

**REVIEW OF REASSESSMENT PRACTICES AND EQUALIZATION
IN NEW HAMPSHIRE**

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Contents

1.	Introduction.....	1
2.	Property Assessment System.....	3
2.1	Setting and Legal Foundation	3
2.2	Reappraisal Frequency and Local Assessment Practices.....	4
2.2.1	Generally Accepted Assessment Practices	4
2.2.2	Reassessment Frequency.....	4
2.2.3	Funding and Staffing for Assessment Administration.....	7
2.2.4	Computer-Assisted Mass Appraisal Systems	8
2.2.5	Property Inventory Maintenance.....	8
2.2.6	Market Data Collection and Analysis	8
2.2.7	Valuation Practices	9
2.3	Role of the Department of Revenue Administration	10
2.3.1	General Role of State Supervisory Agencies.....	10
2.3.2	DRA Responsibilities, Resources and Activities.....	12
2.3.3	Valuation Guidelines and Manuals.....	13
2.3.4	Revaluation Standards and Regulations.....	14
2.4	Role of Board of Tax and Land Appeals	15
2.5	Conclusions	16
3.	Equalization System.....	18
3.1	Overview.....	18
3.2	Statutory and Regulatory Framework.....	19
3.3	Sales Data Assembly and Processing.....	20
3.3.1	Overview.....	20
3.3.2	Real Estate Transfer Questionnaire.....	22
3.3.3	Real Data Corporation	23
3.3.4	Municipal Assessment Sheets	24
3.3.5	Processing by the DRA	25
3.3.6	Sales Screening and Processing Deficiencies.....	27
3.3.7	Problems with Matching Sales Prices to Assessments	37
3.3.8	Impact of Sales Screening and Processing Deficiencies.....	39
3.4	Statistical Analysis.....	46
3.4.1	Components of Statistical Reliability	46
3.4.2	Current DRA Procedures	47
3.4.3	Critique of DRA Methodology	48
3.5	Development of Equalized Values.....	52
3.6	Reporting.....	53
4.	Summary and Conclusions.....	60
4.1	Overview.....	60
4.2	Disparities in Assessments.....	60
4.2.1	Disparities in Levels of Assessment	60
4.2.2	Lack of Uniformity in Assessments.....	60
4.3	Weak Supervision and Inadequate Equalization by the DRA	62
4.3.1	Unreliable Ratio Studies	62

4.3.2 Weak Support to Local Assessors.....	62
Appendix.....	63

1. Introduction

Almy, Gloude-mans, Jacobs & Denne, Property Taxation and Assessment Consultants, was retained by the Coalition Communities to evaluate the State of New Hampshire's readiness to impose the statewide school property tax required by House Bill 999 (1999). We evaluated the Department of Revenue Administration's (DRA) supervisory and equalization functions as well as local assessment practices. We did not address utility assessment and taxation, although the DRA justifiably regards the equalization of utilities as problematic.

By establishing the statewide property tax, HB117 heralded a new era in property taxation in New Hampshire. Based on a statutory rate of \$6.60 per \$1,000 of assessed value, the education property tax could raise about \$440 million of the \$825 million needed to meet the State's current education funding standards (previously, the State distributed less than \$100 million in aid). This sum represents about 25 percent of total local property tax revenues in New Hampshire. Under this new tax scheme, the role of DRA changes commensurately. It no longer is a comparatively disinterested supervisory and equalization agency. The State effectively becomes a supra-assessment district in which the DRA is the assessor. The DRA's actions and inactions affect the burdens and proportionality of the education property tax among taxpayers and among towns. Victims of discriminatory assessment have a major stake in the process. With higher demands being placed on the equalization system, the system must be able to withstand greater critical scrutiny. Major flaws in the system must be corrected at the outset.

Are local assessments sufficiently uniform statewide to pass the constitutional proportionality test? The answer to this question turns on whether the DRA's equalization studies accurately represent the true level and uniformity of local assessments and, ultimately, on whether local assessment practices conform to professional standards.

To shed light on these questions, the AGJD study team (which was composed of Robert Gloude-mans, Richard Almy, David Gaskell, and Steven Dorsey) evaluated key elements of the New Hampshire property tax system (section 2) with a focus on the equalization study (section 3). As we were not allowed access to DRA personnel (except for a single interview with the Commissioner, the Assistant Commissioner, an assistant attorney general, and the DRA Revenue Counsel, we examined available documents and analyzed the data that underlie the 1997 and 1998 equalization studies. We audited the data relied upon by the DRA for those studies in a cross-section of thirty-three New Hampshire municipalities. The sample was selected by sorting municipalities by county, ranking them by 1998 population within each county, and selecting every eighth municipality. Four additional municipalities were audited to pursue issues that had been brought to our attention. We carefully examined and compared the data in source records, DRA ratio study output, and assessment rolls. We consistently screened sales and corrected apparent errors in the ratio study data for those towns and recalculated ratio statistics. In addition, we surveyed New Hampshire assessors regarding their practices, and ninety-two municipalities responded. We benefited from background information provided by Thaddeus Jankowski and his staff.

In our evaluation, we present the criteria we used, describe the current condition, and discuss the effect of unresolved problems. We conclude that the current system is incapable of providing a

proportional base from which to levy a statewide property tax. Assessment offices are, for the most part, inadequately funded and understaffed. Assessments are generally outdated and assessment levels vary markedly among towns. Insufficient attention is given to tracking market activity and keeping values current and equitable. The DRA provides little guidance or assistance. Its equalization procedures are ineffective and, in practice, inconsistent between communities. Implementation of a statewide property tax in this environment will cause significant inequities between property owners and towns. Simply put, the current system is intolerable, and the State must set its house in order.

Section 2 of this report presents our analysis of current assessment practices and procedures in New Hampshire. Section 3 discusses and critiques the DRA's equalization studies. Section 4 presents our conclusions. A separate report, *Review of Sales Processing for the DRA Equalization Study: Being Consistently Inconsistent*, details the findings of our review of sales screening and processing procedures in the thirty-three sample municipalities we analyzed.

2. Property Assessment System

2.1 Setting and Legal Foundation

The chief responsibility for the assessment of real property rests with the boards of selectmen of New Hampshire's cities and towns. Property legally is required to be assessed at its full and true value in money (that is, market value). According to the plain language of the State Constitution (Part 2, Article 6), revaluations are to occur at least every five years. Furthermore, RSA 75:8 requires assessors and selectmen to reappraise real estate that has changed in value since the previous year and to correct all errors in property appraisals. It is clear that these requirements are ignored in many municipalities and that the Department of Revenue Administration (DRA) takes no steps to ensure that the laws are adhered to. The commissioner of DRA believes that its equalization program is sufficient. We disagree. We contend that the DRA's equalization studies are seriously flawed.

Before HB 117, the DRA's equalization studies were of much lesser importance. The findings were used in the distribution of foundation aid, to equalize county property taxes, and to apportion the costs of cooperative school districts. The ratios could be used in appeals, and they could be used before the Board of Tax and Land Appeals or in court as evidence of the need for a revaluation. From the perspective of an assessing official in a town that was under-assessed (that is, assessed values generally are less than their current market values), the logical objective was to seek a ratio as close to 1.00 as possible and to minimize the coefficient of dispersion (COD) by attempting to control the sales used in the ratio study and by assessing recently sold property for an amount near its sale price (so-called "sales chasing). With the real estate slump in the late 1980s and early 1990s, any towns that had revalued just before the slump generally were over-assessed (assessed values are greater than current market values). They were under some pressure to deny this reality. The DRA had little ability or incentive to make truly independent ratio studies that accorded with professional standards.

HB 117 increases the stakes in equalization studies considerably. Overlaid on former incentives to influence ratio study statistics is a new pressure: to achieve the lowest possible estimate of equalized value in order to transfer more of the burden of the statewide school property tax to other towns.

The DRA uses its annual ratio study to evaluate local assessment performance. The DRA's own uniformity study statistics reveal substantial inequities in assessments within and among towns. The DRA can no longer afford to stand by.

2.2 Reappraisal Frequency and Local Assessment Practices

2.2.1 Generally Accepted Assessment Practices

Frequent reappraisals made in accordance with generally accepted practices promote uniform assessments and proportional property taxes. The *Standard on Property Tax Policy* published by the International Association of Assessing Officers (1997) and section 4.5 of its *Standard on Mass Appraisal of Real Property* (1984) call for annual reassessments with comprehensive reappraisals involving an on-site inspection of every property at least every six years. The foundation of an effective annual assessment program is a well-executed revaluation. Such a revaluation would have the characteristics described in exhibit 2-1.

A full revaluation would provide the foundation for an effective *annual* reassessment program, which, in turn, would have the characteristics described in exhibit 2-2.

It should be underscored that an annual reassessment program does not require the assessor to change the value of every property every year. Assessments only need to be changed when there is a clear indication based on market evidence that valuations no longer meet level and uniformity standards.

Changing from doing revaluations on a periodic project basis to an annual reassessment program basis offers major benefits. Most important, by maintaining accurate, up-to-date valuations, tax burdens are proportional. Changes in the composition of the tax base are more gradual. Political opposition to revaluations abates. Property owners can more easily predict what their taxes will be, and taxing districts can better judge their tax capacity. The annual costs of an ongoing reassessment program compare favorably with the annualized costs of periodic revaluations and justify the maintenance of a considerably higher level of in-house expertise.

2.2.2 Reassessment Frequency

The constitutional mandate of five-year reassessments is largely ignored in New Hampshire. There is no implementing statute. Except for municipalities in which it conducts revaluations on a contract basis, the DRA plays a passive role. Many towns revalue only when ordered.

The DRA collects fragmentary information on revaluation practices on form PA-43 and other sources. Assessors are asked to describe reassessment activity and characterize revaluations as “full” or “partial” or “update.” Assessing officials do not have a common understanding of what a “partial” reassessment or an “update” is. For example, some consider assessing new construction to be a “partial” reassessment. An “update” can mean applying a blanket adjustment factor, which does nothing to correct inequities. The DRA obtains no information on what was done as part of a “partial” or “update” revaluation. Apparently it also maintains no information on who conducts full revaluations, their cost, or methods used.

Exhibit 2-1

CHARACTERISTICS OF A HIGH-QUALITY REVALUATION PROJECT

- A powerful computer-assisted mass appraisal (CAMA) system. Modern CAMA systems support the functions described below.
- Effective market data collection program. Sales data should be collected from reliable, verifiable sources, such as real property transfer reports. Rental property income and expense data should be collected from property owners, managers, or tenants using well-designed questionnaires. Cost data should come from credible sources. Data should be verified and screened as appropriate.
- An adequate market database. All bona fide sales for several years should be recorded in a computerized sales file that includes the attributes of the properties at the time of sale. Income and expense data also should be recorded in a fashion that facilitates analysis.
- A readily available, flexible ratio study routine. The routine should allow the assessor to choose the period from which sales are drawn and should allow the assessor to select the strata to be analyzed.
- Well-documented preliminary market analyses. Before property is appraised, the assessor (or contractor) should conduct a thorough analysis of market patterns and trends. This should include the delineation of market areas and neighborhoods to be used in the revaluation.
- Use of all appropriate valuation approaches and well-documented valuation models that demonstrably produce acceptable results. The sales comparison approach should be used whenever ample sales can be obtained (not all sales need be from within the jurisdiction if adjustments can be made for differences in taxes and service levels). The income approach should be used for types of property that typically are rented. The cost approach should be used when there are insufficient sales or rents, or as a crosscheck against values produced by the sales comparison and income approaches.
- Well-designed value review procedures. Values should be reviewed in the field for reasonableness and consistency. Value adjustments made during the review and reconciliation process should be supported and documented.

Exhibit 2-2

CHARACTERISTICS OF A HIGH-QUALITY ANNUAL REASSESSMENT PROGRAM

- Market monitoring. Using the market data collection procedures established during the revaluation, the assessor would continue to monitor real estate market activity with the aim of detecting significant trends. This would include the ongoing collection and maintenance of sales, income, and other market data.
- Time trend analyses. Using the analytical capabilities of the CAMA system, the assessor would make trend analyses and, as necessary, adjust older sales to the current valuation date.
- Ratio studies. At the same time, the assessor would use ratio studies to determine whether valuation accuracy standards are still being met. As with trend analyses, ratio studies should be made at least annually.
- Property inventory maintenance. In addition, the assessor would carry out an effective property inventory maintenance program. Building permits would be monitored, and the assessor would inspect every property at least once every four to six years on a regular schedule (usually the jurisdiction would be divided into regions and the properties in the regions would be inspected in succeeding years). Characteristics of recently sold properties would be verified.
- Value updates. When the assessor detected significant trends in property prices in any segment of the property market or when ratio studies revealed that appraised values no longer meet level and uniformity standards, the assessor would decide on an appropriate course of action. There are three basic options: (1) indexing (or trending) existing valuations, (2) re-calibrating existing models and reapplying them, and (3) calibrating new valuation models. Different update strategies could be used in different segments of a community. Trending is appropriate as long as uniformity standards are met. Market comparison, income, and cost models can be recalibrated using recent market data and older, time-adjusted sales. However, a full reappraisal or remodeling effort (see below) is required when there have been fundamental changes in the local market. For example, trending may produce satisfactory results in recently developed subdivisions, but it may be necessary to do a full revaluation of property in the commercial core or in older areas characterized by renovations and infill.
- Mass appraisal modeling. With the assistance of CAMA system tools, the assessor have the capability of updating existing mass appraisal models and developing new models based on the sales comparison and income approaches to value. Cost schedules and indexes must also be kept current.
- Value review. An effective value review program would accompany the value updates or the development of new mass appraisal models. Preliminary value estimates should be reviewed on a case-by-case basis for reasonableness and consistency. In addition, standards recommend that the different approaches to value be used to develop separate value estimates whenever feasible and appropriate. This requires the assessor to “reconcile” the various indicators of value and select *the* estimate that is considered most accurate.

As summarized in exhibit 2-3, the available information on revaluations indicates that in the five-year interval, 1994-1998, only seventy-one towns had full revaluations. The annual average is fourteen towns. The average should have been at least fifty-two if the constitutional mandate--or professional standards--were being taken seriously. Forty-eight towns had at least one “partial” reassessment. One hundred thirty-three towns (more than half) are not known to have had any reappraisal activity between 1994 and 1998. Seventy-five towns (almost 30 percent) are not known to have had *any* reappraisal activity since 1981. Such outdated and inconsistent assessment rolls cannot be expected to provide a satisfactory base for a statewide property tax.

**Exhibit 2-3
Summary of Revaluation Activity**

	Required by NH Constitution	Actual Practice
Towns with revaluations in last 5 years (1994-1998)	259	71
Average revaluations per year	52	14
Towns with no revaluation in last five years	0	133
Towns with no revaluation in last twenty years	0	75

To gain a better understanding about reappraisal activity in New Hampshire, we sent a survey questionnaire to each city and town assessor (see appendix). In addition to information about reappraisal activity, it elicited information about assessment resources and assessment practices. Ninety-two responses were received. The following sub-sections summarize the responses. Because the responding municipalities are representative of non-respondents in terms of the DRA’s measures of assessment accuracy and jurisdiction size, we believe that they fairly describe patterns statewide.

2.2.3 Funding and Staffing for Assessment Administration

Few survey respondents reported having an adequate budget for assessment administration. Of the seventy-two towns that supplied both a parcel count and current budget information, thirty-nine (54 percent) spent less than \$10 per parcel on assessment administration, which is regarded as minimally sufficient to maintain routine operations (updating name and address records, putting new properties on the rolls, administering exemption, and the like). Only nineteen (26 percent) had budgets of at least \$15 per parcel, which is considered the minimum necessary to support an annual reassessment program. The median budget per parcel was \$7.83.

Clearly most New Hampshire towns devote insufficient resources to assessment administration. Considering the importance of the property tax in the State, this is a problem.

Given limited spending for property tax administration, it was not surprising to find that New Hampshire assessors’ offices tend to have smaller than expected staffs. Parcels per employee are used to gauge staff adequacy. Typically, smaller assessment jurisdictions have 2,500 or fewer parcels per employee. Based on the twenty-five responding assessment jurisdictions that had full-time employees, the typical workload was 3,000 parcels per full-time employee. Based on

the fifty-five towns that had part-time employees (and assuming that the typical part-time employee worked half time), the workload is 2,900 parcels per employee. Of course, many municipalities rely on contractors for data maintenance and other activities. Others simply defer necessary work.

2.2.4 Computer-Assisted Mass Appraisal Systems

As noted in exhibit 2-1, use of a powerful computer-assisted mass appraisal (CAMA) system is a hallmark of an effective revaluation program. Of the ninety-two survey respondents, sixty-one (66 percent) reported use of a CAMA system (nine of the systems were installed in 1999). Some reflect current technology; many do not.

Seven revaluation contractors provided most of the CAMA systems, although two of the municipalities developed their system in-house. The most common providers were Vision, Avitar, and the DRA. The DRA utilizes and furnishes to interested towns a CAMA system developed by Sabre Systems and Service (a division of Manatron) in 1992 and 1993. Approximately thirty-eight municipalities use the system.

The DRA/Manatron system is Windows-based and uses replacement costs developed by Marshall & Swift, a nationally recognized cost reporting service. The system has limited market and income approach capabilities. Other CAMA systems in the state have similar limitations. For example, only 82 percent of the respondents' CAMA systems provided a sales file. Only 50 percent provided ratio studies, and only 18 percent provided regression analysis.

2.2.5 Property Inventory Maintenance

New Hampshire property inventory data maintenance practices often fall short of generally accepted practices. Twenty-two percent do not have cadastral (assessment or tax) maps, which are the foundation of an effective property inventory, particularly in rural areas. On a positive note, eighty-three of the survey respondents (90 percent) reported they had inspected properties for which building permits had been issued. On the other hand, only ten (11 percent) have a program of inspecting all properties on a routine cycle. Only 22 percent inspect recently sold properties to ensure that their characteristics are correctly recorded for purposes of ratio study and market analyses. Thirty-one (34 percent) of respondents still rely on homeowners to submit complete and accurate property inventory forms (termed the "resident inventory blank") to maintain property inventories.

2.2.6 Market Data Collection and Analysis

Market values cannot be estimated accurately without access to current sale price, rent, and construction cost information. A significant number of responding municipalities reported deficiencies in these areas. Until 1999, buyers were not required to send copies of form PA-34, the real estate transfer questionnaire. This meant that municipalities had to expend scarce resources to develop alternate, less satisfactory sources of sale price data or to go without. Too many chose the latter option, and 25 percent of respondents *do not* even maintain sales files. Eighty-eight percent do not routinely collect income and expense data. Sixty-four percent do not make

use of a nationally recognized replacement cost reporting service. In summary, many New Hampshire municipalities appear not to collect sufficient market data—a critical shortcoming.

Moreover, fifty of the ninety-two survey respondents (54 percent) do not make ratio studies to evaluate the quality of local assessments.

2.2.7 Valuation Practices

Professional standards recommend that assessors use all three traditional approaches to value, that is, the sales comparison, income capitalization, and replacement cost approaches. Reliance on the sales comparison approach is preferred when there are sufficient sales available, and reliance on the income approach is preferred in the appraisal of income-producing properties, such as apartments, retail stores, and the like. Users of the cost approach should ensure that replacement cost estimates are up-to-date and that depreciation allowances are based on market evidence.

