other market evidence upon which to base appraisals. All too often there is a tendency in such studies to be conservative or to give the assessor's value the benefit of the doubt, so that study results show no measurable problems. While this is not necessarily wrong, we suggest that precious staff time and resources could be better spent compiling and analyzing what market data does exist or working with assessors to review assessment procedures and making appropriate recommendations for improvement.

In addition, if appraised values rather than assessments are used in ratio studies, residential and commercial properties could be combined in parishes with too few commercial sales to conduct a standalone commercial sales ratio study. While appraisal ratio studies remain another option, we reiterate our concerns about the cost-effectiveness of such studies. We recommend that the LTC consider reducing its reliance on appraising ordinary real estate and instead focus on maximizing the use made of sales data supplemented by procedural audits and appraisals of high-value, seldom transferred properties. Many states use several years of sales in ratio studies in order to bolster sample sizes, with time adjustments made as necessary to the older sales. Often a longer time frame is used for commercial sales than residential sales. According to the *IAAO Standard on Ratio Studies*, up to five years of sales can be used in a ratio study as long as adjustments are made for significant price changes. (See pages 263-270 of *Mass Appraisal or Real Property* (IAAO, 1999) for a discussion of time adjustment methods.) All things considered, we recommend that the LTC use a three-year time frame for commercial properties and a one- or two-year time frame for residential properties in sales ratio studies.

In any case, we recommend that the Commission discontinue using only a sample of sales. The current practice detracts from the reliability of the studies by artificially curtailing the size of the samples without doing anything to ensure their representativeness. It would be better to take all sales exclusive of new construction and perhaps very low value sales. Doing so would permit two things not now done: the calculation of meaningful confidence intervals about measures of central tendency for the presently mandated classes and the calculation of more detailed, stratified statistics, as suggested by IAAO and, for example, in recommendation 7 of the Legislative Auditor's report.

New construction should be eliminated because samples in fast-growth areas can be dominated by recent construction. It would be misleading, for example, to project good results that may have been obtained principally from the sales of new homes in a few subdivisions to the entirety of a parish's assessments. New construction can be identified based on year built or a comparison of year built and sale year. Some states (including Arkansas and Texas) automatically eliminate the lowest value sales from their studies. These sales often reflect a variety of appraisal and data problems while representing an insignificant percentage of the assessment bases (in Louisiana they would tend to fall under the homestead exemption limit).

Commission personnel have proposed testing appraisals using sales that occurred shortly after the rolls have closed, and this is a good idea. It would also likely be possible to augment the sample somewhat using sales shortly before the formal close, inasmuch as assessors are unlikely to have had time to "chase" them (see section 3.3.5 below).

3.3.2 Data Assembly and Submissions

LTC rules have the highly laudable feature of requiring parishes to submit assessment and other data electronically. Unfortunately, however, some information essential for ratio studies, namely sales and key property characteristics data that could be used in data screening and stratification, is optional and rarely provided. We recommend that the rules be amended to require these data items. In addition, the Commission should require that appraised values be submitted for both the current and prior year, which will help check for sales chasing (see below).

While most data used in ratio studies must be obtained from the Parishes, we believe the LTC should undertake an independent canvass of sales to ensure that all sales are accounted for. This could either be done manually at the clerk's office or preferably by means of an enhanced reporting system that would mandate the routine reporting of sales by clerks both to the assessor and to the LTC.

As mentioned, the LTC currently obtains MLS data for a number of parishes from the New Orleans Board of Realtors. Efforts to obtain similar data from other boards have thus far proved unsuccessful. This information is potentially useful both for evaluating the completeness of sales submitted by assessors and for verifying details about sales transaction and the physical characteristics of properties. We recommend that the Commission continue its efforts to gain access to additional MLS databases and leverage the information in its sales verification efforts. The LTC also could adopt a sales confirmation questionnaire along the lines of the one illustrated in the *IAAO Standard on Ratio Studies*.

Finally, the LTC should create a central computerized sales file. The file would contain a record of each sale. Each record would contain the particulars of each sale, the property characteristics of each property at the time of sale, usability codes (see the next section), and the assessed value at the time of sale.

3.3.3 Sales Screening

The Commission provides little guidance to parishes on sales screening. We recommend that the LTC develop a standard set of validation codes for this purpose. The codes should indicate specific reasons for rejecting sales and can be patterned in good part after the criteria listed in the IAAO *Standard on Ratio Studies* for disqualifying sales (section 6.4). “Not representative of market” and similar non-specific verbiage should *not* be included among the allowable criteria for disqualifying a sale.

We note that the requirements for electronic submission of data include a field called “verified,” but it appears to report only whether the transaction was researched and not the more important issue of what the research effort found concerning the validity of the sale for ratio study purposes. We recommend that parishes be required to screen all sales using a set of standard codes as noted above and include them on its data submissions to the Commission. For ratio study purposes, LTC personnel should check the validity of at least a sample of the parish’s code assignments before relying on them. The state of Florida checks fifty such codes. If at least forty five are coded correctly, the local decisions are accepted. If there are more than five disputed codes, the state draws a random sample of sales, does its own validation, and relies only on that smaller sample. LTC should consider the development of a broadly similar procedure.

3.3.4 Sales Chasing

“Sales chasing” is the unprofessional practice of assessing sold properties based on their sales prices, while *not* making commensurate changes to unsold properties. The Legislative Auditor’s 2002 Report was critical of the Commission for not testing for sales chasing and intimated that a number of Louisiana parishes may engage in the practice. Support for this concern can be found in a review of COD’s in the Commission’s sales ratio studies. Many parishes have unrealistically low CODs and highly concentrated ratios, two of the standard indicators of sales chasing.