Exhibit 2-4 summarizes practices related to primary reliance on the sales comparison approach. The second and third columns give the number and percentage, respectively, of respondents indicating that they place primary reliance on the sales comparison approach to value the four types of property indicated. The fourth and fifth columns indicate the percentage of the number in column 2 that do not have a sales file and that do not inspect recently sold properties (to ensure that they are correctly described for ratio study and appraisal purposes). Given the small size of many New Hampshire municipalities and the small number of sales that many have available, it is not surprising that only slightly more than half of survey respondents place primary reliance on the sales comparison approach in the valuation of residential property. What is surprising is that as many as 25 percent of municipalities *do not* even maintain a sales file, and it is astounding how few inspect sales.

**Exhibit 2-4
Respondents Indicating Primary Reliance on the Sales Comparison Approach**

Property Type	Number	Percent	Percent without Sales File	Percent Not Inspecting Sales
Residential	52	56.5	25.0	75.0
Apartment	35	38.0	20.0	74.3
Commercial	28	30.4	25.0	75.0
Industrial	22	23.9	22.7	90.9

As noted, the income approach is preferred when appraising income-producing properties. Exhibit 2-5 describes reliance on the income approach and the collection of income and expense data. Amazingly, fewer than half of the jurisdictions that rely heavily on the income approach collect the data needed to implement it.

Exhibit 2-5
Respondents Indicating Primary Reliance on the Income Approach

Property Type	Number	Percent	Percent Not Collecting Income and Expense Data
Residential	0	0.0	0.0
Apartment	24	26.1	62.5
Commercial	19	20.7	57.9
Industrial	16	17.4	56.2

Exhibit 2-6 describes reliance on the cost approach and use of nationally recognized cost reporting services to keep replacement cost rates current. As can be seen, about half the responding municipalities do not make use of a current cost reporting service—a key element of a cost approach valuation system.

We conclude that valuation practices in many New Hampshire municipalities are seriously deficient. Those municipalities should be revalued and valuation practices brought up to professional standards if the statewide education property tax is to be proportionally shared.

Exhibit 2-6
Respondents Indicating Primary Reliance on the Cost Approach

Property Type	Number	Percent	Percent Not Using a National Cost Reporting Service
Residential	27	29.3	59.2
Apartment	17	18.5	52.9
Commercial	30	32.6	53.3
Industrial	26	28.3	42.3

2.3 Role of the Department of Revenue Administration

2.3.1 General Role of State Supervisory Agencies

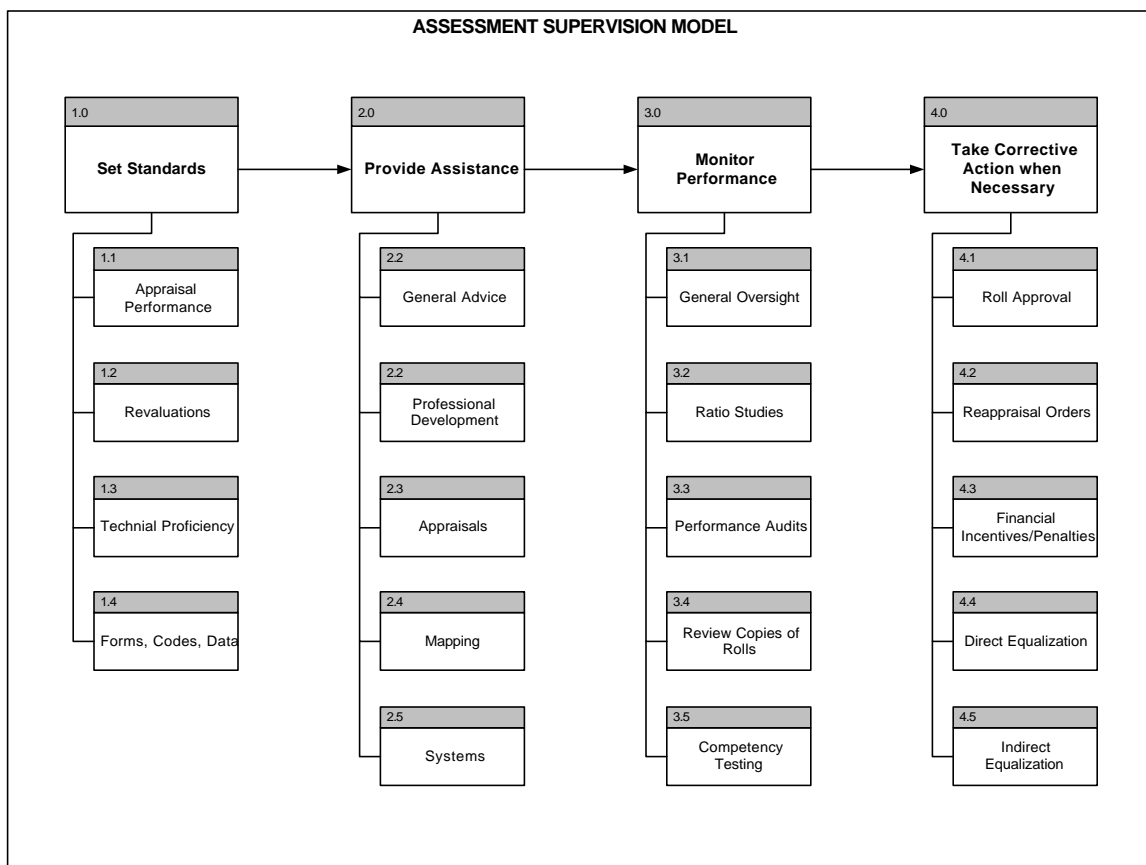
Effective state participation in property tax administration is considered vital to the state's interest in having its laws administered uniformly. Equally important, a strong state role benefits local governments. Especially in states characterized by small assessing jurisdictions (like New Hampshire), many of the tools and services that states provide are too costly to be afforded by many local governments. A state role also deters destructively competitive underassessment. A competent state property tax supervisory agency tends to encourage competence in local assessment offices.

The so-called general model of state assessment supervision is derived from recommendations made by the U.S. Advisory Commission on Intergovernmental Relations, the International Association of Assessing Officers (IAAO) and others and provides criteria for evaluating a supervi-

sory agency. The model assigns such agencies four broad, interrelated functions: (1) setting standards and specifications, (2) assistance and counseling, (3) monitoring and analysis, and (4) enforcement. The main components of this model are depicted in exhibit 2-7 below. In addition to supervision, many states are responsible for the assessment of certain classes of property (such as transportation and utility property and occasionally industrial property).

The development of standards and specifications is necessary for effective, uniform administration of property tax laws. Assisting and counseling activities are helpful to and supportive of local governments. Although crucial to effective supervision, monitoring and analysis may be seen as an intrusion or a threat. Enforcement is confrontational, with the state in a resented position of power. Therefore, enforcement should be the last resort, but enforcement actions should be taken whenever supervisory activities in the first three roles have not produced the desired results. The challenge a supervisory agency faces is achieving the balance of activities that results in the highest level of assessment performance with the least consumption of resources and the least amount of stress. In other words, the more effectively a state encourages high-level performance and the more effective its assistance activities, the less onerous its enforcement activities will need to be. In summary, the assessment supervision model combines effective programs for monitoring local conditions and local assessment performance, a strong commitment to assisting when necessary, "counseling" when performance falls below standards, and enforcing legal standards firmly and consistently.

Exhibit 2-7



2.3.2 DRA Responsibilities, Resources and Activities

Along with its other functions, the Department of Revenue Administration (DRA) is responsible for centrally assessing certain types of property, supervising and assisting assessors and selectmen, and equalization. Collectively, the commissioner and the Property Appraisal Division are responsible for the following (among other things):

- X Supervising, assisting, and instructing local assessing officials (RSA 21-J:3, V and VI, and RSA 21-J:9, I and IV).
- X Preparing a standard assessment manual (RSA 21-J:9, IV) -- see section 2.3.3.
- X Regulating reappraisal contractors and reappraisal contracts (RSA 21-J:11) -- see section 2.3.4.
- X On request, assisting municipalities with reappraisals (RSA 21-J:10).
- X Petitioning the Board of Tax and Land Appeals to order reassessments (RSA 21-J:3, XXV) -- see section 2.4.
- X Equalizing local assessments (RSA 21-J:3, XIII; RSA 21-J:9, III; and RSA 21-J:9-a) -- see section 3.
- X Appraising railroads, utilities, and the like (RSA 21-J:9(e)); state-owned forest and recreation land (RSA 21-J:9,II); and property in unincorporated and unorganized places (RSA 21-J:9, I(b)).
- X Formulating and recommending legislation designed to ensure just and equal taxation (RSA 21-J:3, XI).

As we could not meet with Property Appraisal Division staff, we do not have complete information about the resources DRA devotes to property tax administration. The Division's fiscal year 1999 budget was about \$1.5 million. This equates to less than 0.1 percent of total property tax revenues statewide (0.1 percent of total property tax revenues is considered a minimally acceptable level of funding for state-level property tax supervision). Implicitly (based on staffing), the State is spending about \$300,000 on equalization. Considerably more would be needed to perform the equalization function effectively as required by the statewide education property tax.

According to the DRA commissioner, the property tax staff totals about twenty-five. There currently are eighteen field representatives (up from twelve), many of whom have been involved in contract revaluations. Two persons are involved in utility appraisal (some utilities are appraised by outside contractors). One assists with data processing. Including the supervisor, the equalization section has five people who perform some other duties as well. At this level of staffing, each person must make over fifty equalization studies each year. However, most of the work takes place in four months (December through March), which implies that each analyst

must complete about three studies per week. At the same time, the DRA's sales screening workload has been increasing as New Hampshire's real estate market has emerged from the slump of the early 1990s. At current sales volumes and if the equalization staff spent all of its time from December to March on sales screening, at most five minutes could be spent per sale reviewing the data submitted by the assessor, comparing those data with the data on the Real Data Corporation (RDC) source record and the PA-34 if one was filed, and attempting to reconcile any discrepancies. Given the volume of work, the limited time available, and the tediousness of sales screening, it is no wonder that the numerous errors and inconsistencies that we report on in section 3.3.5 occurred.

In the past, the Division devoted much of its resources to helping a few municipalities by conducting revaluations on a cost-recovery basis. Some people were concerned that this program impaired the Division's objectivity in its equalization studies. The contention was that the private revaluation contractors did not enjoy the same presumption of correctness as the Division did. The DRA plans to curtail this activity. As mentioned, the DRA also maintains a CAMA system for use by interested municipalities.

In any event, the pattern of small, sparsely populated local assessment districts makes the DRA's supervision and equalization functions challenging. The DRA appears not have the resources needed to meet the challenges of a statewide property tax.

2.3.3 Valuation Guidelines and Manuals

Pursuant to its statutory mandate to prepare a standard appraisal manual, the DRA in 1996 issued *The New Hampshire Assessing Reference Manual*, a ten-section manual that was developed by an ad hoc group of concerned assessing officials. Although it contains useful material, it falls far short of being either a useful *appraisal* manual or a comprehensive manual on assessment administration in New Hampshire. Interestingly, the introduction notes that "nowhere in the United States is it more important that the property tax be administered fairly and well" (a challenge that the State largely has not taken to heart). Section 2 contains a calendar and brief but useful procedural guidelines. Section 3 is a list of references to statutes. Section 4 describes the equalization process. Section 5 is a non-technical seven-page treatment of valuation. Section 6, entitled "Revaluations and Updates," deals briefly with a number of basic subjects. It attempts to define "revaluation," "update," "coefficient of dispersion," "market value," and "qualified" and "unqualified" sales. It outlines the reasons for updating values. It provides an overview of market analysis, land valuation, the cost approach and the analysis of improved sales, value reconciliation, and statistical testing. It contains types of questions that members of the board of selectmen, property owners, and others might ask about revaluations. It also contains notes about contracting for a revaluation, which could serve as a rudimentary checklist. Section 7, entitled "Public Relations," contains a case study of a revaluation in the 1980s in Boston, Massachusetts. It also contains recommendations based on experience in Nashua. Section 8, entitled "Taxpayer's Options," deals with appeal (abatement) procedures. It covers requests for abatements at the local level. It contains excerpts of the rules of the Board of Tax and Land Appeals. Finally, the section cites provisions of statutes that pertain to appeals to the superior court, and it provides other useful information. Section 9 discusses the role of the DRA in two pages. Sec-

tion 10 identifies the authors. Because the manual was last updated in 1997, it obviously does not reflect changes made by HB 117 and HB 999.

The DRA also has issued the *Residential Appraisal Manual* and a companion manual for mobile homes. The manual essentially is a cost manual with sections on land appraisal, classifying structures, and filling out property record cards. The DRA develops the cost rates, which are uniform statewide, regardless of any actual locational differences in material and labor costs. Revisions are infrequent. The manual contains no practical help with depreciation or with the development of market adjustment factors. To use the manual, users are instructed to (1) rate eleven structural components (foundation, electrical, etc.) on a “poor, below-average, average, above-average, or excellent” basis, (2) sum the points, and (3) calculate the average to come up with a composite rating for the structure. “Poor” quality receives one point, “below-average,” two points, and so on. On the basis of this composite rating, the user is directed to use the corresponding cost rate table. There are tables for 1, 1 1/2, 2, 2 1/2, 3, 3 1/2, 4, 4 1/2, 5, and 6 ratings (6 being mansions not covered in the quality specifications). Thus, each structural component is weighted equally regardless of its cost or contribution to the value of the total structure. The point differentials are similarly arbitrary.

These manuals appear to comprise the whole of DRA’s valuation guidelines and manuals. While the *Assessing Reference Manual* provides a helpful overview of assessment administration in New Hampshire, the DRA’s guidance and specifics on how to value properties using the three approaches to value is woefully inadequate. The *Residential Appraisal Manual* is a poor and outdated cost manual that covers only residential properties (except for a five-page section on farm buildings). There is no guidance or materials on application of the sales comparison and income approaches.

2.3.4 Revaluation Standards and Regulations

Pursuant to RSA 21-J:11, the DRA approves revaluation contractors and revaluation contracts. Would-be appraisal contractors must notify the commissioner in writing. If the commissioner deems the contractor qualified, the contractor is placed on a list of approved contractors. Municipalities must submit proposed revaluation contracts to the DRA for the commissioner’s approval. They also must provide evidence of the professional capability and financial responsibility of proposed contract appraisers.

RSA 21-J:11 also charges the commissioner with monitoring appraisals and supervising appraisers (at no expense to the municipalities). The program is to:

- X Assure that appraisals comply with all applicable statutes and rules;
- X Assure that appraisers are complying with the terms of the appraisal contract;
- X Review the accuracy of appraisals by inspection, evaluation, and testing, in whole or in part, of data collected by appraisers; and

- X Report to the governing body on the progress and quality of the municipality’s appraisal process.

The statute also directs the commissioner to develop rules regarding appraisal service contract provisions and the methods used to monitor revaluations. Pursuant to this, the DRA has issued Rev 603, *Revaluations of Real Property; Standards and Qualifications of Appraisal Companies*. The regulations cover appraisal contractor personnel qualifications and appraisal contracts and specifications. Rev 603 is notable for its biases and omissions. It advocates paper-based and cost-approach based appraisals carried out by an artificial hierarchy of positions. It does not contemplate use of a CAMA system or the sales comparison approach except for land valuation. Use of the income capitalization approach is restricted to multi-family residential property and as support for the cost approach. It does not address data quality or appraisal accuracy standards. It does not contemplate use of ratio studies, although it advocates comparing preliminary value estimates to sales prices and adjusting the value estimates to reflect indicated market values (in effect, encouraging sales chasing). Use of sales outside a municipality as valuation benchmarks is discouraged, if not prohibited. Rev 603 also does not address the revaluation project monitoring requirements of HB 117 (the most recent version of Rev 603 is dated 27 November 1997). Municipalities sometimes incorporate earlier versions of Rev 603 in their reappraisal contract specifications. In short, the DRA has not developed modern, cost-effective reappraisal standards and would seem to have limited capabilities to monitor revaluations. As a result, even recently completed revaluations may be deficient.

2.4 Role of Board of Tax and Land Appeals

The Board of Tax and Land Appeals (BTLA) is a state-level appellate body. It has responsibilities regarding both municipal reassessments and equalization. It has the power to order revaluations upon petition by taxpayers or the DRA or when it finds assessment inequities are too great. In the past, the commissioner of DRA has contended that the Department lacked authority to enforce assessment accuracy requirements or the five-year revaluation requirement. However, HB 117 added RSA 21-J:3 XXV, which explicitly allows the commissioner to petition the BTLA to issue reassessment orders pursuant to its powers under RSA 71-B:16-19 “whenever the valuation of property for equalization purposes in a particular city, town, or unincorporated place is disproportional to the valuation for equalization purposes in other cities, towns, or unincorporated places in the state.” To our knowledge, however, despite outdated revaluations and poor assessment measures in many communities, the DRA has not petitioned the BTLA to order reappraisals or otherwise adjust values in any town in recent years.

We note that HB 117 made it somewhat easier for taxpayers to petition for a reassessment by amending RSA 71-B:16, IV by requiring that the petition be signed by the lesser of fifty taxpayers or one-third of the taxpayers in the taxing district. The BTLA also hears appeals of the DRA’s equalization determinations under RSA 71-B:5, II.

In this scheme, the BTLA must become a more effective and proactive force in eliminating inequities in assessments in New Hampshire. For example, the BTLA has used a COD in excess of 20 (which the DRA reported sixty-eight municipalities as having in 1998) as a benchmark for ordering reappraisals. Instead, the BTLA should adopt the assessment level and uniformity

standards contained in the *Standard on Ratio Studies* published by the International Association of Assessing Officers in 1999. That is, it should order a municipality to reassess when any of the following occurs: (1) the level of assessment is provably below 90 percent of current market value or above 110 percent, (2) CODs exceed IAAO's guidelines, or (2) differences in the level of assessments between residential and non-residential properties provably exceeds 5 percent of the overall level.

2.5 Conclusions

The current New Hampshire property tax system provides a highly inadequate base upon which to administer the statewide education property tax. The DRA and most municipalities ignore the five-year revaluation mandate. At least one-fourth of municipalities have not revalued in twenty years or more. Further, most assessing officers do not have the resources and systems needed to conduct a competent revaluation. Funding for routine assessment operations is low, and the majority of municipalities do not have a full-time assessor. Valuation procedures and technology are generally cost-based and lag the current state of the art. Further, New Hampshire municipalities receive very little help from the DRA and essentially are unsupervised.

The resulting disparities in assessment levels and lack of proportionality both among and within communities result in an exceedingly fragile base upon which to implement the statewide property tax. The DRA may argue that equalization compensates for these inadequacies, but as will be shown in section 3, the DRA's equalization studies are highly inadequate and further undermine the credibility of the entire system. Particularly in a state like New Hampshire, characterized by many small assessing jurisdictions and thin market activity, equalization is complex and difficult. In such an environment, assessments must be reasonably current and uniform to lay the basis for an effective, proportional statewide property tax.

The obvious first step to correcting outdated valuations and disproportionate assessments is a full revaluation of all properties in the state according to professional standards (refer to exhibit 2-1). A key aspect would be the recollection of physical characteristics data for all properties in most communities.

We estimate that a statewide revaluation program conducted according to industry standards would require up to five years and cost on the order of \$25-30 million (\$40-45 per parcel on average). After completing revaluations, municipalities can expect to spend about \$15-20 per property per year (at current costs) for an annual reassessment program (refer to exhibit 2-2). Alternatively, municipalities could budget about \$14-15 per parcel per year for routine operations and field inspection of one-fifth of properties. Then, in the fifth year, they would carry out a full revaluation at a cost of \$25-30 per parcel to include valuation modeling, public relations, and valuation and abatement reviews.