We concur that the Commission should begin testing for sales chasing in its ratio studies. One good way of doing so, in addition to monitoring very low CODs, is to compare average value changes for sold and unsold properties, exclusive of properties that have undergone changes in use, new construction, or significant alternations. Obtaining both current and prior year values and key property characteristics (e.g., property use, year built, size) would greatly aid in this determination.

We urge the LTC to take the strongest possible stand against this unprofessional practice and to clearly require assessors to assess all properties equitably, regardless of sale. Guidelines and instructional materials should make clear that valuations should be based on uniform valuation

tables and models derived from the three approaches. While a sale of a subject property should be given due weight during appeals, a sale should never be used in setting the value of an individual property during quadrennial reappraisals or updates to values between reappraisals.

As long as sales chasing continues to occur, however, the Commission must take steps to minimize the effect that it has on ratio studies. This can be done by using prior year assessments factored up by the average percentage change in assessments for unsold parcels (exclusive of new construction) instead of current assessments whenever sales chasing is indicated. (See *Mass Appraisal of Real Property*, IAAO, 1990, pages 315-316.)

In addition, where feasible, the Commission should consider using sales that occur after assessments have been set in its sales ratio studies. These sales preclude the possibility of sales chasing, although (as always) it may be necessary to apply time adjustments for significant changes in price levels between assessment date and sale date.

3.3.5 Treatment of Outliers

Outliers are statistical observations that fail to conform to the general pattern established by the balance of the data and thus have the potential, at least for some summary statistics such as the mean and COD, to distort the conclusions that would have been drawn from the data in the absence of the few aberrant observations. In assessment-ratio work, outliers can arise from many causes, including errors in the numerator (the appraised or assessed value), misrecordings of the denominator (the sale price), or mismatches between the two (as when the sale price encompasses multiple parcels). It is highly preferable for such problems to be researched and resolved by correcting misrecorded data and the like rather than simply discarding the aberrations, but in some circumstances rules for trimming outliers are needed.

The Commission has adopted the practice of trimming ratios based on an algorithm involving the interquartile range (IQR), which in normal circumstances is greatly preferred to alternatives such as eliminating ratios above or below arbitrary thresholds and is described in detail in the IAAO *Standard on Ratio Studies*. However, the IQR can become very small (even zero) in the presence of sales chasing and the algorithm consequently eliminates a large fraction of the sample, further distorting results. Since sales chasing is a very real issue in many Louisiana parishes, the problem is of particular relevance.

The IQR based algorithm could be modified to begin with a larger percentage of ratios in the middle of the distribution, say eighty or ninety percent, rather than the fifty percent encompassed by the IQR, and cut points for identifying outliers and extremes adjusted accordingly⁵. This would have the advantage of making the definition of outliers and extremes dependent on a

⁵ When applied to a so-called normal (or Gaussian) distribution, the standard IQR-based rule identifies as outliers anything at least 1.5 IQRs beyond the quartiles of the distribution, or 2.7 standard deviations from the mean or median, and identifies as extremes anything 3.0 IQRs beyond the quartiles of the distribution or 4.725 standard deviations from the center. Using an eighty percent range (EPR), i.e. the tenth percentile subtracted from the ninetieth, or a ninety percent range (NPR, substituting the fifth and ninety-fifth percentiles), two substantially equivalent alternative rules are to treat as outliers anything 2.0 EPRs or 1.75 NPRs from the median and as extremes anything 3.75 EPRs or 3.0 NPRs from the median.

wider range of ratios (that are less likely to be 1.00 or very close thereto due to sales chasing) without shifting the cut points that would be obtained in a normal distribution. The latest rewrite of the IAAO *Standard on Ratio Studies* scheduled to be adopted later this year contains new language to the effect that the IQR trim rule is not applicable if the sample exhibits high clustering around a specific ratio, as is often the case with sales chasing. In such cases the new standard suggests retaining ratios that would fall within the bounds of a normal distribution or limiting the percentage of ratios trimmed to 5-10 percent for larger sample and 10-20 percent for the most extreme cases in smaller samples. Although such arbitrary rules can be dubious and again do not address the underlying problem of sales chasing, we do believe that at least until this more fundamental problem can be corrected the LTC should modify its trimming rules to not automatically remove ratios tagged as outliers by the IQR method. While procedures for not deleting more than an arbitrary percentage of ratios based on sample size are arbitrary and difficult to program, the Commission could at least retain ratios within, say, 50% to 200% of the median ratio (before trimming) regardless of whether or not they were tagged as outliers by the IQR method. This would at least address the tendency to eliminate ratios that fall within a normal range of the median.

3.3.6 Ratio Study Statistics and Reports

Current sales ratio reports, developed in Excel, are rudimentary. They list each assessment, sale price or appraised value, calculated ratio, and absolute deviation from the median ratio. The top of the report provides the median and mean ratio, COD, and PRD. We would like to see the summary information expanded to include the number of sales (or appraisals) before and after trimming outliers, the minimum and maximum ratios, the weighted mean ratio, and the 95% confidence interval about at least the median ratio. These and other frequently used ratio statistics are built into the SPSS software mentioned previously, or can be programmed with other software based on formulas provided in the IAAO *Standard on Ratio Studies* and the IAAO textbook, *Mass Appraisal of Real Property*. Data listed for each sale should include property type or use (e.g., single family residence, condominium, multi-family, etc.), sale date and, if time adjustments are made, both actual and adjusted sale price.