Although officials accustomed to the present system may find these figures high (see appendix), they are well within ranges considered acceptable in states that seriously attempt to achieve and maintain equitable property taxes. To provide another perspective, the annual costs of an effective assessment system can be expected to cost about 0.7 percent of property tax revenues statewide, a modest price to pay for professional administration and uniformity in the State's primary

revenue source. (Typically, assessment administration costs between 1.0 and 1.5 percent of property tax revenues.)

3. Equalization System

3.1 Overview

Our evaluation of the New Hampshire equalization system and the Department of Revenue Administration's (DRA) ratio study methods is based on:

- X Inspection of input documents (records furnished by Real Data Corporation, real estate transfer questionnaires, and municipal assessment sheets);
- X Analysis of computerized data files; and
- X Reading of related documents, including legislation and regulations, reports of ratio study findings for individual municipalities, annual *Equalization Surveys*, and two DRA course handouts: "Mini Course VIII, The Equalization Process—C.O.D.," and "Ratio Studies and the New Hampshire Equalization Process."

The determination of equalized values is unusually complex in New Hampshire (see exhibit 3-1, which shows Portsmouth's 1998 equalized value, and section 3.5). One determination is made for county taxes and the like and another is made for the statewide education property tax (the latter excludes the value of locally assessed utilities). We focused on the critical adjustment in this determination known as the "DRA inventory adjustment" made to the municipality's "modified local assessed value" exclusive of local option exemptions (previously termed the "net local assessed valuation"). This adjustment results from the DRA's determination of each municipality's assessment ratio.

The DRA's ratio determinations may be based on the findings of the DRA's annual ratio study or they may be based on judgment. Procedures frequently change and are poorly documented. Established procedures are departed from without apparent rationale.

The date of analysis of the annual ratio study is 1 April, the assessment date. Only sales are used in the ratio study (sales are not supplemented with appraisals), and the sale period is the twelve months straddling the assessment date (1 October-30 September). Municipal assessment sheets generally are distributed in November, and the study is to be completed in March of the following year.

There are no formal assessment performance standards. In 1998, the DRA used the IAAO standards to evaluate local performance. However, *The New Hampshire Assessing Reference Manual* quotes less stringent standards. For example, it considers only coefficients of dispersion (CODs) above 25 to be unacceptable.

In this section we outline the strengths and weaknesses of the New Hampshire equalization process. Exhibit 3-2 provides a schematic of the overall process. Section 3.2 lays out the statutory and regulatory framework. Section 3.3 discusses sales data acquisition, screening, and assembly. Section 3.4 critiques the DRA's statistical procedures.

Exhibit 3-1
Illustration of Equalized Valuation Calculation

Item	Amount
1998 Modified Local Assessed Valuation	\$1,405,017,804
+ D.R.A. Inventory Adjustment	296,737,413
= 1998 Equalized Assessed Valuation	1,701,755,217
+ Adjustment RSA 31-A (Shared Revenues)	49,663,570
= Base Valuation for Debt Limit	1,751,418,787
+ Equalized Payment in Lieu of Taxes	11,683
+ Equalized Railroad Tax	158,190
= 1998 Total Equalized Valuation	\$1,751,588,660

3.2 Statutory and Regulatory Framework

The legal foundation for equalization is found in two sections of the statutes: RSA-21-J:3 XIII and RSA 21-J:9 (which were amended by HB 117). Property is to be equalized annually by 31 March. The standard generally is “true and market value.” Equalization procedures are spelled out in RSA 21-J:9-a (added by HB 117). It provides that “the following procedures shall apply in determining the equalization of property within the cities, towns, and unincorporated places as required by RSA 21-J:3 XIII:

- I. The commissioner shall annually conduct a sales-assessment ratio study which shall include arm’s length sales or transfers of property that occurred 6 months prior to and 6 months following April 1 of the tax year for which such equalization is made.
- II. In determining the arm’s length sales or transfers that are included in the sales and assessment ratio study, the commissioner may use a randomly selected sample of such sales and transfers the size of which shall be determined by the total taxable parcels in the city, town, or unincorporated place.
- III. If less than 2 percent of the total taxable parcels in a city, town, or unincorporated place has been transferred by an arm’s length sale or transfer during the 6 months prior to and 6 months following April 1 of the tax year for which such equalization is made or the commissioner determines the sales are unrepresentative of the property within the municipality, the commissioner may choose one or more of the following options in the order listed:

- (a) Include appraisals of any of the taxable property of such city, town, or unincorporated place in the sales-assessment ratio study. Such appraisals shall be based on full and true market value pursuant to RSA 75:1 and shall be performed by department appraisers. The property to be appraised shall be selected by the commissioner.
 - (b) Include arm's length sale or transfers in the city, town, or unincorporated place, within 2-1/2 years preceding April 1 of the year preceding the tax year of which such equalization is made.
 - (c) Consider recent equalization ratio activity in adjoining cities, towns, or unincorporated places.
- IV. The commissioner may use the inventory of property transfers authorized by RSA 74:18 in determining the equalized value of property and may consider such other evidence as may be available to the commissioner on or before the time the final equalized value is determined.

Two regulations are integral to the ratio study process. Rev 604.14, PA-34, *Inventory of Property Transfer*, concerns the completion and submission of real estate transfer questionnaires (see section 3.3.2). Rev 602, *Determining the Average Level of Assessment for Each Town, City, and Unincorporated Place within the State*, governs the content and submission of "municipal assessment sheets" (see section 3.3.4).

The statutory framework (especially RSA-21-J:3 XIII) for making and using the results of ratio studies is unusually permissive. In practice, the Commissioner ignores the options for expanding the information base provided in part III above.

3.3 Sales Data Assembly and Processing

The reliability of any ratio study is dependent on the data used in the analysis. If the data are inaccurate or unrepresentative, the results will be misleading and erroneous.

3.3.1 Overview

The DRA obtains the data it uses in its ratio studies from several sources. A private company, Real Data Corporation (section 3.3.3) supplies basic information, which it obtains from records in the county deed registries. These data are supplemented and, to an extent, confirmed by forms (PA-34s) filed by purchasers of real estate (3.3.2). Using DRA-supplied sales lists known as "municipal assessment sheets," assessors add property class codes, assessed values, and comments about the sales for which they have information or opinions (3.3.4).

As noted, only one year's sales are used. Sales prices generally are estimated from the amount of transfer tax paid. Appraisals are not used.

The data assembly process requires assessors to identify the properties listed on the municipal assessment sheets and to find and properly describe the corresponding properties in their assessment rolls. Because the state does not have a standard parcel numbering system used in recording transfers, the matching process often requires considerable time-consuming guesswork, particularly when there are multiple owners. Some sold properties cannot be properly identified, resulting in either an inability to assign an assessed value (which renders the sale unusable) or even assigning the wrong assessed value (which makes the resulting sale ratio incorrect). Analysts must also contend with incomplete and inaccurately reported data.

More disturbing are the amazing inconsistencies in the processing and screening of sales among towns and by the DRA itself. The DRA essentially gives assessors carte blanche in deciding which sales should be included in its ratio studies (3.3.5), ignores its own guidelines, and perpetuates systematic differences among municipalities, all of which translate into unreliable estimates of equalized value and distorted uniformity measures.

3.3.2 Real Estate Transfer Questionnaire

Assessors and the DRA must have access to reliable information on real estate prices. A law should mandate the disclosure of sales prices and the particulars of sales (*Standard on Property Tax Policy*, section 4.3.3, IAAO 1997). The law should be implemented through:

- X A well-designed return (see *Standard on Ratio Studies*, IAAO 1999);
- X Effective disclosure mandates (such as making the recording of a deed contingent upon filing a PA-34); and
- X Effective processing procedures.

In the past, the DRA used voluntary sales questionnaires to collect needed sale price information. In 1995, legislation was enacted requiring property buyers to file an "Inventory of Property Transfers" named the "Real Estate Transfer Questionnaire" (form PA-34). Beginning in 1999, buyers also have been required to furnish towns with a copy as well (RSA 74:18, II), although Rev 604.14 has not been updated to reflect this change.

As with many aspects of assessment administration in New Hampshire, the program for obtaining important information about sales via the form PA-34 is half-hearted. Statutory provisions regarding the content of the questionnaires are unfocused and permissive. None of the several extant versions of form PA-34 that we saw are well designed, and the latest is not an improvement. A significant shortcoming is the ambiguity of section 4 of previous versions and question 1 in the latest version of the form. Both section 4 and question 1 are catchalls that list various reasons why a sale may not constitute a valid, arm's-length transfer. Here the buyer can merely make a check and proceed to the next section (or question) without indicating the reason or type

of transfer involved. Of the two provisions, question 1 is the worst, because its instructions basically invite buyers to mark all sales as not reflective of market value. DRA's policy is to regard any PA-34 with a check mark in section 4 as unusable (although sometimes they are used anyway). Instructions on how to complete questionnaires are scant, and procedures are vague. Filing a PA-34 is not a prerequisite to filing a deed. The law has no teeth to enforce timely, complete, and accurate reporting.

According to the DRA's statistics, PA-34s were filed for only two-thirds of transactions in the 1998 equalization study (in the towns we audited they were filed for approximately 60 percent of transfers). Only thirty-eight (41 percent) of respondents to our survey of assessment practices reported receiving PA-34 forms for more than 50 percent of all sales filed through September 1999. Low filing rates are especially detrimental in larger municipalities whose assessors cannot be personally familiar with most transfers.

The DRA considers a sale as "verified" if a PA-34 is filed. However, while trying to reconcile discrepancies in the treatment of sales, we observed that many PA-34s are incomplete in crucial areas (e.g., buyer's and seller's names, property identification, sale price, recording date, type of deed or transfer). Others contain contradictions. Because we were examining DRA performance, not the performance of buyers in filling out PA-34s, and because the law is permissive, we did not exhaustively review all aspects of the PA-34s filed for transfers analyzed in our field studies. However, we examined each PA-34 as to whether a sale was (or should have been) disqualified because it met one of the criteria in section 4 of the form. We also made a spot check of one town's PA-34s to provide an indication of the magnitude of other problems. Of 129 PA-34s returned in the town (out of 188 sales used in the 1998 ratio study), seventy-one had omissions (sometimes several) or other problems. Forty-six did not indicate where the transaction could be found in the deed registry, and nineteen did not indicate the recording date. Fifteen did not disclose the deed type, and six omitted the sale price. Two did not identify the seller, and two did not identify the property. Further, in six cases the box in section 4 was not checked when it should have been. As detailed in *Review of Sales Processing for the DRA Equalization Study: Being Consistently Inconsistent*, we noted similar problems in other municipalities. When there are such omissions, it is erroneous to consider such sales as "verified," as the DRA does.

The defects in the design and administration of PA-34s diminish the reliability of the sales used in equalization studies. Some sales that should be included in ratio studies are excluded, and some sales that should be excluded are accepted as valid. Given the small sample sizes in most municipalities, the erroneous inclusion or exclusion of a single sale can materially affect the DRA's determination of the level of assessment.

3.3.3 Real Data Corporation

As noted, Real Data Corporation. (RDC) supplies the DRA with sales data. RDC compiles data by sending representatives to county deed registries. Pursuant to the DRA's instructions, it picks up only transfers that had a taxable consideration in excess of \$4,000. (Sales of timeshares are not picked up.) It organizes such sales chronologically based on recording date and adds a sequential identifier known as the "verno" number. Unless the price is stated on the deed, RDC estimates sales prices based on the amount of transfer tax paid. A record is created for each sale.

Our audit revealed several problems with the data supplied by RDC, including:

- X Instances of the failure to report a sales price when one should have been available, based on data supplied by assessors. Many such sales were classified as “MPC,” which means a multiple parcel sale. Although this can be a valid reason for not being able to identify the price of a particular parcel, many sales coded MPC did not, in fact, appear to be multiple parcel sales.
- X Instances of a PA-34 being filed for a current-year sale that RCD failed to pick up. The failure to pick up a sale means that it cannot be used in the ratio study regardless of its validity. Some sales of high-value properties were omitted in this way. It should be noted that many PA-34s are filed too late to be of help in a ratio study under current sales selection rules (this problem has no bearing on the performance of RDC).
- X Sales with the wrong town identification. Admittedly, it can be difficult to identify parcels based on their descriptions. However, this failure, which occurred in sixteen of the towns we audited, also results in sales being omitted from consideration in the ratio study.
- X The RDC indicates the number of parcels involved in a sale. Based on information supplied by assessors, this information often is incorrect or misleading. However, any such errors are seldom “fatal,” because the DRA usually ignores the RDC’s counts.

Having a company collect basic sales data means that the DRA obtains some sales data from all municipalities in a timely fashion. Although no company could be expected to perform flawlessly, the lax sales ratio study design magnifies the adverse effect of any failures by the company. The joint failures of buyers (to file PA-34s) and the company to identify all recorded transfers suggest that some sales go undetected.

3.3.4 Municipal Assessment Sheets

After initial screening, the DRA produces sales lists known as municipal assessment sheets (also known as “selectmen’s assessment sheets”) and sends them to towns with accompanying instructions (the deadline for sending them is 1 November). Unfortunately, the DRA has not developed clear and consistent instructions for the screening of sales by local assessing officials. The law (RSA 21-J:34, XV) requires assessing officials to complete, certify, and return the sheets to the DRA by November 30 or thirty days after receipt from the department, whichever is later, or be subject to a daily late penalty. Given the inconsistent and vague ways in which sellers, buyers, and properties are identified, compliance with the deadline can be difficult in towns with considerable sales activity.

There also are regulations governing the completion of the sheets (Rev 602.02), although the DRA’s instructions to assessors neither refer to this regulation nor include it with the municipal assessment sheets. Basically, Rev 602.02 requires assessing official to verify the data on the lists and add a property use code, the current and prior year’s assessed values, and any comments on

the usability of the sales. The regulation identifies several categories of sales considered not reflective of a market value transaction (see section 3.3.5).

The DRA has developed a list of property use codes for this purpose, but it differs from the way properties are aggregated on MS-1 reports and additional codes are sometimes assigned at the request of the municipality.

In 1998, the municipal assessment sheets listed all sales reported by RDC, because the DRA discontinued its past practice of studying samples of sales in municipalities with more than 1,500 parcels. Although this change had the benefits of quieting some critics of the studies and of increasing the reliability of ratio studies by increasing sample sizes, it also increased the DRA's workload considerably, with the result that it could no longer follow-up on incomplete PA-34s and other problematic sales.

Our audit revealed startling variations in how well assessors complied with the requirements to fill out the assessment sheets. As will be discussed further later, several assessors neglected to provide property type codes. Others failed to provide assessed values. Some were extremely active in screening sales; others attempted to reject very few. As noted, assessors in larger municipalities probably have insufficient time to screen sales thoroughly. In general, however, much of the activity appears to be aimed more at improving ratio study statistics than at providing a clean file of sales.

3.3.5 Processing by the DRA

The DRA uses a multi-phase, iterative process to identify the sales it will use in a ratio study. The materials available to us did not contain the details of current processing procedures. The most comprehensive procedural information is contained in "Mini Course VIII: The Equalization Process – C.O.D.," which appears to date from about 1989. Although the guidelines it contains for processing sales appear generally sound, the DRA itself largely ignores them.

3.3.5.1 Initial Screening

As previously mentioned, the initial source of sales data is the Real Data Corporation (RDC). The DRA instructs RDC to pick up only sales with a consideration in excess of \$4,000 (because all sales below that amount pay a minimum transfer tax).

In keeping with general practice, the DRA considers a sale usable in its ratio studies unless there is a valid reason for excluding it. The DRA considers warranty and quit claim deeds as potentially usable. It automatically classifies as unusable transfers that RDC identifies as foreclosure or fiduciary deeds. Foreclosure deeds are justifiably considered not usable. When sales samples are small, it would be advisable to scrutinize fiduciary sales, as some are bona fide arm's-length, open-market sales. In any event, our audit revealed that many foreclosures and transfers by or to fiduciaries were, in fact, used, probably as a result of poor screening.

RDC may flag other types of sales, such as sheriff's and tax sales, timber rights, easements, and multiple parcel sales. Except for multiple parcel sales, these sales appropriately are considered

unusable. Multiple parcel sales are sometimes included and sometimes excluded (see section 3.3.6 below).

3.3.5.2 Screening Based on Municipal Assessment Sheets and PA-34s

The DRA screens sales a second time after it receives municipal assessment sheets from assessors. If a PA-34 is filed, it also may be screened, although doing so has a limited payoff due to its design deficiencies as noted in section 3.3.2 and as detailed in exhibit 3-3. The DRA relies heavily on comments furnished by assessors, and it routinely accepts reasons to reject a sale proffered by local officials that conflict with its instructions or that otherwise seem unreasonable. Internal screening by the DRA is equally inconsistent. Any investigation necessarily is cursory due to limited time and resources. As noted before, these procedural shortcomings essentially give assessing officials carte blanche in selecting the sales used in ratio studies.

Exhibit 3-3 details some of the problems with the sales rejection criteria used by the DRA. Column 1 identifies the reasons for rejecting sales that have some official recognition in New Hampshire. Column 2 indicates whether each reason is consistent with reasons for rejecting sales given in the IAAO *Standard on Ratio Studies* (1999). Columns 3 and 4 indicate whether the reason is sanctioned in the two relevant DRA regulations, Rev 602.02, which instructs assessors as to which types of transfers should be rejected, and Rev 604.14, which governs the contents of real estate transfer questionnaires (form PA-34). It is worth noting that the wording of Rev 602.02 is categorical while Rev 604.14 is conditional as to whether a sale should be rejected. It also should be noted that Rev 604.14 addresses data needs that essentially are extraneous to the needs of the DRA's equalization studies. Column 5 indicates whether there is an RDC or a DRA code that corresponds with the rejection reason or other characteristic of the property or its use. Such codes would facilitate the processing of affected sales. However, there appear to be two sets of codes with gaps, overlaps, and incompatible definitions, which would confuse proper categorization and analysis. Most importantly, column 6 indicates whether form PA-34 is helpful in identifying the specific reason. Last, column 7 provides some commentary.

Several general points should be made at this juncture. First, the fact that the IAAO standard does not discuss a particular reason does not necessarily invalidate its use in screening sales. The standard merely addresses reasons that generally apply. However, a screening practice that is contrary to the IAAO standard—and several are—is problematic, particularly when sales samples are small as they tend to be in New Hampshire. This problem occurs when there is a “sometimes” on column 2. The IAAO standard recommends that such sales be carefully researched when sales samples are insufficient. Second, columns 3 through 6 should be congruent. That is, the two regulations should be in harmony. A “no” indicates a lack of harmony. Third, the DRA should have a code that corresponds to each reason in the regulations. A “no” in column 5 indicates a potential problem. Fourth—and most important, the PA-34 should be designed to elicit specific information about the reason in question in a way that does not unduly increase respondent burdens (well-design questionnaires use simple check-offs). Put another way, the PA-34 should not ambiguously lump together rejection criteria or require the respondent to write out specific reasons. Anything other than a “yes” in column 6 indicates that the PA-34 fails this test. The latest version of the PA-34 actually represents a step backwards. Section 4 in previous versions had the merit of at least identifying common reasons why a sale

should be considered invalid for ratio study purposes. The defect in the form was that there was only one box to check, not one for each general reason. The new PA-34 requires the person filling out the form to write out an appropriate reason. This increases burdens on respondents. More important, it cannot be assumed that every respondent is knowledgeable about ratio study methods. Absent explicit help from filers, sales analysts must be intimately familiar with the parties to the transfer, their circumstance, or both—something that cannot be expected of assessors in larger municipalities and of DRA analysts.