We would also like to see ratio statistics reported for various key strata, for example, property type and market area or neighborhood. Although current rules do not require assessors to achieve ratio study standards for such sub-groups, the information can, at a minimum, be helpful in identifying problem areas and inconsistencies in appraisal levels among property groups. According to the IAAO Standard, each such property group should be appraised within 5% of the overall (median) level. We recommend that confidence limits be computed to determine statistically significant departures from this standard.

In addition, the Commission lacks a user's manual explaining the purpose of the ratio study, procedures used, and results obtained. We recommend that it develop such a manual or template, which could be either a standalone document, or an explanatory insert to each study. It should include:

- Purpose and legal basis for the study
- Ratio study standards in Louisiana and ramifications of noncompliance

- Data sources and assembly (including time frame of sales used in studies)
- Criteria for including or excluding sales (or appraisals)
- Outlier trimming methodology
- Time trend methodology (at least if relevant)
- Stratification criteria
- Key definitions and formulas
- Organization and interpretation of reports, perhaps including a sample report

Each study should include an executive summary or overview summarizing the results and highlighting areas of concern or departures from required standards. Alternatively, the key findings could be summarized in a letter to the parish assessor, along with any required course of action based on study results.

We do not concur with the Legislative Auditor's recommendations for tightening COD requirements to match those in the IAAO *Standard on Ratio Studies* or for adopting IAAO standards for the PRD. While IAAO standards provide useful recommended guidelines for assessors, failure to achieve them does not necessarily mean unacceptable performance for which a reappraisal must be ordered. We believe that COD standards 5 points higher than IAAO standards are adequate for the purpose for which they are used and as stringent as those adopted in most states. Achieving reasonably good COD's usually also implies achieving reasonably good equity between low-value and high-value properties as measured by the PRD. The latter statistic can be particularly affected by outliers and follow-up is always required when standards are not met to determine whether the failure is, in fact, due to underlying systemic problems or simply to outliers or other data issues. While Louisiana could pursue tightening its standards in these areas in the longer term, we believe that for now efforts are better focused on developing a credible study that can generate reliable performance measures. Standards can be adjusted as desired once a sound measuring stick is in hand.

Finally, we recommend that the LTC develop a two or three day workshop on ratio studies. The workshop could cover fundamentals and uses of ratio studies, the IAAO Standard, the role of ratio studies in Louisiana, procedures for verifying sales and submitting data to the LTC, ratio study standards and statistics, and what can be learned from a ratio study. Ratio studies are the primary quality control tool in property valuation and are indispensable at both the state and local level. Increasing understanding of ratio studies and improving sales screening and other related procedures stands not only to improve the efficiency and credibility of the LTC's studies, but also to improve the quality of assessments in general. Again, a properly conducted ratio study is one of the most effective tools local assessors have for ensuring strong assessment uniformity. If parish assessors were to conduct sound studies and follow-up with any indicated adjustments, the LTC subsequent studies would be made easier and only reinforce results of the assessor's study.

3.3.7 Appraisal Ratio Study Recommendations

As previously discussed, we would like to see LTC move to a system of annual ratio studies that rely principally on sales with the same property strata tested each year. This would provide both the LTC and assessors with an annually updated picture of assessment performance in each

parish and help assessors gauge the degree of value change necessary to bring assessments in line with market values in upcoming quadrennial appraisals.

Appraisals could be used in this scenario to supplement sales in order to obtain adequate sample sizes as well as to provide some coverage for high-value properties that seldom sell. However, to the extent to which they are retained, the method by which samples are drawn and appraisals are made should be changed. First, samples should be drawn on a truly random basis. This does not mean that certain atypical and difficult to appraise properties cannot be excluded from consideration, but a random sampling routine should be used to draw the sample from the remaining universe of properties.

Second, where it is necessary to supplement sales with appraisals, appraisal procedures should be modified to use the sales comparison approach whenever possible. Regardless of method used, each sample should be appraised independently in lieu of the current method of selecting and appraising “key subjects” and extending valuation parameters such as value per square foot to other sampled properties.

Third, all reasonable steps should be taken to ensure that appraisals performed by the assessor and the LTC appraiser are independent. Neither should know how the other has coded or described a sampled property. The LTC appraiser should not know the assessed value for the sampled property at least until after the LTC appraisal has been finalized. The assessor should not know which properties the LTC appraiser has sampled, nor should the assessments on such properties be allowed to change to reflect the LTC appraisal. Fortunately, much of the foundation for implementing these reforms has been laid by the recently begun practice of requiring parishes to submit a variety of assessment data files to the LTC electronically. Such data would permit the development and execution of confidential sampling plans and appraisals. While some changes to the content and timing of submissions may be required, the LTC has made a valuable start in this regard.

Fourth, after experience is gained with random, independent samples as described above, LTC can begin to refine its sampling procedures so as to yield estimates with substantially consistent confidence-interval widths across parishes (e.g., median ratios with a probable error of no more than 5%) perhaps tempered by considerations of the amount of potential value at issue (which would imply lower acceptable errors in larger parishes with more property value than in smaller parishes). Such targets would be based in good part on available appraisal resources and the observed variability of ratios by parish and property type. For now, however, we recommend that the LTC seek to determine the proper role of appraisals in ratio studies and concentrate on ensuring that samples are randomly drawn and independently appraised.