3.3.6 Sales Screening and Processing Deficiencies

In our audit we found numerous specific sales screening problems, including the following.

- X Sales checked as non-arm's-length on PA-34 being included in study. A significant number of sales in which the buyer indicated the sale to be non-arm's-length (by checking the box in section 4 of the PA-34) were nevertheless included in the study with no apparent reason or documentation. We removed these sales from the lists of usable sales.

- X Sales with current use assessments. Although it has acknowledged that the sales price of properties with current use assessments may not be reliable indicators of market value and therefore should not be included in ratio studies (because the price may be affected by the assessment), the DRA attempts to include such sales in its ratio studies to the maximum extent possible—a practice that is contrary to Rev 602.02 and Rev 604.14. The DRA instructs assessors to note sales with a current use assessment with a "C.U." next to the assessed value and to supply the full-value assessment as well. The DRA's general practice is to calculate the sale ratio using the full-value assessment, not the current-use assessment. However, it sometimes uses the current use assessment. This is because some assessors fail to maintain market value assessments and hence cannot furnish them. At other times the DRA uses current use assessments because they are closer to the sale price than the market value assessment. Sometimes assessors also fail to make clear which is a current use assessment and which is a market value assessment. To make matters even murkier, municipalities have considerable latitude in setting current use values (both the current use rates and the percentage of the property eligible for current use). As a result, many properties with current use assessments are included in the DRA's ratio studies. Moreover, the figure used in the numerator of the assessment ratio varies considerably (in addition to using the full current use value or the full market value, we found that the DRA on occasion used the market value *minus* the current-use value, the full value *plus* the current-use value, and partial assessed values). A further problem is determining whether the sale price included or was influenced by the land use change tax and, if so, how the reported sale price should be adjusted. Assessors' practices in dealing with this question varied, as did the DRA's practices in accepting adjustments. In keeping with the regulations and DRA's stated policy, we consistently excluded such sales from analysis.

- X Sales of property where new construction or demolition has occurred. This is one of the greatest problem areas in the DRA's studies. Its treatment of sales with new construction is inconsistent and generally wrong. In the large majority of cases, the DRA uses the

most recent assessment, even though in most cases the assessor was aware of the sale price. According to its own guidelines, these sales should be excluded. If the sale was for vacant land and buildings were added after the sale, the DRA sometimes excludes the sale and sometimes includes it by appropriately matching the sale price against the previous land assessment. Note that DRA's practice (but not policy) is to include most first-time sales in its studies. These properties are easiest to appraise at market value and, more often than not, their sales prices are known when values are set. Including these first time sales with new assessments greatly biases the DRA's studies and is one of the main reasons reported sales ratio statistics are artificially good.

- X Multiple parcel sales. The DRA sometimes uses multiple parcel sales and sometimes does not, with actual practice varying among and sometimes within towns. In general, when a property composed of several lots is in fact a single occupancy or economic unit and when the lots were appraised for property tax purposes on the same basis, the sale should be used (and, if there were multiple assessments, they could be added together). Often the DRA rejects otherwise usable sales merely because they were classified as multiple parcel sales.
- X Sales of parts of parcels (splits). Generally the DRA uses sales of a portion of a parcel ("split") by matching the sale price against the new assessment if available. This is contrary to DRA guidelines and accepted practice. Such sales should not be used in ratio studies (we have removed them).
- X Sales to abutting property owners ("abutters"). The sale of a parcel of land to the owner of an adjoining parcel or otherwise involving boundary adjustments often is not an arm's-length, open-market sales and consequently should not be used in ratio studies. Although Rev 602.02 recognizes that boundary adjustments be excluded from ratio studies, the DRA's stated policies do not address "abutter" sales. Nevertheless, some assessors do ask that an amazing number of such sales be excluded (while others identify no such sales), and the DRA usually obliges. The question is whether some such sales are being erroneously included in the studies and other sales are being erroneously rejected as "abutter" sales.
- X Sales involving manufactured homes. The DRA does not treat sales involving manufactured homes consistently, particularly when assessors try to have such sales rejected because the properties are over-assessed. Thus, sometimes manufactured home sales are rejected and sometimes they are included.
- X Sales including personal property. Sales with personal property included are considered unusable. (Curiously, very few PA-34s indicate that any personal property was included.) However, the DRA inappropriately included some sales involving personal property in its ratio studies without adjustment. When we detected them, we removed them from analysis.
- X Properties sold more than once during the study period. Some properties change hands more than once during a study period. The absence of a standard parcel numbering sys-

tem and of standards for entering names in assessment rolls makes repeat sales difficult to identify. Some assessors (usually in smaller municipalities) do flag them, however, and request that one or the other be excluded. The DRA treats repeat sales inconsistently. Sometimes it uses both; other times it rejects both as being “resold.” Still other times it will use the first but not second sales and vice versa. Generally, the sale closest to the date of analysis should be used.

- X Properties with partial exemptions. The DRA’s instructions to assessors do not address how to treat sales of properties for which a partial exemption (e.g., disabled, senior citizen) has been granted. Consequently, the assessed values provided by assessors sometimes include and sometimes exclude the value of the exemptions, and the DRA usually has no way of knowing what value has been reported.

- X Properties with abatements after the sale date. Assessors identify comparatively few sales of properties for which abatements have been granted after the sales. However, when they are flagged, the DRA typically uses the most recent assessment, even though logic would dictate the use of the assessment in effect on the sale date.

- X “Outliers” and other questionable reasons for excluding sales. Professional standards condone the exclusion of some sales merely because the sale ratio is extremely high or extremely low (these are known as “outliers”), but only in a controlled way. The DRA, in contrast, seemingly has no rules or consistent method for classifying outliers. Sales with more extreme ratios than those classified as outliers by assessors may be left in a study. Our audit identified numerous other inconsistently treated reasons for excluding sales, including “over-representation” in the sample (as noted below, under-representation never seems to be an issue). The DRA obligingly removes sales for such dubious reasons as “over-assessed,” “high” [selling price], “previous owner finished home without permit,” “something odd,” and so on.

We conclude that until the DRA overhauls its sales screening rules, develops clear instructions to assessors, and applies its rules consistently, its ratio studies cannot be relied upon.

Exhibit 3-3
Problems with Sales Rejection Criteria

Type of Transfer	Authority				PA-34 Treatment	Comment
	IAAO Standard	Rev 602.02	Rev 604.14	RDC/DRA		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Family	Yes, reject	Yes	Yes	Yes	Inadequate	The determination must be made on a surname match, assessor's personal knowledge of the buyer and seller, or the ambiguous designation in section 4 of former PA-34 or the buyer properly filling in the open-ended question 1 in the new PA-34.
Related businesses	Yes, reject	Yes	Yes	Yes	Inadequate	The determination must be made on the assessor's personal knowledge of the buyer and seller or the ambiguous designation in section 4 of former PA-34 or the buyer properly filling in open-ended question 1 in the new PA-34.
Forced sale (sheriff, court, etc.)	Yes, reject	Yes	Yes	Yes	Inadequate	The determination must be made on the assessor's personal knowledge of the circumstances of the sale or the ambiguous designation in section 4 of former PA-34 or the buyer properly filling in open-ended question 1 in the new PA-34.
Divorce	Not specifically addressed	No	Yes	No	Inadequate	A sale that is part of a divorce settlement would normally be regarded as a suspect forced sale. Determination must be made on assessor's personal knowledge of the circumstances of the sale or the ambiguous designation in section 4 of former PA-34 or the buyer filling in open-ended question 1 in the new PA-34.
Auction	Evaluate circumstances	No	Yes	Yes	Inadequate	Sometimes auction sales are usable. When sales samples are small, auction sales should be researched carefully.
Tax sale	A category of forced sale (above)	No	No	Yes	Inadequate	The determination must be made on the assessor's personal knowledge of the circumstances of the sale or the ambiguous designation in section 4 of former PA-34 or the buyer properly filling in open-ended question 1 in the new PA-34.

Type of Transfer	Authority				PA-34 Treatment	Comment
	IAAO Standard	Rev 602.02	Rev 604.14	RDC/DRA		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Foreclosure	A category of forced sale (above)	No	No	Yes	Inadequate	The determination must be made on the assessor's personal knowledge of the circumstances of the sale or the ambiguous designation in section 4 of former PA-34 or the buyer properly filling in open-ended question 1 in the new PA-34.
Property in more than one town	Not specifically addressed	Yes	Yes	Yes	Inadequate	Such sales appropriately are not usable in ratio studies. However, they may be valuable appraisal benchmarks.
Mortgage holders financial institutions, banks	Evaluate circumstances	Yes	Yes	Yes	Inadequate	Sales in lieu of foreclosures and the like are unusable. Otherwise, sales to or by financial institutions may be usable. When sales samples are small, the IAAO standard recommends that such sales be researched carefully. The determination must be made on the assessor's personal knowledge of the names of the institutions and of the circumstances of the sale or the ambiguous designation in section 4 of former PA-34 or the buyer properly filling in open-ended question 1 in the new PA-34.
Cemetery lots	Not specifically addressed	Yes	No	Yes	Inadequate	Considering cemetery lots as unusable is reasonable on the grounds that they are not ordinary assessable property. Such sales reasonably are considered unusable.
Seller retains life estate	Not specifically addressed	Yes	Yes	Yes	Inadequate	The determination must be made on the assessor's personal knowledge of the circumstances of the sale or the ambiguous designation in section 4 of former PA-34 or the buyer properly filling in open-ended question 1 in the new PA-34.
Partial interest (undivided or unspecified)	Yes, reject	Yes	Yes	Yes	Inadequate	The determination must be made on the assessor's personal knowledge of the circumstances of the sale or the ambiguous designation in section 4 of former PA-34 or the buyer properly filling in open-ended question 1 in the new PA-34.

Type of Transfer	Authority				PA-34 Treatment	Comment
	IAAO Standard	Rev 602.02	Rev 604.14	RDC/DRA		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Partial interest (specified)	Evaluate circumstances	Yes	Yes	Yes	Adequate	When sales samples are small, the IAAO standard recommends that such sales be researched carefully. Question 2 of the new PA-34 adequately addresses specified partial interests.
Mineral or timber rights	A category of partial interest	Yes	Yes	Yes	Adequate	
Trade or exchange	Usually reject	Yes	Yes	Yes	Inadequate	The determination must be made on the assessor's personal knowledge of the circumstances of the sale or the ambiguous designation in section 4 of former PA-34 or the buyer properly filling in open-ended question 1 in the new PA-34.
Personal property	Analyze and adjust if possible	No	Yes	No	Adequate	The IAAO standard recommends making an adjustment for personal property when the adjustment can be supported. Question 3 in the new PA-34 is designed to solicit sufficient information. In practice, buyers seldom indicate that personal property was acquired in the sale.
Federal, state, or local government	Yes, reject	Yes	Yes	Yes	Inadequate	The determination must be made on the assessor's personal knowledge of the names of the governmental institutions or the ambiguous designation in section 4 of former PA-34 or the buyer properly filling in open-ended question 1 in the new PA-34.
Utility	Yes, reject	Yes	Yes	Yes	Inadequate	The determination must be made on the assessor's personal knowledge of the names of utilities or the ambiguous designation in section 4 of former PA-34 or the buyer properly filling in open-ended question 1 in the new PA-34.

Type of Transfer	Authority				PA-34 Treatment	Comment
	IAAO Standard	Rev 602.02	Rev 604.14	RDC/DRA		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Benevolent, fraternal, or educational	Yes, reject	Yes	Yes	Yes	Inadequate	Presumably: sales to or by religious organization also are included. The determination must be made on the assessor's personal knowledge of the names of qualifying organizations or the ambiguous designation in section 4 of former PA-34 or the buyer properly filling in open-ended question 1 in the new PA-34.
Fiduciary (administrators, executors, guardians, receivers, or trustees.	Evaluate circumstance	Yes	Yes	Yes	Inadequate	Some such sales are bona fide arm's-length, open-market sales with no element of compulsion to buy or sell. The determination must be made on the assessor's personal knowledge of the buyer or seller acting in such a capacity or the ambiguous designation in section 4 of former PA-34 or the buyer properly filling in open-ended question 1 in the new PA-34.
Seller retains possession for over a year	Not specifically addressed	Yes	Yes	Yes	Inadequate	Such sales reasonably are considered unusable. The determination must be made on the assessor's personal knowledge of the circumstances of the sale or the ambiguous designation in section 4 of former PA-34 or the buyer properly filling in open-ended question 1 in the new PA-34.
Other than warranty or quitclaim conveyance	Evaluate circumstance	Yes	Yes	Yes	Not addressed	
Unknown sale type	A virtually inconceivable circumstance	No	No	Yes	Not addressed	

Type of Transfer	Authority				PA-34 Treatment	Comment
	IAAO Standard	Rev 602.02	Rev 604.14	RDC/DRA		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Declared not to be market value (“due to grantor misrepresentation or grantee bias”)	Not addressed	Yes	No	Yes	Inadequate	Presumably this peculiar rejection reason is seldom invoked, as it would seem to require the buyer to use wording similar to that in the regulation in question 1 and/or question 5 of PA-34.
“Developer’s discount”	Not addressed	No	No	Yes	Inadequate	This is an undefined, highly questionable reason for disqualifying sales.
Current use-value assessment	Adjust price or appraise	Yes	Yes	Yes	Inadequate	
Land use tax included	Adjust price	No	Yes	No	Adequate	If completed properly, question 4 provides sufficient information to make price adjustments.
Conservation easement	A category of partial interest	Yes	No	Yes	Inadequate	The determination must be made on the assessor’s personal knowledge of nature of the transfer or the ambiguous designation in section 4 of former PA-34 or the buyer properly filling in open-ended question 1 in the new PA-34.
Time-share	Not specifically addressed	Yes	Yes	Yes	Inadequate	Time-share sales represent a special case of partial interest sales and are reasonably rejected. The PA-34 does nothing explicit to identify time-shares.
Clear title	Yes, reject	Yes	Yes	Yes	Inadequate	Sales of convenience are justifiably regarded as unusable in ratio studies. The determination must be made on the assessor’s personal knowledge of the circumstances of the sale or the ambiguous designation in section 4 of former PA-34 or the buyer properly filling in open-ended question 1 in the new PA-34.
Easement or right-of-way	A category of partial interest	Yes	Yes	Yes	Inadequate	

Type of Transfer	Authority				PA-34 Treatment	Comment
	IAAO Standard	Rev 602.02	Rev 604.14	RDC/DRA		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Waterfront access	Not specifically addressed	No	Yes	No	Adequate	This is a property attribute (perhaps including an easement in another property) not a reason for rejecting a sale.
Boundary adjustment between grantor and grantee	Not specifically addressed	Yes	No	Yes	Inadequate	Presumably this deals with encroachments, in which case an element of compulsion would exist in the transfer, making it unusable in the ratio study. Nevertheless, "boundary adjustment" is an ambiguous term. The determination must be made on the assessor's personal knowledge of the circumstances of the sale or the ambiguous designation in section 4 of former PA-34 or the buyer properly filling in open-ended question 1 in the new PA-34.
Non-taxable property as defined in Rev 601.08	Not applicable	Yes	No	No	Not addressed	This appears to be a reference to a non-existent regulation.
Undeterminable amount of non-taxable property included	Yes, reject	No	No	Yes	Not addressed	This would appear to encompass elements of trades, sales that include personalty, and sales of exempt properties. It is too vague to deal with effectively.
Other (not enumerated in Rev 602.02)	Not applicable	No	No	Yes	Not addressed	Listed as code "z" in one DRA list. Presumably it is one of several catchalls for classifying sales that the assessor or someone does not want included in a ratio study.
Previous occupancy	Not applicable	No	Yes	No	Adequate	This is an aspect of property use that essentially is extraneous to a ratio study.
Back taxes included	Adjust	No	Yes	No	Inadequate	
No stamp required	Not applicable	No	No	Yes	Not applicable	

Type of Transfer	Authority				PA-34 Treatment	Comment
	IAAO Standard	Rev 602.02	Rev 604.14	RDC/DRA		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Multiple parcel sale	Evaluate circumstances	No	No	Yes	Inadequate	Depending on the circumstances, a multiple parcel sale may be usable. The DRA does not define either parcel or what constitutes a multiple parcel sale. The PA-34 provides no definitions.
Boat slip	Not applicable	No	No	Yes	Inadequate	This is a property attribute that appears extraneous to screening a sale.
No description available	A virtually inconceivable circumstance	No	No	Yes	?	A description is an essential component of a deed. The PA-34 requires a description.
Not separately assessed	Yes, reject	No	No	Yes	Not addressed	If there is no assessment, a ratio cannot be calculated.
L/B sale; L/O assessment	Yes, reject	No	No	Yes	Not applicable	
L/O sale; L/B assessment	Evaluate circumstances	No	No	Yes	Not applicable	If the assessment roll essentially is static, the previous year's assessment should be used.
Over-representation of subdivision in sampling	A sample design issue, not a rejection reason	No	No	Yes	Not applicable	
Partial assessment	Yes, reject	No	No	Yes	Not applicable	
Improvements betw sale & 1 April	Not specifically addressed	No	No	Yes	Adequate	Question 6 of the PA-34 addresses this question. In a static assessment environment, the previous year's assessment should be used.
Subdivided between assessment & sale	Yes, reject	No	No	Yes	Inadequate	
"Not arm's length?"	?	No	No	Yes	Marginally adequate	In practice, the DRA uses this category to reject sales that assessor's say should be rejected without adequate justification.

3.3.7 Problems with Matching Sales Prices to Assessments

Equally troublesome as the screening problems discussed above are problems associated with the determination of the correct sale price and matching it to the appropriate assessed value to calculate the assessment-to-sale-price ratio.