4. EVALUATION OF APPRAISAL PROCEDURES AND APPRAISAL MANUAL

The Commission is to be congratulated for recognizing the importance of documenting procedures and for its start at meeting that need by developing the current (draft) Valuation Manual and a much briefer manual on the conduct of its ratio studies. Here we discuss the appraisal procedures themselves, the Valuation Manual, and certain unmet documentation needs.

4.1 Appraisal Procedures

As previously mentioned, appraisals are used in three of the four ratio studies made by the Commission. The sales comparison approach is used exclusively in the vacant land study, and it is used to a lesser extent in the improved residential property study and occasionally in the study of commercial improvements. The cost approach is the predominant approach used in the commercial improvement study.

The cost approach, as embedded in standard manuals published by Marshall and Swift (M&S), dominates Louisiana appraisal practice both among parish assessors and within the Tax Commission. Although there is nothing wrong per se with the M&S baseline data, it is generally acknowledged that they must be tested and adjusted to the local market, and the resulting estimates of replacement cost new (RCN) must be properly depreciated. Both of these steps require data beyond those published by M&S and seem to be slighted in real world practice. We found no evidence of the refinement of local cost adjustments (beyond the local modifiers published by M&S) and more distressingly no evidence of a centralized database of sales and other market information which would allow the development of depreciation guidelines and applications of the sales comparison approach to value. Such a database could also be used to develop guidance on corner influence factors and other rules of thumb mentioned in the manual and discussed below. More importantly, it could facilitate the development of increasingly better methods of performance monitoring. One of these involves the development of mass appraisal models that would yield independent LTC estimates of value that could then be compared to parish estimates to evaluate local performance, as currently done in New York State. Some incomplete information of this sort is available via MLS and the Deedfax publication, but it is far from optimally organized and searchable for the purposes envisioned. A centralized database organized for statistical analyses and potential market modeling is called for. In the absence of these resources, it is all too easy and tempting for both local and LTC appraisers to fall into the trap of sales chasing.

An additional weakness of the cost approach to value as practiced by LTC for ratio-study purpose is the difference in the practices employed in the valuation of “key subjects” and “other subjects.” In essence, a key subject is chosen to be typical of surrounding properties and is appraised by the sales comparison approach, typically using three comparable sales. A dollar-per-square-foot figure is then calculated from that appraisal and applied to the other subjects. Finally, assessment ratios and other performance statistics are calculated for the key subject and for the other subjects, despite the fact that only the key subject has been appraised in a somewhat conventional manner. There are two serious problems with this procedure. First, the appraisals

for the “other subjects” are rather dubious and serve mostly to artificially inflate the apparent reliability of the ratio study by causing it to appear to have been based on more independent appraisals than is actually the case. Second the need to apply the results obtained from the key subject to other subjects leads appraisers to pick as key subjects only those properties that lend themselves to this exercise. Such properties tend to be the least difficult to appraise. If non-random selections of properties to be appraised are to be condoned, it would be much better for future selections to favor the most valuable properties in the jurisdiction, where more value is at issue and sales are relatively scarce (the New York Office of Real Property Services does this in a fairly transparent way, as do some other states more subtly by making the probability of selection proportional to the dollars of assessed value at stake).

If our suggestions in section 3.3.1 about replacing much of the appraisal studies with sales studies are adopted, then the remaining appraisals are likely to become significantly more challenging in the future, which may carry implications for appraiser training and qualifications. In addition, the statewide database of sales information mentioned above will be important for helping to find comparable sales and making adjustments for differences between subject properties and comparable sales.

As mentioned, in addition to the cost approach, LTC appraisers select up to three comparable sales for each for each key subject and adjust the comparables to the subject to produce a value per unit for the subject. An Excel template entitled “Direct Sales Comparison Method Rating Grid” (and referred to as “the grid”) is used for this purpose. A similar grid is used in the vacant land study. The values of key subjects are then compared to a sample of up to fifteen other similar properties to check for consistency between sold and unsold properties. The entire process involves a series of subjective judgments, and documentation is minimal. We again recommend that appraisal samples be randomly selected and appraised individually using the sales comparison approach wherever possible. It might be noted in this regard that sales from one parish can be used as comparables in comparable areas in other parishes (this can be particularly relevant for larger commercial properties, where markets are more regional in nature). Sale chasing should be tested systematically as discussed in section 3.3.4 above.

4.2 Valuation Manual

The present valuation manual lacks an effective date and appears to be a work in progress rather than a finished product. In that light, some of the following observations may seem unfair. They are offered, however, in a constructive spirit. Once it is completed, we would recommend it be made generally available on the commission’s internet site.

- The purpose of and audience for the manual should be explicitly stated up front.
- The tone of the writing is inviting, reflecting a genial, conversational, or mentoring style, rather than the dry formalisms more frequently encountered. But in some instances it fails to be clear, precise, and unambiguous. For example, in the version of the manual we reviewed (undated) pages 40 and 61-62 seem to wind up on both sides of the fence on

whether listings provide worthwhile information, and pages 149-162 are somewhat inconsistent in their guidance on estimating depreciation.