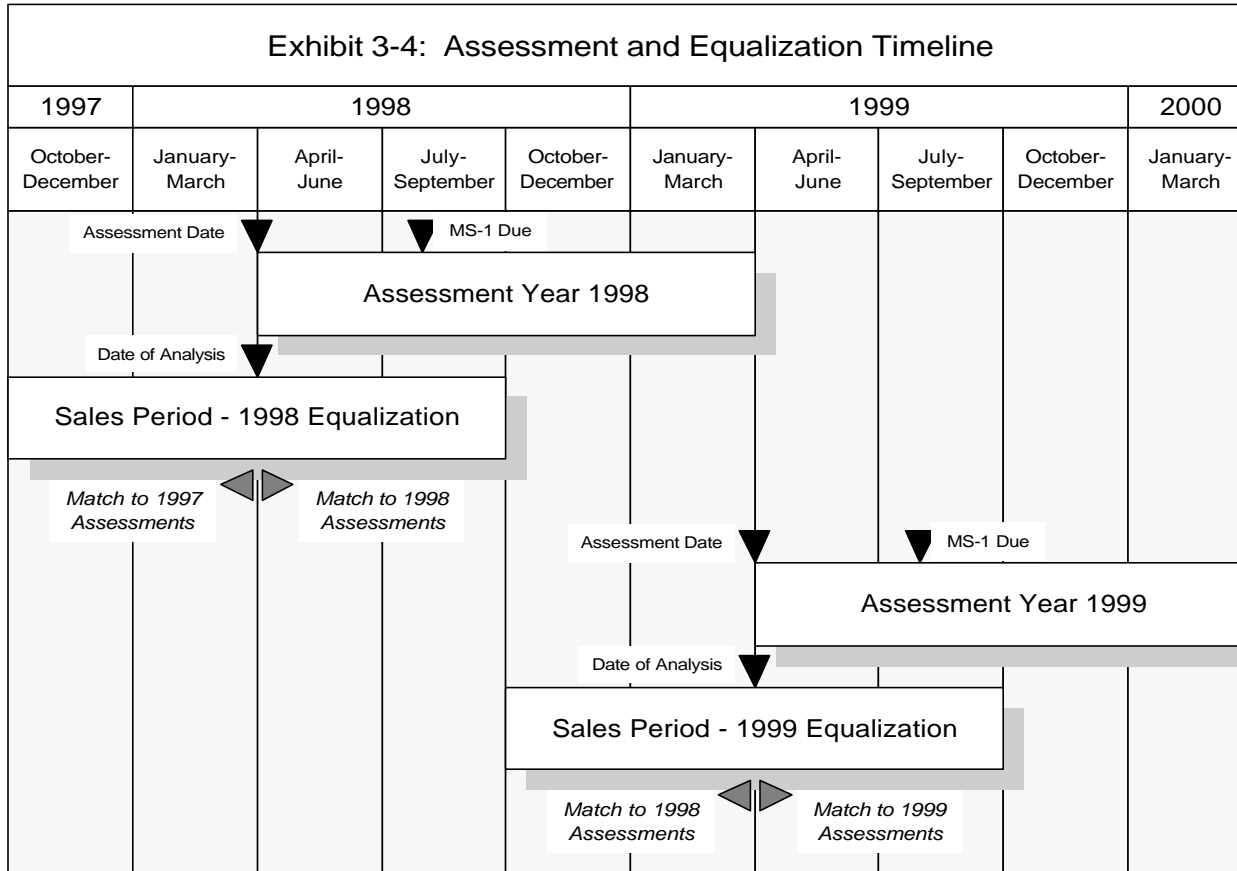
As previously noted, unless the deed states the sale price, RDC estimates the sale price based on the amount of transfer tax paid. If a PA-34 is filed, and if it contains a different sale price, the DRA usually uses that price, which it terms an “adjusted selling price.” Occasionally, the assessor provides a different sale price. Some assessors change many sales prices while others change virtually none. The DRA is inconsistent in how it treats such changes. It will accept some changes even though the assessor provided no reason for the change. At other times it will reject changes offered by the assessor even when the proffered reason seems acceptable. Unfortunately, there is rarely any way of knowing which price is the correct price

As a consequence of a fundamental ambiguity in the DRA’s ratio study design and the New Hampshire property tax calendar, determining which assessed value to use in calculating the sale ratio is even more problematic. Assessors are supposed to provide the previous and current year’s assessed value for each sale on the municipal assessment sheets. According to DRA policy, the assessment in effect on the date of sale is the value that should be used, unless there is evidence that the assessment was adjusted due to the sale price (“sales chasing”), in which the previous year’s assessment is to be used.

Unfortunately, assessors do not always provide the previous year’s assessment, and the DRA, contrary to its own guidelines, consistently uses the current assessment, even if the assessment is changed from the previous year without justification. Thus, the DRA essentially uses the current assessment in all cases, regardless of whether the sale price was known to the assessor and regardless of whether the assessment was changed. This practice invites manipulation, leads to distortions and inconsistencies, and generally undermines the credibility of reported results.

Exhibit 3-4 attempts to illustrate how problems arise. The assessment date for assessment year 1998 was 1 April 1998. The date of analysis for the DRA’s 1998 equalized assessment also is 1 April 1998. That is, the assessed value of interest is the one effective 1 April 1998. However, the sale period is from 1 October 1997 to 30 September 1998. For sales in the first half of the period, the assessment “at the time of sale” was the 1997 assessment. When making assessment changes for 1998, the assessor certainly should have been aware of sales between 1 October 1997 and 30 March 1998. As a practical matter, assessors usually are aware of sales up to the deadline for submitting MS-1 forms, because 1998 assessments often are not finalized until about then. Except when the town has implemented a new full revaluation (in which case the DRA is forced to use the most recent assessments even if they are highly biased), any change in an assessment for 1998 should be viewed with suspicion. Unless there is good reason to believe the change was not influenced by the sale price, the 1997 assessment should have been used. Contrary to its stated procedures and generally accepted practices, the DRA generally used the 1998 assessment.

Exhibit 3-4: Assessment and Equalization Timeline



3.3.8 Impact of Sales Screening and Processing Deficiencies

In our companion report, *Review of Sales Processing for the DRA Equalization Study: Being Consistently Inconsistent*, we detail the findings of our audit of the sales screening and processing procedures in the thirty-three towns we studied. We conclude that the DRA does not maintain adequate instructions on how to process sales or ensure that local officials screen sales properly and consistently. Moreover, the DRA does not process the data supplied by assessors consistently or in accordance with its own procedures. When we found discrepancies between the data used in the ratio studies and the data that should have been used had procedures been consistently followed, we made the necessary changes and recalculated the ratio statistics. In the thirty-three municipalities we audited, we found that the DRA misclassified 796 sales in the 1997 study and 1,188 sales in the 1998 study (see exhibits 3-5 and 3-6). These misclassified sales represented 17.1 percent of all 1997 sales and 26.0 percent of sales used in the 1997 study. The sales misclassified in 1998 represented 15.3 percent of all sales and 23.1 percent of those used. In both years, the ratio of sales misclassified to sales used exceeded 10 percent in all but three towns and exceeded 25 percent in the majority of the thirty-three towns. In a number of cases it exceeded 40 percent.

Exhibits 3-7 and 3-8 reveal how ratio study statistics (as calculated by the DRA, not as they should be) change when data errors (alone) are corrected. (Ratio study statistics are discussed further in section 4.) They show that the effect of data errors is not trivial. In 1997, the median sales ratio changed by more than 5 percent in eight of the thirty-three (24 percent) of the municipalities (there was no change in only three municipalities). In 1997, coefficients of dispersion (CODs) typically changed by 5 points. In twelve of the municipalities, the COD moved from below 15 percent, which we regard as acceptable, to over 15 percent. As a result, fully twenty-seven (82 percent) had CODs greater than 15 percent. Some had CODs greater than 30. The picture in 1998 is somewhat better, although the improvement probably is illusory. In four municipalities (12 percent), the median sales ratio changed by more than 5 percent. In four municipalities, the COD moved from below 15 percent to above. Twenty-five (76 percent) had CODs greater than 15. Two municipalities had CODs greater than 40.

Exhibit 3-9 shows the effect of correcting the DRA's measure of central tendency for data errors alone on the statewide school property tax base (the equalized value) and on the resultant revenues that could be raised by the rate of \$6.60 per \$1,000 of equalized value in the thirty-three audited municipalities. The assessed value (column B) is the 1998 modified local assessed valuation (not including utilities and railroad). The indicated ratio (column C) is the recalculated median from exhibit 3-8 and the DRA ratio (column D) is the ratio used by the DRA in 1998. Columns E and F indicate the full market (equalized) value obtained by applying the two ratios. Column G shows the difference (where a negative number indicates that the DRA underestimated the full value and a positive number means the opposite). Columns H and I show the amount of revenue that would be raised by applying the \$6.60 per thousand rate to the two tax bases. Column J shows the difference (where a negative number shows that the municipality would have contributed *less than* its fair share and a positive amount shows the opposite). Column K shows the real tax rate based on the indicated tax base and the de facto school tax (column I divided by column E and multiplied by 1,000). Column L shows the rate in column K as a percentage of the statutory \$6.60 rate.

As can be seen, due to simply correcting sales processing errors that we were able to identify from the information at hand, some municipalities would contribute substantially less to the statewide education property tax than they should, while others would contribute more. Contrary to the DRA's assertion that the effects of any errors in its ratio studies are trivial, more than 150 municipalities like Roxbury would be needed to compensate for the shortfall of one Manchester. To do this, taxpayers in municipalities like Roxbury have to pay education property taxes at a rate that is 33 percent greater than taxpayers in municipalities like Manchester. As we discuss in section 4, analytical shortcomings in the DRA's ratio studies likely result in inequities of similar magnitude. Errors of this magnitude are intolerable.

The data also show that there is a tendency to under-estimate full market value. This is a natural outgrowth of the DRA's practice of unquestioningly accepting assessors' recommendations for excluding sales in their ratio studies. The consequence is that the statewide property tax would raise less than the legislature intended, thereby exacerbating the revenue shortfall.

We stress that the above analyses reflect the impact of simply correcting DRA sales processing errors and inconsistencies that we were able to identify from PA-34 forms and sales listing sheets without the benefit of independent sales information. Also, the analyses do not reflect statistical shortcomings and deficiencies to be discussed in the following section. Thus, they represent only part of the problem. Actual disparities between true and reported assessment levels are much worse.

Exhibit 3-5
Sales Misclassified By DRA - 1997 Study

Town	Total Sales	Sales DRA Used	Valid Sales	Sales DRA Misclassified	Sales Misclassified as a Percent of Sales Used by DRA
ACWORTH	28	18	13	5	27.8
ALEXANDRIA	44	36	29	11	30.6
AMHERST	361	288	238	76	26.4
ANTRIM	79	46	47	9	19.6
BETHLEHEM	102	54	70	24	44.4
BROOKLINE	140	99	71	44	44.4
CHESTER	91	59	38	21	35.6
DERRY	690	439	475	120	27.3
E. KINGSTON	55	42	34	10	23.8
EATON	21	8	7	5	62.5
EPSOM	116	79	56	29	36.7
ERROL	14	8	9	1	12.5
FARMINGTON	96	63	60	9	14.3
GORHAM	63	33	30	5	15.2
GROTON	29	14	13	9	64.3
HANOVER	169	116	114	16	13.8
HARRISVILLE	25	19	16	3	15.8
KEENE	247	163	163	12	7.4
LYNDEBORO	41	26	19	7	26.9
MANCHESTER	660	457	407	108	23.6
MONROE	11	5	6	3	60.0
MOULTONBORO	167	116	106	38	32.8
NEWBURY	99	52	51	9	17.3
PEMBROKE	182	104	82	28	15.4
PITTSBURG	75	43	43	16	37.2
PLAINFIELD	48	29	25	14	48.3
PLAISTOW	237	156	127	31	19.9
ROXBURY	3	2	2	0	0.0
SALEM	287	192	166	54	28.1
SANDOWN	161	113	88	35	31.0
TILTON	96	51	52	5	9.8
TUFTONBORO	128	86	66	28	32.6
WALPOLE	79	47	44	11	23.4
Totals	4,644	3,063	2,767	796	26.0

Exhibit 3-6
Sales Misclassified By DRA - 1998 Study

TOWN	Total Sales	Sales DRA Used	Valid Sales	Sales DRA Misclassified	Sales Misclassified as a Percent of Sales Used by DRA
ACWORTH	28	14	15	7	50.0
ALEXANDRIA	64	37	39	12	32.4
AMHERST	417	298	294	46	15.4
ANTRIM	81	50	53	19	38.0
BETHLEHEM	107	59	61	18	30.5
BROOKLINE	164	109	88	35	32.1
CHESTER	131	92	56	40	43.5
DERRY	735	539	558	141	26.2
E. KINGSTON	63	36	34	12	33.3
EATON	18	10	9	3	30.0
EPSOM	143	97	90	15	15.5
ERROL	26	20	19	1	5.0
FARMINGTON	169	93	97	28	30.1
GORHAM	75	34	38	12	35.3
GROTON	29	20	19	5	25.0
HANOVER	228	138	140	36	26.1
HARRISVILLE	46	27	30	7	25.9
KEENE	437	263	275	58	22.1
LYNDEBORO	59	35	27	12	34.3
MANCHESTER	2317	1677	1607	262	57.3
MONROE	20	12	13	1	8.3
MOULTONBORO	393	273	240	65	23.8
NEWBURY	131	71	63	16	22.5
PEMBROKE	155	98	82	26	26.5
PITTSBURG	95	51	44	25	49.0
PLAINFIELD	83	41	28	19	46.3
PLAISTOW	282	162	143	43	26.5
ROXBURY	9	3	3	0	0.0
SALEM	748	464	485	137	29.5
SANDOWN	188	135	116	27	20.0
TILTON	101	51	48	7	13.7
TUFTONBORO	149	96	84	40	41.7
WALPOLE	83	45	48	13	28.9
Totals	7,774	5,150	4,946	1,188	23.1

Exhibit 3-7
Comparison of 1997 Assessment Ratios
DRA Sales Versus Valid Sales

Town	Total Sales	DRA Sales	DRA Median	DRA Ratio	DRA COD	Sales Miscl	Miscl /Used	Valid Sales	Recalc Median	Recalc COD	MED DIFF	COD Diff
ACWORTH	28	18	1.040	1.040	27.4	5	.278	13	1.145	25.6	.105	-1.7
ALEXANDRIA	44	36	1.120	1.120	23.0	11	.306	29	1.138	36.8	.018	13.8
AMHERST	361	288	.930	.930	13.7	76	.264	238	.912	18.2	-.018	4.5
ANTRIM	79	46	1.010	1.010	23.4	9	.196	47	.939	34.7	-.071	11.4
BETHLEHEM	102	54	1.330	1.330	19.5	24	.444	70	1.419	30.3	.089	10.8
BROOKLINE	140	99	.910	.910	12.7	44	.444	71	.910	14.4	.000	1.7
CHESTER	91	59	.480	.480	17.3	21	.356	38	.485	14.9	.005	-2.4
DERRY	690	439	.970	.970	7.7	120	.273	475	.959	14.1	-.011	6.5
E. KINGSTON	55	42	.860	.860	14.6	10	.238	34	.883	20.4	.023	5.8
EATON	21	8	1.000	1.000	4.6	5	.625	7	1.000	20.6	.000	16.0
EPSOM	116	79	1.000	1.000	14.1	29	.367	56	1.000	19.5	.000	5.4
ERROL	14	8	1.000	1.000	12.9	1	.125	9	.896	17.3	-.104	4.4
FARMINGTON	96	63	1.000	1.000	15.7	9	.143	60	1.001	19.3	.001	3.6
GORHAM	63	33	1.120	1.120	21.5	5	.152	30	1.119	21.4	-.001	-.1
GROTON	29	14	1.110	1.110	11.7	9	.643	13	1.073	26.4	-.037	14.7
HANOVER	169	116	.950	.950	10.8	16	.138	114	.953	14.1	.003	3.3
HARRISVILLE	25	19	.950	.950	17.3	3	.158	16	.966	17.7	.016	.4
KEENE	247	163	1.010	1.010	8.9	12	.074	163	1.003	14.5	-.007	5.6
LYNDEBORO	41	26	.650	.650	23.7	7	.269	19	.586	22.4	-.064	-1.3
MANCHESTER	660	457	1.070	1.070	13.0	108	.236	407	1.067	22.3	-.003	9.3
MONROE	11	5	.700	.700	14.4	3	.600	6	.795	31.5	.095	17.0
MOULTONBORO	167	116	.960	.960	14.0	38	.328	106	.978	22.6	.018	8.5
NEWBURY	99	52	1.000	1.000	19.9	9	.173	51	.972	21.4	-.028	1.5
PEMBROKE	182	104	.980	.980	11.7	28	.154	82	.982	16.3	.002	4.5
PITTSBURG	75	43	1.090	1.090	29.9	16	.372	43	1.143	31.6	.053	1.7
PLAINFIELD	48	29	.920	.920	21.3	14	.483	25	1.036	25.6	.116	4.2
PLAISTOW	237	156	.960	.960	13.9	31	.199	127	.948	14.3	-.012	.4
ROXBURY	3	2	1.070	1.070	21.9	0	.000	2	1.071	21.9	.001	.0
SALEM	287	192	.450	.450	17.2	54	.281	166	.449	23.5	-.001	6.3
SANDOWN	161	113	1.250	1.250	21.9	35	.310	88	1.257	29.3	.007	7.4
TILTON	96	51	1.040	1.040	13.7	5	.098	52	1.068	16.0	.028	2.3
TUFTONBORO	128	86	1.020	1.020	17.7	28	.326	66	1.027	22.9	.007	5.2
WALPOLE	79	47	.970	.970	21.9	11	.234	44	.984	26.0	.014	4.1

Exhibit 3-8
Comparison Of 1998 Assessment Ratios
DRA Sales Versus Revalidated Sales

Town	Total Sales	DRA Sales	DRA Median	DRA Ratio	DRA COD	Sales Miscl	Miscl /Used	Valid Sales	Recalc Median	Recalc COD	MED DIFF	COD Diff
ACWORTH	28	14	1.100	1.100	19.6	7	.500	15	1.056	54.7	-.044	35.1
ALEXANDRIA	64	37	.980	1.030	21.6	12	.324	39	.996	16.1	.016	-5.5
AMHERST	417	298	.980	.980	6.1	46	.154	294	.983	7.1	.003	1.0
ANTRIM	81	50	.970	.970	15.1	19	.380	53	.974	21.7	.004	6.6
BETHLEHEM	107	59	.990	.990	12.8	18	.305	61	.995	20.4	.005	7.6
BROOKLINE	164	109	.850	.850	13.2	35	.321	88	.848	15.9	-.002	2.7
CHESTER	131	92	.420	.420	19.6	40	.435	56	.438	14.5	.018	-5.0
DERRY	735	539	.900	.900	10.6	141	.262	558	.886	14.0	-.014	3.5
E. KINGSTON	63	36	.760	.780	12.8	12	.333	34	.763	23.2	.003	10.5
EATON	18	10	.880	.930	26.5	3	.300	9	.888	23.6	.008	-2.8
EPSOM	143	97	.990	.990	17.5	15	.155	90	.992	23.0	.002	5.5
ERROL	26	20	1.070	1.070	22.1	1	.050	19	1.058	23.2	-.012	1.1
FARMINGTON	169	93	.940	.940	12.3	28	.301	97	.975	22.9	.035	10.6
GORHAM	75	34	1.170	1.170	29.6	12	.353	38	1.253	45.6	.083	16.0
GROTON	29	20	1.050	1.050	22.9	5	.250	19	1.023	29.0	-.027	6.1
HANOVER	228	138	.900	.900	12.3	36	.261	140	.888	21.0	-.012	8.7
HARRISVILLE	46	27	.950	.950	16.2	7	.259	30	.982	25.0	.032	8.7
KEENE	437	263	.990	.990	7.8	58	.221	275	.970	11.7	-.020	3.9
LYNDEBORO	59	35	.650	.650	16.1	12	.343	27	.647	20.5	-.003	4.4
MANCHESTER	2317	1677	1.070	1.070	13.0	262	.573	1607	.980	18.7	-.090	5.7
MONROE	20	12	.800	.760	17.5	1	.083	13	.824	16.0	.024	-1.5
MOULTONBORO	393	273	.910	.910	17.5	65	.238	240	.908	20.4	-.002	2.9
NEWBURY	131	71	.950	.950	18.5	16	.225	63	.953	21.9	.003	3.4
PEMBROKE	155	98	.950	.950	9.1	26	.265	82	.971	12.0	.021	2.9
PITTSBURG	95	51	1.100	1.100	26.0	25	.490	44	1.209	31.3	.109	5.2
PLAINFIELD	83	41	.950	.950	24.1	19	.463	28	.896	15.6	-.054	-8.5
PLAISTOW	282	162	.910	.910	11.4	43	.265	143	.911	17.5	.001	6.1
ROXBURY	9	3	1.300	1.070	10.1	0	.000	3	1.303	10.1	.003	.0
SALEM	748	464	.410	.410	18.4	137	.295	485	.411	20.9	.001	2.5
SANDOWN	188	135	1.120	1.120	10.3	27	.200	116	1.131	11.4	.011	1.1
TILTON	101	51	1.030	1.030	13.8	7	.137	48	1.042	14.6	.012	.8
TUFTONBORO	149	96	.950	.950	16.5	40	.417	84	.937	18.8	-.013	2.3
WALPOLE	83	45	.930	.930	17.0	13	.289	48	.935	22.2	.005	5.2