- There are places where the text seems clearly out of date (for example references to documentary tax stamps on page 63), contrary to best practices (the advocacy of contract rent over economic rent on pages 82 and 106), and impractical (the discussion of researching mortgages and insurance on page 62 and of researching corner influences on page 128).
- The manual strongly favors the cost approach above other alternatives, yet provides relatively little advice on how to implement that approach consistently. Its treatment of the important issues of classifying and assigning a quality rating to properties, to which pages 176-215 are devoted, is rather light, presenting only photos of some prototypical buildings but omitting descriptions of their determinative characteristics, which is all the more troubling in view of the fact that the vast majority of the examples are from a single rating (i.e. 2), with only a small number of other alternatives (3s and borderline 2-3). A similar situation holds with respect to building classifications. Also, there are no practical guidelines provided on how to consistently and reliably code depreciation of any of the three sorts identified in the conceptual section of the manual.
- The manual gives short shrift to the sales comparison approach, ignores its most feasible implementation in the form of multiple regression analysis (MRA), and is excessively sanguine about the ability of appraisers to find paired comparisons that would enable them to develop the kind of adjustments exemplified by the discussion of depreciation on pages 173-4. Appraisers would be much better served by being introduced to MRA, which can make much more efficient use of relatively scarce sales, using statistical techniques to develop adjustments by holding all “other” factors constant, than by being steered down the virtually hopeless path of finding sales that are actually alike in all “other” respects save one. While an adequate treatment of how to apply MRA would greatly increase the size of the manual and can be found in IAAO texts, the technique should at least be introduced, and the present references to the chimerical paired sales technique should be reconsidered.
- More serious attention should also be given to the income approach to value, which is presently relegated to use only in defense of appeals. In reviving this approach, it may also be necessary for the Commission to consider the need to foster better market information to support it. We note the dubious advice in the present manual preferring contract to economic rent and infer it may be a reflection of inadequate data to develop market rents and typical expense ratios. The Commission should research and assemble what income information is available through private sector and third party sources. Income questionnaires are also a possibility. In Arizona the Department of Revenue annually gathers income information for sold commercial properties through a mail questionnaire and personal interviews and publishes a “Commercial Property Market Study” on typical incomes and sales prices per square foot, expense ratios, and capitalization rates for various types of properties for use by both assessors and Department staff.

4.3 Related Documentation Needs

As noted above, the present manual is something of a mix of instructional and reference material. It may be to the benefit of both purposes to split the manual into two parts, each specialized for its own purpose.

In addition, the commission would benefit from developing documentation in two additional areas: performance auditing and information technology usage. The former is the subject of section 5 below. In the area of information technology, the recently implemented practice of obtaining data files from the parishes and posting assessments on the LTC web site provides a strong first step for the improvement of the ratio study program. As noted in 3.3.2, however, much of the information essential to both sale and appraisal ratio studies is not required. We recommend that the LTC explain the importance of this information and, as a high priority, modify its data submission rules to require submission of such data. An explicit definition of requirements, codified in a manual, including standardized codes with their meanings and related quality requirements, would be very helpful. Other states' guidance in this regard has ranged from simple memos to large loose leaf volumes. In any event it is essential that the data structures be feasible to provide and optimally useful for the Commission's various purposes. Consideration should also be given to whether all the information currently requested is actually required in the format requested. During our field research, for example, questions were raised about the need for each millage amount applicable to each parcel both with and without taking homestead exemptions into account. Drafting and pilot testing proposed analyses would be particularly helpful. For example, specifying the process for extracting the necessary fields from the submitted data, merging various extracts when necessary, calculating the percentage changes for sold and unsold properties, testing for sales chasing, and the like, could be done. Doing so will likely reveal refinements needed in the definition of field details (adding validation codes, for example) and timing considerations (such as whether sales data can or should be obtained quarterly, with other data being obtained annually in conjunction with the review period). Iterative refinements of this sort can lead to an improved system design and ultimately a useful user's manual and more useful data submissions.

We recommend that LTC familiarize itself with the range of others' efforts as it engages in its own system development and documentation activities. To facilitate the reform of commission processes and to gain acceptance of the necessary changes required to be made both at LTC and locally, it may also be advisable to convene an advisory body of local assessors and vendors, as Arkansas has done. The previously described system design exercises should precede such a step, however, in order that LTC personnel will have a clear vision of what is needed and the various means of accomplishing their objectives. Mandating changes to local software systems is expensive and should only be done infrequently and after the commission is reasonably sure that all factors have been properly considered,

5. ISSUES AND OPTIONS REGARDING PROCEDURAL AUDITS

5.1 Introduction

In the terminology of the auditing profession, ratio studies and procedural audits both would be considered components of a performance audit program. Increasingly, property tax supervisory agencies include formal evaluations of assessment procedures in their monitoring activities.⁶ As is widely appreciated, procedural audits can serve several purposes. When ratio study results are inconclusive (such as when sales samples are too small or non-representative) or irrelevant (as in the evaluation of assessments not based on market value), a procedural audit can provide indirect evidence of the accuracy of assessments. If the assessor's systems and procedures conform to legal requirements and professional standards, the resulting values can be presumed to be accurate reflections of the underlying market values. Second, while ratio studies can provide evidence that appraisals do not meet accuracy standards, they cannot provide direct evidence of the cause of the problems. Procedural audits can pinpoint the causes. Third, a surely unintended consequence of the widespread adoption of IAAO's ratio study performance standards is a temptation to manipulate the data upon which ratio studies are based to ensure compliance with the standards. While statistical tests can identify likely instances of "sales chasing," "cherry picking," and other ways to skew ratio results, a procedure audit incorporating a data audit may be necessary to determine whether data manipulation has taken place. Fourth, when a state supervisory agency administers payments to local assessment districts for assessment related work, such as field inspections (as is the case in Arkansas), a procedure audit can ensure that the work that was paid for was, in fact, adequately done. Finally, both the auditor and the audited can use the results of a performance audit to identify strengths and weaknesses in current operations, design improvements, and build a case for investments in new systems and procedures.

5.2 Program Options and Issues

Current procedure audit programs suggest the main design choices:

- **Purpose:** Although ensuring compliance with laws and regulations usually is the main purpose, the audits may also be designed to encourage improvements in practices by recognizing promising innovations and "best practices." Massachusetts and New York attempt to ensure that reappraisal projects conform to standards *before* they are completed. Alberta wants to move in this direction.
- **Jurisdictional coverage:** The program may be designed to review every assessment jurisdiction during a cycle of one or more years. Alternatively, only selected jurisdictions may be audited based on one or more triggering mechanisms, such as a reappraisal, non-compliance with assessment accuracy or practice standards (usually the noncompliance

⁶ As many as twenty-seven states conduct procedural audits according to Alan Dornfest and Douglas Thompson, "State and Provincial Ratio Study Practices: 2003 Survey Results," *Journal of Property Tax Assessment and Administration*, vol. 1, no. 1(2004), 31-70.

must be serious and repeated), an emerging issue, or a specific external complaint. A combination of factors may be employed.

- Comprehensiveness: At one end of the spectrum, the procedure audit program may examine virtually every facet of an assessor's operations (real property assessment, personal property assessment, exemption administration, etc.). At the other end, a single area, such as use-value assessments may be examined. Most programs fall between the extremes.
- Methodology: An audit may be in-depth, involving a combination of interviews, detailed documentation of work processes, analysis of computer system documentation, data completeness and accuracy audits, and the like. More commonly, the audit is more cursory, involving completing a questionnaire or checklist.
- Timing: Often the audit takes place after an assessment has been completed. Occasionally an attempt is made to audit work in progress (such as a reappraisal) in hope of improving the outcome.

The main issues in a procedure audit program are the time and expense of the audits (both the auditor and the audited agency must devote time to the audit). The timeliness of reporting unsatisfactory assessment practices can be an issue when taxes already have been assessed on the basis of the deficient practices. Alternatively, a problem may already have been addressed. Another issue is the credibility of the audits especially if the audited jurisdictions feel they have been unfairly singled out or if the auditors are perceived to be incompetent. Addressing such concerns can lead to another: finding the right balance between objectively verifiable findings (which may address trivialities) and subjective judgments about, say, whether high-value investment properties are appraised consistently and fairly.

Comprehensive audits obviously require greater skills to make and more time to complete. Yet they usually are most revealing. Audits based on surveys and check lists have advantages of being quick and easy to make. Yet they offer the fewest insights and nuances.

5.3 Recommendations for Procedural Audits

We recommend that LTC consider a phased approach to developing a procedure audit program. Initial tasks include

1. Developing potential audit issues. There should be two avenues of investigation. The first would be to identify the requirements of current law and regulations that have significant implications for the overall level of assessment and for tax equity (assessment uniformity) if they are not fully complied with. We do not believe looking for minor irregularities would be cost-effective. Second, a set of assessment best practices should be laid out. These would include practices identified in IAAO standards and in publications like *Assessment Practices: Self-Evaluation Guide*. At the same time, it would be

desirable to survey Louisiana parishes about their practices and procedures in crucial areas.

2. Devising an audit methodology and appropriate tests. Given current staffing limitations, we believe that initially, at least, a survey questionnaire approach would be best for Louisiana. Consideration could be given to the survey documents employed in other states. It probably would be profitable to visit selected states and provinces (Alberta and Arkansas are two good examples). Other nearby states with well-established audit programs include Florida and Texas (Oklahoma also has an audit program).
3. Developing audit skills. As the design of the audit program is developed, consideration should be given to the skills that appraisers (auditors) would need. A manual should be developed, and workshops on the audit methodology should be held.
4. Test the audit methodology. The method should be pilot-tested in a few cooperating parishes before it is finalized.
5. Consider policy and legal implications. Although the LTC probably has the statutory authority to make procedure audits, the methodology, how audit findings are communicated to assessors and other interested parties, and how findings are used in reassessment orders probably would benefit from regulatory support.

Since instituting a procedure audit program likely would be met with alarm by parish assessors who are insecure about the justifiability of their practices, the formation of a working group composed of LTC staff and selected assessors could be used. The cooperation of the Louisiana Assessors' Association could be explored. The development of a procedure audit program also should be coordinated with refinements in ratio studies and automated analyses of assessment roll data. While the development of a credible audit program would take at least two or three years and entail considerable work on the part of the Commission, we believe that such a program could constitute an important pillar in increasing awareness of good practices and elevating the quality of assessments across the State. Needless to say, however, the Commission will have to arrange for the staffing of the new positions or functions, the requirements of which will become clearer as parameters are defined and plans established. To some extent, it may be possible to reassign resources previously devoted to appraisals to audit and assistance functions.

6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Key Findings and Recommendations

The LTC is striving to improve its ratio study program and has made some significant recent improvements in terms of obtaining data from assessors and publishing selected findings. At the same time Louisiana's ratio study program is weak versus that of most states and there is much that must be done.