Exhibit 3-9

Effect of Correcting Only Basic Data Errors on Statewide School Property Taxes – 1998 Study

District	Assessed value	Indicated ratio	DRA ratio	Indicated tax base	De facto tax base	Difference	Correct school tax	De facto school tax	Difference	Real tax rate	Pct. of legal rate
A	B	C	D	E	F	G	H	I	J	K	L
Ackworth	43,702,626	1.06	1.10	41,385,063	39,729,660	-1,655,403	273,141	262,216	-10,926	6.34	96.0
Alexandria	75,510,064	1.00	1.03	75,813,317	73,310,742	-2,502,576	500,368	483,851	-16,517	6.38	96.7
Amherst	732,378,700	0.98	0.98	745,044,456	747,325,204	2,280,748	4,917,293	4,932,346	15,053	6.62	100.3
Antrim	88,872,944	0.97	0.97	91,245,322	91,621,592	376,269	602,219	604,703	2,483	6.63	100.4
Bethlehem	103,063,500	1.00	0.99	103,581,407	104,104,545	523,138	683,637	687,090	3,453	6.63	100.5
Brookline	176,034,110	0.85	0.85	207,587,394	207,098,953	-488,441	1,370,077	1,366,853	-3,224	6.58	99.8
Chester	80,814,122	0.44	0.42	184,507,128	192,414,576	7,907,448	1,217,747	1,269,936	52,189	6.88	104.3
Derry	1,074,581,900	0.89	0.90	1,212,846,388	1,193,979,889	-18,866,499	8,004,786	7,880,267	-124,519	6.50	98.4
East Kingston	83,639,776	0.76	0.78	109,619,628	107,230,482	-2,389,146	723,490	707,721	-15,768	6.46	97.8
Eaton	35,570,306	0.89	0.93	40,056,651	38,247,641	-1,809,010	264,374	252,434	-11,939	6.30	95.5
Epsom	149,560,490	0.99	0.99	150,766,623	151,071,202	304,579	995,060	997,070	2,010	6.61	100.2
Errol	40,354,660	1.06	1.07	38,142,401	37,714,636	-427,765	251,740	248,917	-2,823	6.53	98.9
Farmington	167,364,819	0.98	0.94	171,656,225	178,047,680	6,391,455	1,132,931	1,175,115	42,184	6.85	103.7
Gorham	145,316,400	1.25	1.17	115,974,781	124,202,051	8,227,271	765,434	819,734	54,300	7.07	107.1
Groton	23,471,284	1.02	1.05	22,943,582	22,353,604	-589,978	151,428	147,534	-3,894	6.43	97.4
Hanover	746,988,000	0.89	0.90	841,202,703	829,986,667	-11,216,036	5,551,938	5,477,912	-74,026	6.51	98.7
Harrisville	79,262,487	0.98	0.95	80,715,364	83,434,197	2,718,833	532,721	550,666	17,944	6.82	103.4
Keene	937,336,200	0.97	0.99	966,325,979	946,804,242	-19,521,737	6,377,751	6,248,908	-128,843	6.47	98.0
Lyndeboro	48,011,175	0.65	0.65	74,205,835	73,863,346	-342,488	489,759	487,498	-2,260	6.57	99.5
Manchester	3,714,519,600	0.98	1.07	3,790,326,122	3,471,513,645	-318,812,478	25,016,152	22,911,990	-2,104,162	6.04	91.6
Monroe	28,526,401	0.82	0.76	34,619,419	37,534,738	2,915,319	228,488	247,729	19,241	7.16	108.4
Moultonboro	955,965,408	0.91	0.91	1,052,825,339	1,050,511,437	-2,313,902	6,948,647	6,933,375	-15,272	6.59	99.8
Newbury	231,114,270	0.95	0.95	242,512,350	243,278,179	765,828	1,600,582	1,605,636	5,054	6.62	100.3
Pembroke	216,259,750	0.97	0.95	222,718,589	227,641,842	4,923,253	1,469,943	1,502,436	32,493	6.75	102.2
Pittsburg	99,251,832	1.21	1.10	82,094,154	90,228,938	8,134,784	541,821	595,511	53,690	7.25	109.9
Plainfield	95,691,438	0.90	0.95	106,798,480	100,727,829	-6,070,650	704,870	664,804	-40,066	6.22	94.3
Plaistow	436,452,684	0.91	0.91	479,091,859	479,618,334	526,475	3,162,006	3,165,481	3,475	6.61	100.1
Roxbury	12,169,651	1.30	1.07	9,339,717	11,373,506	2,033,789	61,642	75,065	13,423	8.04	121.8
Salem	819,393,710	0.41	0.41	1,993,658,662	1,998,521,244	4,862,582	13,158,147	13,190,240	32,093	6.62	100.2
Sandown	241,248,516	1.13	1.12	213,305,496	215,400,461	2,094,965	1,407,816	1,421,643	13,827	6.66	101.0
Tilton	216,827,171	1.04	1.03	208,087,496	210,511,817	2,424,320	1,373,377	1,389,378	16,001	6.68	101.2
Tuftonboro	357,775,001	0.94	0.95	381,830,311	376,605,264	-5,225,046	2,520,080	2,485,595	-34,485	6.51	98.6
Walpole	194,127,200	0.94	0.93	207,622,674	208,738,925	1,116,251	1,370,310	1,377,677	7,367	6.64	100.5
Total	12,451,156,195			14,298,450,913	13,964,747,067	-333,703,845	94,369,776	92,167,331	-2,202,445	6.45	97.7

3.4 Statistical Analysis

3.4.1 Components of Statistical Reliability

The IAAO *Standard on Ratio Studies* (1999) and other IAAO literature set forth criteria for conducting a statistically valid ratio study. Section 4 of the standard delineates six “basic” steps in a ratio study: (1) definition of purpose and objectives, (2) collection and preparation of market data, (3) matching appraisal data and market data, (4) stratification, (5) statistical analysis, and (6) evaluation and use of results. Regarding step 1, DRA’s study is ill-designed for the purposes for which it is used. The IAAO Standard goes to great lengths to explain the various purposes of a ratio study and to distinguish two types of equalization: “direct” in which a state-level agency orders changes to local rolls, and “indirect” in which the agency uses its findings to compute adjusted values for purposes of school aid distribution and the like. The DRA’s study fall into the category of indirect equalization. Since both forms of equalization affect a redistribution of taxes from the initially determined by local assessors, both of these forms of equalization require considerable attention to statistical issues of representativeness and reliability. In section 3.3, we enumerated the serious deficiencies of DRA’s studies relative to steps 2 and 3 above. In this section, we critique the study with respect to steps 4-6 above. Again, we find methodology and practice to be woefully inadequate.

Step 4 of a ratio study, stratification, is the process of dividing the properties in a jurisdiction into two or more subpopulations (strata). According to the IAAO Standard, “Stratification provides a more complete and detailed picture of the extent and nature of appraisal performance and can enhance sample representativeness. Stratification therefore is essential in most ratio studies conducted by local assessors and is highly desirable, if not essential, in studies used for equalization and similar purposes” (page 10). Criteria that can be used for stratification in ratio studies include property type, geographic area or neighborhood, and value range.

In step 5, statistical analysis, “measures of appraisal level, uniformity, and reliability should be calculated for the entire jurisdiction and each stratum. Graphs and charts are often useful for illustrating results. When ratio studies are conducted for equalization purposes, confidence intervals and statistical tests can be used to determine whether one can conclude at a given confidence level that appraisal performance meets or falls outside of mandated standards. Without such measures of reliability, the sample statistics concerning level of appraisal should not be considered conclusive” (pages 10-11).

Statistical issues in ratio studies include the size and distribution of samples and whether sold and unsold parcels are similarly appraised. “In general, a ratio study is valid to the extent that the sample is representative of the population” (page 12). “There is a general relationship between statistical precision and the number of observations in a sample drawn from a population: the larger the sample, the greater the precision” (page 27). “Formulas are available to compute the minimum sample size necessary to produce selected margins of error at a specified confidence level.... Small samples should be enlarged, if possible, where operational requirements dictate that there be a reliable estimate of the level of appraisal, such as for equalization purposes” (page 28). The standard lists six techniques for expanding sample sizes, including ex-

tending the period from which sales is drawn, which is described as “often the most practical and effective approach” (page 28).

With respect to the differential appraisal of sold and unsold properties (sales chasing), the standard states: “...if parcels that sell are selectively reappraised based on their sales prices or other criterion (such as listing price), sales ratio uniformity measures will not be valid (appraisals will appear more uniform than they are). In this situation, measures of appraisal level will also be invalid unless similar unsold parcels were reappraised by a method that produces the same percentage of market value (appraisal level) as on the parcels that sold. Assessing officers must ensure that sold and unsold parcels are treated equally. Several techniques are available for determining whether assessors are selectively appraising sold parcels... If unsold properties are not appraised consistently with sold properties and applicable guidelines, unadjusted sales ratio results cannot be used. The oversight agency will have to adjust calculated results or conduct an alternative study” (page 30).

The final step of a ratio study (step 6) involves the evaluation and use of results. In this discussion, the IAAO standard underscores the need to recognize the limitations of a ratio study and warns against drawing unwarranted conclusions due to insufficient data or measurement errors. “Lack of sufficient sales or overrepresentation of one area or type of property due, for example, to a highly active market can distort results. Ratio study validity requires that sold or independently appraised parcels be appraised with the same frequency, at the same percent of market value, and in the same manner as unsampled parcels. Violation of this condition seriously undermines the validity of any ratio study by reducing representativeness of the study and applicability of the results. When the purpose of the study is equalization, lack of independence will subvert attempts to improve equity (direct equalization) and result in incorrect distribution of funds between states or provinces and local jurisdictions (indirect equalization). To guard against these possibilities, assessing officials should ensure that sold and unsold properties are similarly appraised and take remedial actions where they are not.” (Page 31.)

As will be seen, DRA virtually ignores all these important issues in its ratio studies. It does not evaluate the adequacy of samples or attempt to expand inadequate samples. It does not stratify or test for representativeness. It does not gauge the accuracy of reported assessment levels. It does not test or adjust for sales chasing.

3.4.2 Current DRA Procedures

The DRA conducts its ratio studies annually using sales that it has deemed to be valid for equalization purposes. The sales span a one-year period about the assessment date, beginning 1 October and ending 30 September. For example, the 1998 study used sales recorded from 1 October 1997 through 30 September 1998. These include both first time sales from a developer or builder and resales. Regardless of how small the sample may be, previous year sales are not added and no appraisals are made to increase sample sizes. Every sample used in the 1998 study was a sale falling in the above time span.

For equalization purposes, all sales are pooled for analysis and only a single set of statistics is generated for each municipality. There is no stratification: vacant land, single family residential,

commercial, and industrial properties are all combined. Some of these classes may have no observations whatsoever. Where sales exist, the DRA does report sales ratio statistics by classes of properties, but calculation of the assessment level for equalization purposes is based on a pooled sample. Exceptions to this general rule may occur only if a municipality requests the DRA to stratify its property in some manner.

The DRA calculates three measures of central tendency: the median (middle ratio), the mean (average ratio), and the weighted mean or “aggregate” ratio (sum of the assessments divided by the sum of the sales prices). In most cases, the DRA uses the median. However, at times it uses the mean or the weighted mean, and sometimes it uses the previous year’s ratio or some other ratio. In the 1998 study, the DRA used the median in 204 towns, the weighted mean in five, and the mean in one. The prior year’s ratio was used in five cases. In 23 cases some other ratio was used without explanation.

3.4.3 Critique of DRA Methodology

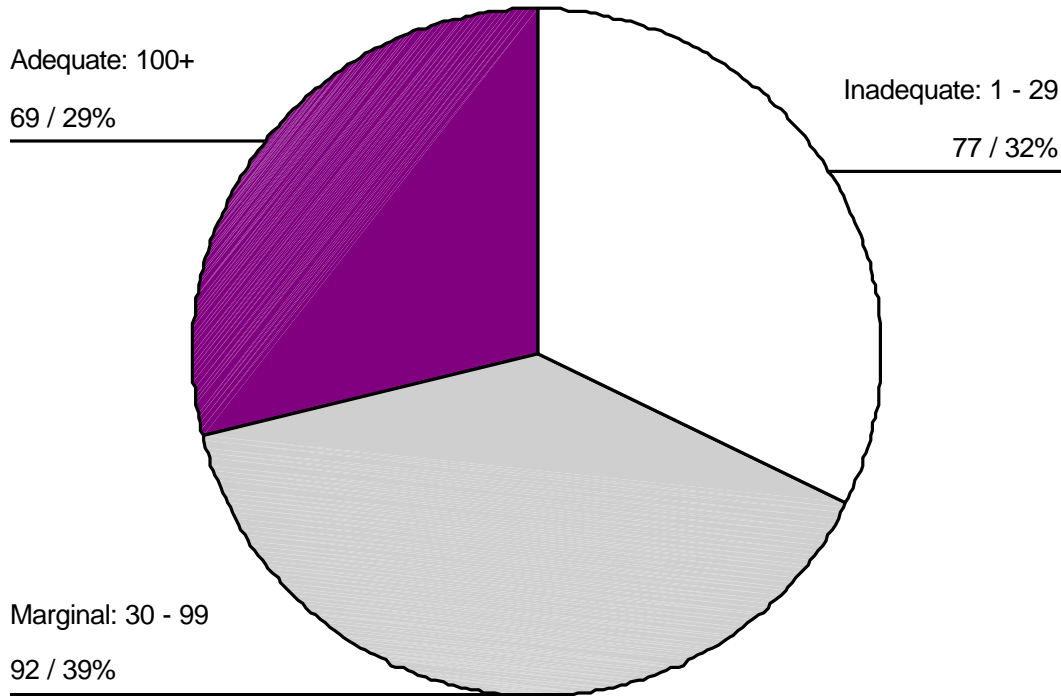
3.4.3.1 Inadequate Samples

The DRA ratio study methodology is woefully simplistic and unreliable. The problem begins with small samples. As pointed out in the IAAO Standard, reliability increases with sample size. In general, at least 30 sales in a jurisdiction are required for minimally acceptable statistical accuracy in a ratio study conducted for equalization. Given reasonably good uniformity (COD of 15), approximately 50 to 60 sales would normally be required to estimate the true assessment level within $\pm 5\%$ at a confidence level of 95%. For poorer performance (COD of 20), over 100 sales would be required. This relationship between assessment uniformity and required sample size underscores the fact that not only would revaluations completed in accordance with professional standards improve uniformity for taxpayers, they would also facilitate more reliable equalization measures.

The DRA makes no calculation of the number of sales required for minimal statistical accuracy and takes no measures to expand inadequate samples. As mentioned, it uses only those sales that occur within a six-month span on either side of the assessment date (1 April). Table 3-1 at the end of section 3 tabulates the number and distribution of sales used in the 1998 study for each town or unincorporated place. Column 2 shows the number of sales collected by RDC, column 3 shows the number used, column 4 shows the number “confirmed,” and column 5 shows the percent confirmed (columns 6-10 will be discussed below). An examination of the table will show that the number of sales used ranged from one in Ellsworth to 1,677 in Manchester. As exhibit 3-10 shows, there were fewer than 30 sales in 77 towns (32%) and fewer than 100 in another 92 towns (39%). We would regard samples of less than 30 as generally “inadequate” for purposes of the DRA’s study (sometimes they can be adequate for very small towns) and samples of less than 100 as “marginal”: sometimes adequate and sometimes inadequate depending on population size, representativeness, and degree of uniformity. Of the 238 towns studied, 169 towns (71%) had less than 100 sales. In all, we regard sample sizes as generally inadequate.

Exhibit 3-10

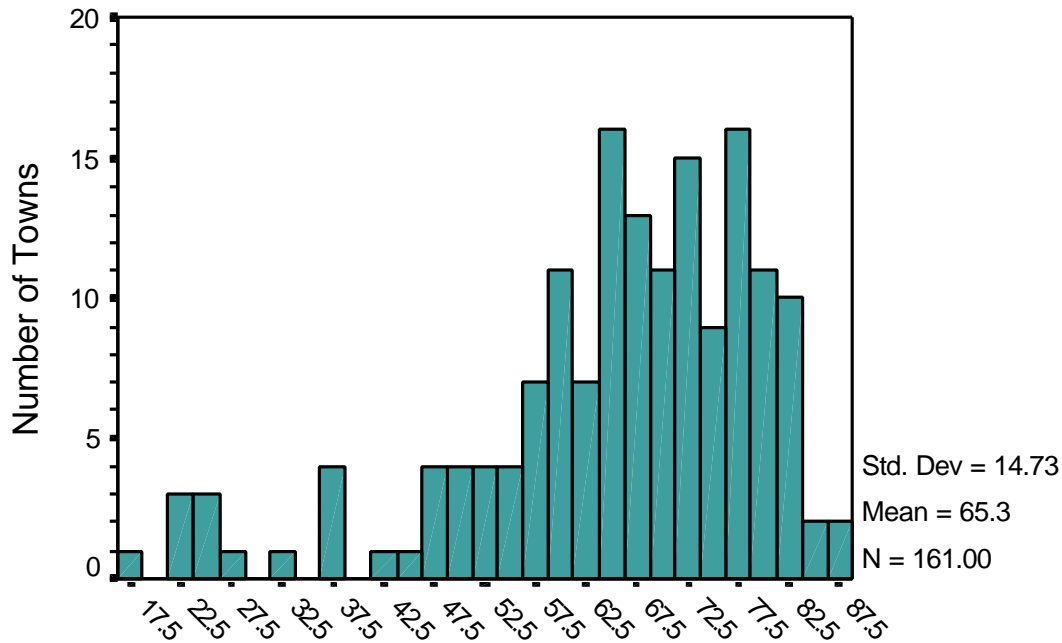
Adequacy of Samples Used in 1998 DRA Study



Further, the number of sales used includes many sales for which no PA-34 form was received. DRA records indicate that a PA-34 form was not received for 31.0 percent of sales in the 1998 study. The percentage for which a PA-34 form was received ranged from 11.1% to 100%. Among 161 towns with at least 30 usable sales, it ranged from 17.0 to 87.9%. Exhibit 3-11 shows the distribution for these towns. Note that in many towns the percentage is well below 50% or even 40% and that in many others it is close to 80%. This raises concerns about the evenness with which PA-34s are completed and sales processed in the various towns.

Exhibit 3-11

% of Sales w. PA-34 (Towns with 30+ Sales)



Percent of Sales for Which PA-34 Form was Received

3.4.3.2 Failure to Stratify

Equally serious is the under-representation of commercial, multi-family, and other high-value properties. Only 2.8 percent of the sales used in the DRA’s 1998 study represented commercial properties and only 2.7 percent were multi-family. Only 6.1% had a sale price of \$250,000 or more and only 0.9% had a price of \$1 million or more. Further, even these results are skewed upward by several large towns. Of 220 towns reporting property types to the DRA, the study included *no* commercial sales in 109 (49.5 percent). There were fewer than five commercial sales in 191 towns (86.8%) and fewer than 10 in 209 towns (95.0%). Similarly, 142 (64.5%) had *no* multi-family sales and 190 (86.4%) had fewer than five. For the typical (median) town, DRA’s study included *one* commercial sale, *no* multi-family sales, and only *one* sale with a price of \$250,000 or more. Another 18 towns did not provide property types on their municipal assessment sheets (the DRA simply reports no breakout for these towns in its annual ratio reports).

For whatever reason, the DRA uses different property groupings for reporting sales than for reporting assessed values on MS-1 reports. In addition, the value of improved land is included in its respective property type codes for sales reporting purposes but is lumped in with vacant land on MS-1 reports. The only correlation one is able to make between reporting categories for the two studies is commercial versus non-commercial property. This can be accomplished by sum-

ming improved and vacant commercial property on sales reports and comparing the total with the sum of commercial land and building values shown on MS-1 reports. Excluding the 18 towns that failed to include property type on sales listing reports, 18.87% of total property value in the state is listed as commercial on MS-1 reports. However, only 3.26 percent of all sales used in the 1998 study in these same 220 towns are commercial and only 9.44 percent of all value studied was commercial. Thus, commercial property is greatly under-represented. In general, towns that assess commercial properties relatively high compared to other properties will have reported ratios that are too low, and towns that relatively under-assess commercial properties will have ratios that are too high.

Further, as already indicated, DRA samples in most towns are too small to even consider stratification by property type. In these towns assessment ratios are generally driven almost exclusively by residential and perhaps vacant land sales, regardless of the percentage of value in other property types.

3.4.3.3 Lack of Reliability Measures

As stated in the IAAO Standard, “When ratio studies are conducted for equalization purposes, confidence intervals and statistical tests can be used to determine whether one can conclude at a given confidence level that appraisal performance meets or falls outside of mandated standards. Without such measures of reliability, the sample statistics concerning level of appraisal should not be considered conclusive.”

The DRA has no standards for determining required sample sizes or statistical confidence in its ratio studies. Nor does it calculate or report confidence intervals or reliability measures for its reported assessment levels. Thus, one has no way of gauging the reliability of reported results, even if data were accurate and other statistical shortcomings were remedied. Of course, the small and/or unrepresentative samples frequently used suggest a general lack of acceptable reliability. In addition, inadequate samples also lead to year-to-year instability in results, which partly explains efforts by both assessors and the DRA to contrive results to more closely approximate those obtained the previous year.

3.4.3.4 Failure to Monitor or Adjust for Sales Chasing

As previously indicated, IAAO standards underscore the importance of monitoring sales chasing in ratio studies. “Violation of this condition seriously undermines the validity of any ratio study... When the purpose of the study is equalization, lack of independence will subvert attempts to improve equity (direct equalization) and result in incorrect distribution of funds between states or provinces and local jurisdictions (indirect equalization).”

One of the most serious shortcomings in the DRA studies is the failure to monitor or control for sales chasing. As explained, the majority of sales used in the study each year occur before values are set, so that assessors, if so inclined, can selectively screen sales or set assessed values close to sales prices. To help detect sales chasing, DRA requests assessors to report both current and previous year assessments, so that the two values can be compared. However, some assessors do not report previous year values or report them only part of the time. More importantly,

the DRA appears to largely ignore previous year values. It consistently concurs with assessors who, in violation of DRA guidelines, use current year values of properties sold before the assessment date or who report current year values on parcels with new construction after a sale occurred. In addition, virtually nothing is done to enforce sales screening guidelines or consistency in sales screening among towns.

To be fair, the DRA simply does not have the resources to monitor sales screening or consistency in the appraisal of sold and unsold properties. Not only does it not have adequate staff, it also does not obtain assessment rolls from towns, which would allow a systematic statistical comparison of sold and unsold properties.

Unfortunately, the incentive for towns to manipulate reported results to obtain high ratios will increase considerably under the proposed statewide property tax. This is a most serious concern as towns that report accurately stand to be penalized while those who misreport stand to be rewarded.

3.5 Development of Equalized Values

Pursuant to RSA 21-J:3, XIII, the DRA uses its level of assessment findings from its ratio studies in one of its three “inventory adjustments” to local assessed values. The DRA’s data on local assessed values come from the annual “Summary Inventory of Valuation” (form MS-1), which is an abstract of the assessment roll, which municipalities are required to submit by 1 September. As noted in section 3.1 (refer to exhibit 3-1), beginning in 1998, the adjustments are made to “modified local assessed value,” which excludes some local option exemptions from the previously used “net local assessed valuation” (see exhibit 3-12). Although the change seems a reasonable attempt to ensure that each municipality is treated equitably, it does not seem to be specifically authorized by statute.

Exhibit 3-12 Difference between Modified Assessed Valuation and Net Local Assessed Valuation

GROSS LOCAL ASSESSED VALUATION
<ul style="list-style-type: none"> – Water & Air Pollution Control Exemption RSA 72:12 – Physically Handicapped Exemption – School Dining/Dormitory/Kitchen Exemption RSA 72:23
= “MODIFIED LOCAL ASSESSED VALUATION”
<ul style="list-style-type: none"> – Elderly Exemption RSA 72:39-a & b – Blind Exemption RSA 72:37 – Disabled Exemption RSA 72:37-b – Solar/Wind-Powered Exemption RSA 72:62 & RSA 72:66 – Wood Heating Energy System Exemption RSA 72:70
= NET LOCAL ASSESSED VALUATION

The DRA does not provide a breakdown of its inventory adjustments. This makes it very difficult to compare year-to-year changes in equalized values and to evaluate them for reasonableness. Exhibit 3-13 illustrates how the DRA makes the “area 1” inventory adjustment.

**Exhibit 3-13
Develop of “Area 1 Inventory Adjustment”**

“MODIFIED LOCAL ASSESSED VALUATION”	
–	Assessed value of land in current use
–	Conservation restriction assessment (current use)
–	Assessed value of utilities
=	VALUE TO BE EQUALIZED
÷	EQUALIZATION RATIO
=	EQUALIZED VALUE OF LAND, BUILDINGS, AND MANUFACTURED HOMES

Thus, the area 1 inventory adjustment is the difference between the equalized value and modified local assessed valuation. The area 2 inventory adjustment deals with land assessed on the basis of current use. Under the area 2 adjustment procedure, the current use value assessment amounts subtracted in the area 1 procedure are “equalized” or divided by the previous year’s equalization ratio rather than the current year’s ratio. The logic of this adjustment is not apparent. Why should land legally assessed on the basis of its current use be equalized based on a ratio derived from predominately non-current use properties a year ago? Moreover, our field audit raised questions about the uniformity of current use assessment practices across the state.

The area 3 inventory adjustment compares the DRA’s estimates of the market value of locally assessed utilities to the local assessed value. The adjustment is the difference between these two values. Although it has a logical basis, its fairness depends on the relative accuracy of the of the DRA’s appraisal of the utilities in question and on how these values are allocated among the municipalities affected versus the accuracy of local assessments.

As can be seen from exhibit 3-1, final equalized values also include items not related to property value. Included are various transfer payments from the state to municipalities.

3.6 Reporting

Consistent with good practice, each year when the DRA completes its ratio study (in the spring), it sends a letter to the municipality containing its determination of the average level of assessment of land, buildings, and manufactured housing in the municipality as of 1 April of the preceding year. Included with the letter is a summary table containing its findings concerning the median ratio, the mean ratio, the aggregate ratio, the coefficient of dispersion, the number of sales used, and the number of sales that the DRA classifies as verified for each of the strata for

which there were sufficient sales. Also included are printouts of the sales used and the sales considered to be unusable. The municipality is invited to review the lists and apprise the DRA of any errors and to discuss the ratio findings. Depending on the outcome of communications with the municipality, the DRA may revise its findings.

When it finalizes its ratio study findings, the DRA writes each municipality concerning its determination of the municipality's total equalized valuation. This letter includes a table similar to exhibit 3-1. The municipality is invited to contact the DRA if it has questions and is apprised of its appeal rights. Accompanying the letter is a two-page information sheet explaining the elements of the determination of total equalized valuation. As noted, the municipality is not given a breakdown of the inventory adjustment.

The DRA's statutory general reporting requirements are general in nature, and its reports generally contain only the minimum needed to satisfy the requirements. RSA 21-J:1, II (b) requires the DRA to provide "information collected through tax administration activities to the governor and general court for public policy decisions." RSA 21-J:3, XII requires the commissioner of DRA to submit annually a report to the Secretary of State showing "all the property in the state and its assessed value, in tabulated form, and other statistics and information as may be determined of interest." In compliance with these mandates, the DRA issues the following reports each year: (1) the Equalization Survey, (2) Property Tax Tables by County, and (3) Assessment Report. The Equalization Survey contains two reports, one including utility and railroad values as required for the education property tax and the other, which excludes those values. Each provides the details of each municipality's total equalized valuation, plus county and state totals. These data also are available on the DRA's web page. The Property Tax Tables report provides summaries of data submitted on MS-1s. The Assessment Report provides summaries of data submitted on PA-43s. The ratio study findings are not published.

TABLE 3-1
1998 SALES RATIO DATA BY TOWN

TOWN (1)	TOTAL SALES (2)	SALES USED (3)	PCT CONF (4)	PCT USED (5)	COM USED (6)	MFR USED (7)	SALES 250K+ (8)	% 250K+ (9)
ACWORTH	27	14	44.4	51.9	0	0	0	.0
ALBANY	24	13	54.2	54.2	1	0	0	.0
ALEXANDRIA	60	37	58.3	61.7	0	1	0	.0
ALLENSTOWN	130	103	63.8	79.2	3	6	1	1.0
ALSTEAD	41	21	82.9	51.2	0	0	0	.0
ALTON	256	176	66.8	68.8	1	0	22	12.5
AMHERST	396	298	81.6	75.3	9	0	43	14.4
ANDOVER	85	54	65.9	63.5	0	3	1	1.9
ANTRIM	73	50	79.5	68.5	0	0	0	.0
ASHLAND	66	41	50.0	62.1	0	0	1	2.4
ATKINSON	193	151	60.1	78.2	1	0	12	7.9
AUBURN	113	85	80.5	75.2	2	0	3	3.5
BARNSTEAD	128	92	79.7	71.9	1	0	0	.0
BARRINGTON	252	175	76.6	69.4	1	2	1	.6
BARTLETT	299	222	70.9	74.2	3	0	6	2.7
BATH	38	21	28.9	55.3	0	0	0	.0
BEDFORD	706	467	80.9	66.1	10	0	135	28.9
BELMONT	203	144	64.0	70.9	1	1	1	.7
BENNINGTON	39	21	66.7	53.8	0	1	0	.0
BENTON	9	4	11.1	44.4	0	0	0	.0
BERLIN	163	45	78.5	27.6	1	13	0	.0
BETHLEHEM	99	59	23.2	59.6	1	0	2	3.4
BOSCAWEN	83	43	72.3	51.8	1	4	0	.0
BOW	205	171	83.4	83.4	7	0	11	6.4
BRADFORD	55	41	65.5	74.5	2	1	2	4.9
BRENTWOOD	109	77	69.7	70.6	3	0	7	9.1
BRIDGEWATER	61	38	65.6	62.3	0	0	3	7.9
BRISTOL	138	115	55.1	83.3	1	0	1	.9
BROOKFIELD	22	13	72.7	59.1	0	0	2	15.4
BROOKLINE	159	109	78.0	68.6	0	0	4	3.7
CAMBRIDGE	8	3	62.5	37.5	0	0	0	.0
CAMPTON	152	100	45.4	65.8	4	0	1	1.0
CANAAN	96	68	27.1	70.8	0	0	0	.0
CANDIA	130	86	77.7	66.2	0	0	2	2.3
CANTERBURY	92	54	68.5	58.7	0	0	1	1.9
CARROLL	84	63	58.3	75.0	.	.	2	3.2
CENTER HARBOR	39	22	64.1	56.4	0	0	6	27.3
CHARLESTOWN	120	73	50.8	60.8	1	0	1	1.4
CHATHAM	5	4	40.0	80.0	.	.	0	.0
CHESTER	126	92	73.8	73.0	0	1	6	6.5
CHESTERFIELD	110	93	86.4	84.5	.	.	11	11.8
CHICHESTER	73	44	64.4	60.3	.	.	0	.0
CLAREMONT	258	129	57.0	50.0	6	18	2	1.6
CLARKSVILLE	20	11	50.0	55.0	.	.	0	.0
COLEBROOK	57	34	47.4	59.6	5	0	1	2.9
COLUMBIA	30	20	26.7	66.7	.	.	0	.0
CONCORD	865	558	78.4	64.5	.	.	14	2.5
CONWAY	375	209	67.7	55.7	3	2	5	2.4

Table 3-1 (Continued)
1998 SALES RATIO DATA BY TOWN

TOWN	TOTAL SALES	SALES USED	PCT CONF	PCT USED	COM USED	MFR USED	SALES 250K+	% 250K+
CORNISH	42	30	52.4	71.4	1	1	1	3.3
CROYDON	29	17	34.5	58.6	0	0	0	.0
DALTON	31	16	51.6	51.6	0	0	1	6.3
DANBURY	38	23	36.8	60.5	0	0	0	.0
DANVILLE	195	115	62.6	59.0	0	0	2	1.7
DEERFIELD	132	95	84.1	72.0	.	.	4	4.2
DEERING	38	28	55.3	73.7	0	0	0	.0
DERRY	848	537	47.8	63.3	7	25	3	.6
DORCHESTER	14	8	42.9	57.1	0	0	0	.0
DOVER	576	388	78.6	67.4	4	41	8	2.1
DUBLIN	38	21	71.1	55.3	0	0	1	4.8
DUMMER	8	3	75.0	37.5	0	0	0	.0
DUNBARTON	69	36	82.6	52.2	0	0	0	.0
DURHAM	157	111	75.2	70.7	0	1	17	15.3
E. KINGSTON	52	36	67.3	69.2	0	0	1	2.8
EASTON	18	14	27.8	77.8	.	.	0	.0
EATON	17	10	52.9	58.8	0	0	1	10.0
EFFINGHAM	62	32	59.7	51.6	.	.	0	.0
ELLSWORTH	2	1	50.0	50.0	.	.	0	.0
ENFIELD	133	87	31.6	65.4	0	6	1	1.1
EPPING	174	135	76.4	77.6	0	1	3	2.2
EPSOM	133	97	80.5	72.9	1	1	0	.0
ERROL	23	20	52.2	87.0	0	0	0	.0
EXETER	454	360	72.9	79.3	13	23	32	8.9
FARMINGTON	157	93	70.1	59.2	5	2	1	1.1
FITZWILLIAM	62	49	79.0	79.0	0	0	1	2.0
FRANCESTOWN	34	21	79.4	61.8	0	0	7	33.3
FRANCONIA	57	39	22.8	68.4	2	0	1	2.6
FRANKLIN	153	108	66.7	70.6	7	6	2	1.9
FREEDOM	100	71	61.0	71.0	1	0	0	.0
FREMONT	135	82	76.3	60.7	1	0	2	2.4
GILFORD	372	229	68.3	61.6	8	0	12	5.2
GILMANTON	144	94	70.1	65.3	0	1	2	2.1
GILSUM	20	15	90.0	75.0	0	0	0	.0
GOFFSTOWN	406	285	81.0	70.2	2	4	0	.0
GORHAM	62	34	61.3	54.8	2	1	0	.0
GOSHEN	28	12	42.9	42.9	0	0	0	.0
GRAFTON	52	28	32.7	53.8	0	0	0	.0
GRANTHAM	145	122	59.3	84.1	1	0	11	9.0
GREENFIELD	37	22	70.3	59.5	0	1	0	.0
GREENLAND	96	67	65.6	69.8	4	3	13	19.4
GREENVILLE	45	36	64.4	80.0	1	2	0	.0
GROTON	25	20	48.0	80.0	0	0	0	.0
HAMPSTEAD	281	203	65.8	72.2	3	1	19	9.4
HAMPTON	689	534	65.9	77.5	22	31	92	17.2
HAMPTON Falls	57	35	54.4	61.4	.	.	9	25.7
HANCOCK	46	31	73.9	67.4	0	0	6	19.4
HANOVER	214	138	37.4	64.5	1	2	54	39.1

Table 3-1 (Continued)
1998 SALES RATIO DATA BY TOWN

TOWN	TOTAL SALES	SALES USED	PCT CONF	PCT USED	COM USED	MFR USED	SALES 250K+	% 250K+
HARRISVILLE	41	27	80.5	65.9	0	0	0	.0
HARTS LOC	4	3	75.0	75.0	0	0	0	.0
HAVERHILL	94	57	17.0	60.6	4	0	2	3.5
HEBRON	40	22	42.5	55.0	0	0	3	13.6
HENNIKER	99	69	77.8	69.7	4	6	3	4.3
HILL	29	18	69.0	62.1	0	0	0	.0
HILLSBORO	159	111	59.7	69.8	5	0	2	1.8
HINSDALE	78	42	82.1	53.8	2	0	1	2.4
HOLDERNESS	64	45	37.5	70.3	0	0	7	15.6
HOLLIS	221	160	77.8	72.4	0	0	55	34.4
HOOKSETT	426	243	76.5	57.0	4	1	5	2.1
HOPKINTON	168	121	76.2	72.0	1	0	15	12.4
HUDSON	587	431	78.2	73.4	11	26	13	3.0
JACKSON	86	48	70.9	55.8	0	0	1	2.1
JAFFREY	150	95	77.3	63.3	2	1	1	1.1
JEFFERSON	30	22	50.0	73.3	0	0	0	.0
KEENE	390	263	87.9	67.4	4	17	5	1.9
KENSINGTON	59	36	54.2	61.0	0	0	3	8.3
KINGSTON	158	114	60.8	72.2	4	0	8	7.0
LACONIA	603	435	67.7	72.1	15	32	14	3.2
LANCASTER	87	35	52.9	40.2	1	0	0	.0
LANDAFF	22	13	27.3	59.1	0	0	0	.0
LANGDON	13	11	61.5	84.6	0	0	0	.0
LEBANON	234	168	24.4	71.8	2	12	8	4.8
LEE	115	91	74.8	79.1	3	0	3	3.3
LEMPSTER	46	33	60.9	71.7	.	.	1	3.0
LINCOLN	189	145	51.9	76.7	3	1	6	4.1
LISBON	46	24	28.3	52.2	1	2	0	.0
LITCHFIELD	234	156	77.4	66.7	1	0	0	.0
LITTLETON	152	91	24.3	59.9	6	5	3	3.3
LONDONDERRY	809	609	66.1	75.3	14	10	19	3.1
LOUDON	108	86	72.2	79.6	0	0	0	.0
LYMAN	37	15	18.9	40.5	0	0	0	.0
LYME	39	13	41.0	33.3	0	0	4	30.8
LYNDEBORO	54	35	72.2	64.8	0	0	0	.0
MADBURY	27	15	92.6	55.6	0	1	0	.0
MADISON	100	78	58.0	78.0	1	0	3	3.8
MANCHESTER	2140	1677	79.2	78.4	184	59	44	2.6
MARLBORO	57	37	71.9	64.9	1	3	1	2.7
MARLOW	23	15	87.0	65.2	0	0	0	.0
MASON	35	25	80.0	71.4	0	0	0	.0
MEREDITH	280	174	76.4	62.1	7	3	25	14.4
MERRIMACK	894	542	82.9	60.6	14	3	23	4.2
MIDDLETON	48	29	62.5	60.4	1	0	0	.0
MILAN	35	16	74.3	45.7	0	0	0	.0
MILFORD	370	267	79.7	72.2	7	13	4	1.5
MILTON	132	99	72.7	75.0	1	0	0	.0
MONROE	20	12	25.0	60.0	0	0	0	.0
MONT VERNON	39	33	71.8	84.6	.	.	2	6.1