The primary goal should be to construct a firm foundation capable of generating accurate, credible results. Key components of this foundation should be:

- Greater emphasis on sales and less on appraisals;
- Annual studies that employ the same methods and techniques;
- Accounting for all recorded sales;
- Improved electronic transmission process;
- Building of a statewide sales file;
- Improved sales screening;
- Use of all valid sales that occur during the defined study time frame;
- Improved analytical capabilities, including procedures to detect and adjust for sales chasing;
- Redefinition of the role (if any) of appraisals, an improved sampling plan, and improved appraisal procedures for selected samples;
- Improved presentation and communication of findings and results;
- Implementation of supporting software and programs;
- Training existing staff to conduct required analyses or the addition of new staff with the requisite capabilities.

While there are a number of related procedural and technical improvements that can and should be made, the primary emphasis must be on achieving credibility, so that one can have confidence in the basic accuracy of reported results. Greater use of sales, which objectively reflect the market, is the main theme underlying many of the key components listed above. Once this foundation is built, additional refinements can be added.

Of course, a dual goal of the LTC is to improve the quality of assessments statewide. Greater emphasis on proper screening and analysis of sales will contribute to this goal, as will a credible ratio study that accurately measures performance and pinpoints areas in need of improvement. When improved measuring tools reveal problems, the LTC must stand ready to provide reasonable assistance but also to enforce ratio study requirements (which we perceive to be appropriate), including ordering appraisals in the year following quadrennial reassessments if necessary. At the same time, credit should be given to those parishes that achieve above average results.

We believe that a credible procedural audit program would also contribute to improved assessment procedures, as well as reinforce and supplement ratio study findings, particularly in smaller

parishes with less resources and available market data. In fact, we believe that some staff time now consumed in conducting appraisals could be more productively employed in this area. Of course, such a program will take time (2-3 years) to develop and implement. We recommend that LTC take a phased approach to implementing procedural audits, beginning with studying several other states with such programs and defining the goals, scope, frequency, and procedures to be used in the studies.

We underscore the importance of proper balance in the various roles of the Commission. Like other state supervisory agencies, the LTC is charged with monitoring assessment performance and enforcing required standards, while at the same time providing guidelines and assistance to assessors. Of course, the LTC also depends on assessors for the property data that it uses in its studies. The LTC and parish assessors share the same goal of ensuring credible, accurate, and uniform assessments and, in fact, depend on each other to reach that goal. As the LTC improves its measuring tools, a more accurate picture of assessment performance will emerge, particularly in those parishes that have been “sales chasing” in the past. In other cases, difficult and sometimes depressed market conditions that frustrate the assessment process will result in seemingly poor ratio study results. Assessors and the LTC should understand that this is more likely the result of *improved* ratio study procedures than deterioration in assessment practices, which have been generally improving across the industry due to use of new technologies. Thus, initial failure to achieve ratio study standards should not be a priority concern or stigma, at least in smaller parishes with thin or difficult markets. Accurate ratio studies are at least as essential to parish assessors in ensuring proper assessments at the local level as they are to the LTC in monitoring the same assessments at the state level. What both the LTC and assessors need to strive for are accurate baseline measurements from which improvements can be reliably tracked and measured. Both are partners with the same goal and, if Louisiana taxpayers are to be well-served, must work together in establishing the foundations of an effective assessment system, of which credible ratio studies are a fundamental component.

Fortunately, the timing of the Louisiana quadrennial assessment calendar is such that the LTC should be able to consider, implement, and test most of the recommendations in this report in advance of assessments based on January 1, 2011 values. This will allow procedures to be refined and assessors to see results of the new studies for interim years and thus gauge the work required to bring new values into compliance with standards. To be sure, some new procedures (like the development of sale validation codes and making sales data and property characteristics required on data submissions) could be implemented by 2008. Others will require more time. However, the essential components of an accurate, credible system can be implemented in time for the calendar 2010 and 2011 ratio studies, which will still be based on January 2007 values. Thus, procedures should be adequately tested, refined, and understood in time for the critical 2012 study, upon which potential reappraisal orders will be based.

6.2 Summary of Recommendations

The following provides a full list of significant recommendation made in the report, along with a brief categorization of the priority of the recommendation.

6.2.1 Legal and Program Management Recommendations

1. Property data maintenance. Some assessors still rely on problematic self-reporting of real property inventory data. We recommend that provisions for self-reporting real property data characteristics be stripped from the law and replaced by a requirement that assessors review property data either on-site or electronically with the aid of aerial and ground photos (long term low priority; requires legal change).
2. Full disclosure. Unlike most states, Louisiana lacks a full disclosure law requiring buyers and sellers to declare sale price information at time of sale. This serious omission hampers both the LTC and assessors and such information would be valuable to the private sector as well. Louisiana assessment officials should work toward adoption of a full disclosure statute (long term high priority; requires legal change).
3. Assessor certification. Like most other states, Louisiana should establish mandatory minimum certification requirements for assessors and appraisal staff. Such a provision is especially appropriate in Louisiana where the legislature sets assessor salaries (long term medium priority; requires legal change).
4. Staff education. The LTC should arrange for additional education and professional exposure for key staff involved in ratio studies. Much can be gained by attending selected IAAO or other professional training courses and participating in IAAO conferences and seminars (on-going medium priority).
5. Statistical expertise. The LTC would benefit from one or two new staff with a background in statistics and analytical software who could help implement the various market and sales ratio analyses recommended in our report (mid-term high priority).
6. Software. The LTC should acquire a statistical software program (like SPSS) with a high-level, pseudo-English command language suitable for conducting a state-level ratio study program (mid-term high priority).

6.2.2 Ratio Study Design Recommendations

7. Emphasis on sales. LTC should emphasize the use of sales in ratio studies. Sales objectively reflect the market and are less costly than appraisals. Aside from new construction and very low value sales, all valid sales occurring in the study timeframe should be used. The study time frame can span several years with sales adjusted for changes in price levels as appropriate. The studies should be conducted at least annually (highest priority; major effort).
8. Numerators in studies. LTC should use appraised rather than assessed values as the numerators in its ratio studies. This has several advantages, most notably eliminating the need to conduct separate land and building studies for commercial properties, which have separate land and building assessment ratios (high priority; low effort).

9. Improved data submissions. While LTC rules commendably require assessors to submit requested data electronically, most data essential for ratio studies is optional and rarely provided. The rules should be amended to require electronic submission of sales and property characteristics data, including sale validation code, and the LTC should work with assessors to facilitate the transfer of all requested data in a standardized format (high priority; medium effort).
10. Complete sales inventory. For control purposes the LTC should maintain in a computerized file a complete inventory of sales occurring in the State independent of information provided by assessors. This would be best accomplished by a routine electronic reporting of sales by parish clerks to the LTC and assessors. This would presumably require legislative action, which LTC should consider encouraging (medium priority; may require legal change).
11. Third-party (MLS) data. The LTC currently obtains sales data from a number of third party sources, including the New Orleans Board of Realtors. Among other functions, this data can be useful in accounting for and screening sales. The LTC should continue its efforts to obtain sales information from third party sources (medium priority and effort).
12. Sale validation codes. The LTC should define a set of validation codes to be used by both parish and LTC staff in coding the usability of sales for ratio study purposes. Parishes should be required to include these codes on data submissions to the LTC and the LTC should audit the correct assignment of such codes (high priority; medium effort).
13. Sales chasing. The LTC should take the strongest possible stance against the unprofessional practice of sales chasing and similar attempts to subvert ratio studies. It should incorporate appropriate tests into its analyses and adopt alternative procedures for calculating assessment ratio statistics whenever indicated (high priority; medium effort).
14. Outliers. While the LTC's method of identifying outliers is consistent with the current IAAO Standard on Ratio Studies, it is frustrated by widespread sales chasing in many parishes that causes an atypical bunching of ratios at the center of the distribution. The LTC should modify its procedure for identifying outliers so as not to exclude ratios within a normal range of the median ratio (high priority; low effort).
15. Ratio study reports. Ratio study reports should be redesigned to provide more information to users, including number of sales used, weighted mean ratio, minimum and maximum ratios, and the 95% confidence interval for at least the median ratio. Results should also be reported by key strata, such as property type and geographic area. Each report provided to assessors should be accompanied by a brief executive summary or letter highlighting key findings and any areas of concern or required course of action (high priority but should be coordinated with implementation of new ratio study software).
16. Ratio study users' manual. The LTC should develop a users' manual explaining the purpose of the study, data sources, methodology employed, key terms and formulas, and in-

terpretation of results (medium priority and effort; should be coordinated with system and report redesign).

17. Ratio study workshop. In order to improve understanding, the LTC should consider developing a 2-3 day workshop on ratio studies. The workshop could cover the purposes and uses of ratio studies at both the state and local level, the role of ratio studies in Louisiana, procedures for verifying sales and submitting data to the LTC, ratio study standards and statistics, and what can be learned from a ratio study (longer term; presently low priority).

6.2.3 Appraisal Ratio Study Recommendations

18. Role of appraisals. The LTC should reconsider the role of appraisals in its ratio studies. Appraisals are expensive and time-consuming to conduct and do not enjoy the objectivity of sales. To the extent they are retained, appraisals should be used to supplement sales in thin markets and provide coverage for higher value commercial properties that rarely sell. We do not see a need for appraisals for residential properties where sales are reasonably plentiful, even in smaller parishes (highest priority; low effort).
19. Sample selection. To the extent that appraisals continue to be used in ratio studies, they should be drawn randomly from targeted strata where sales are inadequate. Certain atypical and difficult to appraise properties can be excluded from the “population” from which samples are drawn (medium priority and effort; only applicable if appraisals are retained).
20. Independence of appraisals. To the extent possible, appraisals should be conducted independently or “blind” without knowledge of local coding or assessments. Similarly, appraisals should not be revealed to assessors until after the assessments are finalized and neither party should be able to change values to match those of the other (medium priority and effort; only applicable if appraisals are retained).
21. Reemphasis of valuation approaches. Appraisal procedures should be modified to use the sales comparison and income approaches whenever possible (medium priority and effort; only applicable if appraisals are retained).
22. Valuation manual. The LTC should complete its valuation manual with an eye to providing both conceptual and practical guidance to assessors and LTC staff. The manual should be brought up to date consistent with the current state of the art and strike an equal balance among the three approaches to value. Readers can be referred to IAAO texts and standards for further reading in technical areas (long term; presently low priority).

6.2.4 Procedural Audit Recommendations

23. Role of procedural audits. The LTC should consider instituting procedural audits, which can be viewed as a supplement to sales ratio studies, providing information on appraisal performance in thin markets, as well as assistance to assessors in improving their opera-

tions. Resources now spent conducting appraisals could be partly shifted to this program (high priority; low effort).

24. Implementation of procedural audits. Procedural audits can be implemented in a phased approach. Initial steps would include defining the scope of audits and visiting other state level agencies that have instituted successful programs. Initially at least, the audits could take the form of a survey questionnaire administered to the parishes (longer term priority dependent on a “go forward” decision).