Table 3-1 (Continued)
1998 SALES RATIO DATA BY TOWN

TOWN	TOTAL SALES	SALES USED	PCT CONF	PCT USED	COM USED	MFR USED	SALES 250K+	% 250K+
MOULTONBORO	375	273	69.1	72.8	3	0	58	21.2
NASHUA	1931	1554	81.7	80.5	64	87	85	5.5
NELSON	15	10	86.7	66.7	0	0	1	10.0
NEW BOSTON	182	113	75.3	62.1	0	2	7	6.2
NEWBURY	113	71	50.4	62.8	0	0	11	15.5
NEW CASTLE	40	16	50.0	40.0	0	0	16	100.0
NEW DURHAM	93	68	76.3	73.1	1	0	1	1.5
NEWFIELDS	60	37	66.7	61.7	1	1	9	24.3
NEW HAMPTON	68	41	61.8	60.3	0	0	1	2.4
NEWINGTON	23	15	60.9	65.2	1	0	9	60.0
NEW IPSWICH	109	76	66.1	69.7	0	0	2	2.6
NEW LONDON	144	107	63.2	74.3	0	0	20	18.7
NEWMARKET	243	175	67.5	72.0	4	10	5	2.9
NEWPORT	140	85	47.9	60.7	6	5	2	2.4
NEWTON	183	102	57.4	55.7	1	2	0	.0
NORTHFIELD	86	68	67.4	79.1	3	0	2	2.9
N. HAMPTON	160	106	69.4	66.3	4	1	35	33.0
NORTHUMBERL	41	21	61.0	51.2	3	3	0	.0
NORTHWOOD	148	100	75.0	67.6	2	3	3	3.0
OTTINGHAM	125	102	79.2	81.6	0	0	0	.0
ORANGE	10	8	30.0	80.0	0	0	0	.0
ORFORD	40	25	22.5	62.5	1	0	1	4.0
OSSIPEE	189	125	41.3	66.1	5	0	4	3.2
PELHAM	247	179	66.4	72.5	3	2	7	3.9
PEMBROKE	143	98	81.1	68.5	2	5	0	.0
PETERBORO	135	94	82.2	69.6	3	4	4	4.3
PIERMONT	25	14	20.0	56.0	.	.	1	7.1
PITTSBURG	89	51	38.2	57.3	0	0	0	.0
PITTSFIELD	116	64	69.0	55.2	2	3	0	.0
PLAINFIELD	78	41	23.1	52.6	1	0	2	4.9
PLAISTOW	237	162	61.6	68.4	3	3	7	4.3
PLYMOUTH	103	73	52.4	70.9	3	5	0	.0
PORTSMOUTH	578	464	72.8	80.3	32	13	61	13.1
RANDOLPH	7	6	100.0	85.7	0	0	0	.0
RAYMOND	299	242	73.6	80.9	5	5	2	.8
RICHMOND	38	28	92.1	73.7	0	0	0	.0
RINDGE	131	93	67.9	71.0	.	.	0	.0
ROCHESTER	731	558	74.7	76.3	5	29	4	.7
ROLLINSFORD	45	38	73.3	84.4	0	0	2	5.3
ROXBURY	9	3	100.0	33.3	0	0	0	.0
RUMNEY	39	13	59.0	33.3	0	0	0	.0
RYE	134	92	60.4	68.7	1	1	39	42.4
SALEM	716	464	61.3	64.8	21	7	42	9.1
SALISBURY	40	20	70.0	50.0	0	0	0	.0
SANBORNTON	112	78	70.5	69.6	1	0	3	3.8
SANDOWN	183	135	71.6	73.8	0	1	0	.0
SANDWICH	60	30	56.7	50.0	0	0	5	16.7
SEABROOK	229	116	65.5	50.7	5	0	8	6.9
SHARON	15	12	80.0	80.0	0	0	0	.0

Table 3-1 (Continued)
1998 SALES RATIO DATA BY TOWN

TOWN	TOTAL SALES	SALES USED	PCT CONF	PCT USED	COM USED	MFR USED	SALES 250K+	% 250K+
SHELBURNE	21	11	57.1	52.4	1	0	0	.0
SOMERSWORTH	254	171	66.1	67.3	2	25	0	.0
S. HAMPTON	14	10	50.0	71.4	0	0	0	.0
SPRINGFIELD	46	30	54.3	65.2	0	0	1	3.3
STARK	22	15	68.2	68.2	0	0	0	.0
STEWARTSTOWN	29	22	41.4	75.9	0	0	0	.0
STODDARD	60	33	83.3	55.0	0	0	2	6.1
STRAFFORD	121	55	82.6	45.5	0	0	0	.0
STRATFORD	18	9	44.4	50.0	0	0	0	.0
STRATHAM	283	223	74.6	78.8	1	6	30	13.5
SUGAR HILL	38	22	18.4	57.9	0	0	3	13.6
SULLIVAN	20	11	70.0	55.0	0	0	0	.0
SUNAPEE	138	93	63.0	67.4	3	2	16	17.2
SURRY	16	9	75.0	56.3	0	0	0	.0
SUTTON	73	51	64.4	69.9	0	1	3	5.9
SWANZEY	174	110	83.3	63.2	3	3	3	2.7
TAMWORTH	86	56	59.3	65.1	1	0	4	7.1
TEMPLE	31	14	83.9	45.2	0	0	0	.0
THORNTON	129	95	48.8	73.6	0	0	1	1.1
TILTON	84	51	60.7	60.7	3	0	4	7.8
TROY	32	18	75.0	56.3	.	.	0	.0
TUFTONBORO	142	96	58.5	67.6	0	0	6	6.3
UNITY	45	27	55.6	60.0	0	0	0	.0
WAKEFIELD	208	137	65.4	65.9	0	0	2	1.5
WALPOLE	75	45	85.3	60.0	0	0	5	11.1
WARNER	73	56	72.6	76.7	0	0	1	1.8
WARREN	38	17	39.5	44.7	0	0	0	.0
WASHINGTON	75	52	72.0	69.3	0	0	0	.0
WATERVILLE	105	72	25.7	68.6	0	0	3	4.2
WEARE	269	184	69.9	68.4	0	1	1	.5
WEBSTER	57	33	59.6	57.9	1	0	0	.0
WENTWORTH	28	16	35.7	57.1	0	0	0	.0
WENTWORTH	2	2	50.0	100.0	.	.	0	.0
WESTMORELAND	42	29	83.3	69.0	1	0	5	17.2
WHITEFIELD	65	33	36.9	50.8	2	1	1	3.0
WILMOT	46	28	78.3	60.9	0	0	1	3.6
WILTON	95	66	73.7	69.5	1	0	2	3.0
WINCHESTER	92	56	72.8	60.9	0	1	0	.0
WINDHAM	377	254	69.2	67.4	2	0	50	19.7
WINDSOR	6	5	66.7	83.3	0	0	0	.0
WOLFEBORO	326	238	68.1	73.0	7	6	21	8.8
WOODSTOCK	107	80	48.6	74.8	1	0	0	.0
UNINCORP TN	5	2	20.0	40.0	0	0	0	.0
HALES LOC	23	20	26.1	87.0	0	0	3	15.0

4. Summary and Conclusions

4.1 Overview

Our overriding conclusion is that disparities in local assessments are so great and DRA's equalization procedures so lax that it is impossible to meet the constitutional proportionality standard of the New Hampshire constitution. Before the proportionality standard can be met, all real property in each city and town throughout the state must be revalued as of a common date in accordance with professional standards. In addition, the DRA must dramatically improve its sales ratio studies in accordance with nationally accepted standards before confidence can be placed in its equalization determinations. The DRA must also substantially upgrade its assistance and supervisory activities to ensure that, after all communities have been revalued as of a common date, local assessments remain in line with current market values.

4.2 Disparities in Assessments

The primary tool used to evaluate assessment accuracy is the ratio study. A ratio study is a systematic, statistical comparison of appraised (assessed) values to assessed values. It can be used to evaluate both the general level of assessments in a town and the uniformity of assessments among towns. The assessment profession has set standards for acceptable deviations from the legal assessment level and for attainable degrees of uniformity within various property groups.

4.2.1 Disparities in Levels of Assessment

According to professional standards, the *overall* ratio of assessed value to market value of each municipality should be as close to 100 percent as possible and never below 90 percent or above 110 percent. See the *Standard on Ratio Studies*, published by the International Association of Assessing Officers (IAAO) in 1999. Absent effective equalization, this standard implies that effective statewide education property tax rates could differ by 22 percent (the effective education property tax rate in a municipality with a level of assessment of 90 percent would be \$5.94 versus \$7.26 in a municipality assessed at 110 percent).

While we believe that the flaws in the DRA's ratio studies (see 3.4) exaggerate the achievements of New Hampshire assessors in meeting both the market value and proportionality standards, the Department's ratio studies suggest that at least 27 percent of New Hampshire towns fail the level of assessment standard.

4.2.2 Lack of Uniformity in Assessments

Although a comprehensive and effective equalization program can ameliorate disparities in levels of assessment *among* municipalities, such a program cannot correct inequities *within* a municipality (only frequent revaluations can do that). Three types of ratio study measurements are used to examine uniformity of assessments within a municipality: (1) a comparison of the level of assessment of different classes of properties (uniformity *among* strata), (2) the "coeffi-

cient of dispersion” (COD, which provides an indication of uniformity *within* a stratum), and (3) the “price-related differential” (PRD).

According to the *Standard on Ratio Studies*, the level of appraisal of each stratum (e.g., property use type) should be within 5 percent of the overall level of appraisal for the assessment district. Except for residential property, fewer than 20 percent of municipalities meet this standard (although many do not have sufficient samples to apply the standard).

The COD measures in percentage terms the *average* difference between assessed values and indicated market values. If perfect uniformity were attainable, the COD would be zero. The higher the COD, the less uniform assessments are among individual properties and hence the less proportionality in property taxes. According to professional standards, 20 percent is the *maximum* acceptable COD. For most residential property (which is the predominant class of property in the DRA’s ratio studies), the COD should be 15 percent or less. For newer, homogeneous areas, CODs of 10.0 or less are attainable for residential property.

According to the DRA’s 1998 statistics, 26 percent of New Hampshire municipalities had a COD greater than 20 and more than half had a COD greater than 15. A property over-assessed by 20 percent pays 50 percent more in taxes than a property of equal market value that is under-assessed by 20 percent.

The PRD indicates whether low-valued properties and high-valued properties tend to have the same level of assessment and hence be taxed proportionally. A PRD of 1.0 reflects proportional assessments. PRDs above 1.0 indicate that low-value properties are over-assessed relative to high-value properties (that is, “regressive” assessments), and a PRD below 1.0 indicates the reverse (that is, “progressive” assessments). PRDs in the range of 0.98 to 1.03 are considered acceptable.

According to the DRA’s 1998 equalization study, 56 percent of all communities in the state failed to meet the PRD standard. Fifty-five percent had a PRD above 1.03. A PRD above 1.03 implies greater than a 15 percent disparity in assessment levels between two properties in which the value of one is twice that of the other.

Despite the plain language of the New Hampshire Constitution requiring revaluations at least every five years, few towns voluntarily comply with this mandate. Between 1994 and 1998, the average number of communities completing a revaluation was only fourteen. According to the DRA’s own statistics, seventy-five municipalities have not undertaken any type of revaluation activity since 1994.

As emphasized before, only frequent revaluations made in accordance with professional standards can be expected to reduce intra-municipality assessment inequities to acceptable levels. We think the evidence overwhelmingly supports the need for a statewide revaluation program. The DRA and the Tax and Land Appeals should take necessary actions to ensure that every municipality adheres to the constitutional five-year revaluation mandate.

4.3 Weak Supervision and Inadequate Equalization by the DRA

4.3.1 Unreliable Ratio Studies

The DRA's ratio studies are inadequate and unreliable. There are two major deficiencies. First, the data used in the studies are unreliable and inconsistent. The DRA does not maintain clear guidelines on screening sales and preparing data for the study (these guidelines appear not to have been updated for over ten years). Towns may or may not follow these guidelines and process data inconsistently. Sometimes procedures even change from year to year. Equally important, the DRA does not follow or enforce its own guidelines in reviewing sales listing reports received from the towns. The result is that many seemingly valid sales are excluded and many invalid sales included. Further, the reliability of data appears to vary markedly among towns.

Second, the DRA's statistical procedures are inadequate. No quality control or reliability standards are used. Sample sizes are generally inadequate. Commercial and high-value properties are usually under-represented. No stratification is employed with the overall assessment level is computed from a combined pool of sales, usually dominated by residential and perhaps vacant land sales. Further, the DRA uses inconsistent measures of central tendency among towns and often uses last year's ratio or adopts some other ratio without explanation. There are no effective procedures for monitoring or ensuring the equal treatment of sold and unsold properties. No gauge of accuracy is provided for reported results.

4.3.2 Weak Support to Local Assessors

New Hampshire's statutory directives concerning effective assistance to and supervision are comparatively weak, and the DRA has shown little initiative. In fairness to the DRA, it has not had sufficient resources to provide strong support to local assessors to keep assessments in line with current market values. Its initiatives have been misguided or half-hearted. Its regulation of revaluations is superficial. Its statutorily mandated manuals are an embarrassment. There is no evidence that its educational initiatives have been much better. The CAMA system it supports needs to have better market analysis tools. Its contract revaluation program has been too limited in scope to rectify the pervasive pattern of infrequent revaluations. At the same time, it has diverted resources from programs that would have broader benefits and has raised doubts about the objectivity of its ratio studies.

In short, New Hampshire needs to set its house in order before the statewide property tax can be implemented with reasonable proportionality. Assessments must be brought up the date and maintained near market levels. The DRA must overhaul its ratio study and provide meaningful guidance and assistance to local assessors.

Appendix Assessment Practices Survey

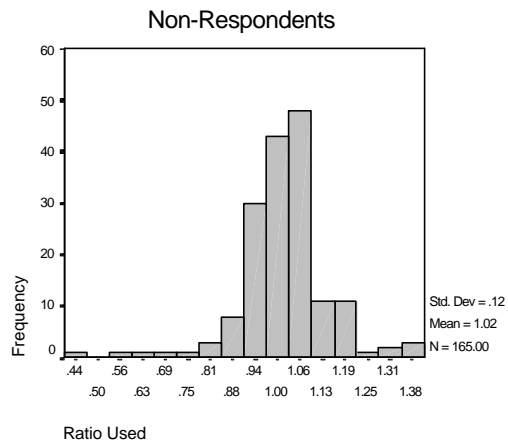
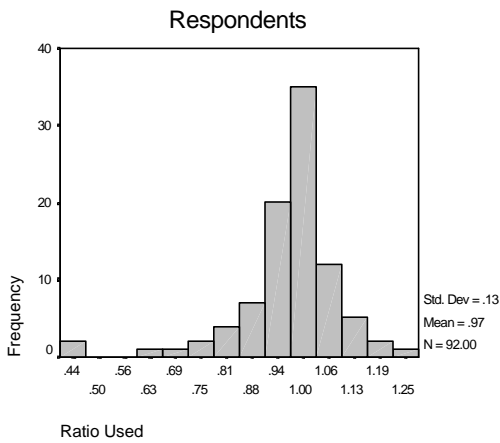
Respondents

An assessment practices survey (see below) was sent to all populated New Hampshire municipalities. Responses were received from ninety-two municipalities. This appendix summarizes those responses. Based on a comparison of respondents to non-respondents for which ratio data and form MS-1 data were available from the DRA (257 municipalities), respondents were representative of all New Hampshire municipalities. Exhibits A-1 and A-2 reveal similar statistics on level of assessment, uniformity of assessments, number of sales, and gross assessed value (the latter two also being indicators of jurisdiction size).

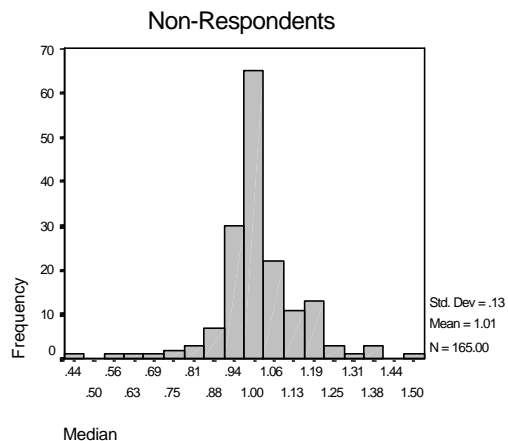
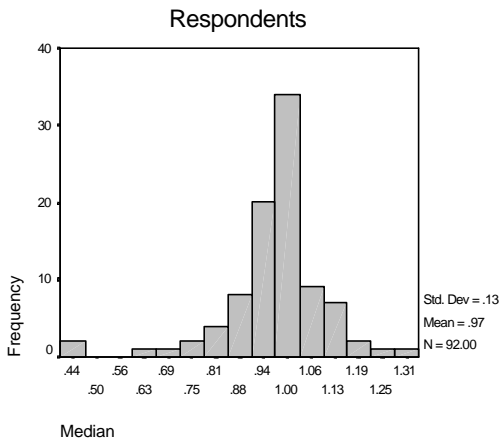
Exhibit A-1: Comparison of Respondents and Non-Respondents		
	Respondents	Non-Respondents
Number	92	165
Ratio used (percent)		
Minimum	42	41
Median	98	102
Maximum	124	136
Median ratio (percent)		
Minimum	42	41
Median	98	98
Maximum	130	148
COD		
Minimum	2.1	6.1
Median	14.3	16.6
Maximum	61.7	37.1
Number of sales		
Minimum	6	2
Median	134	60
Maximum	931	2,317
Gross assessed value		
Minimum	8,325,901	505,600
Median	174,757,599	111,830,400
Maximum	3,223,822,875	4,068,318,016

Exhibit A-2:

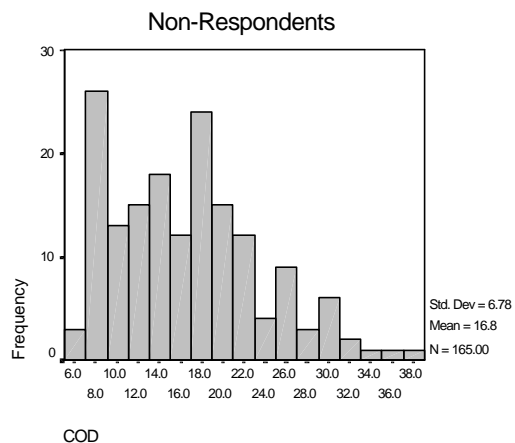
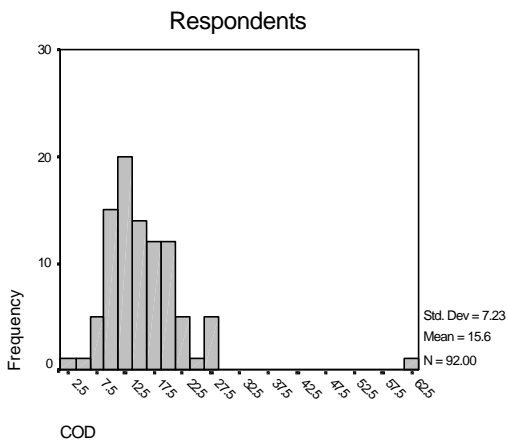
Ratio used

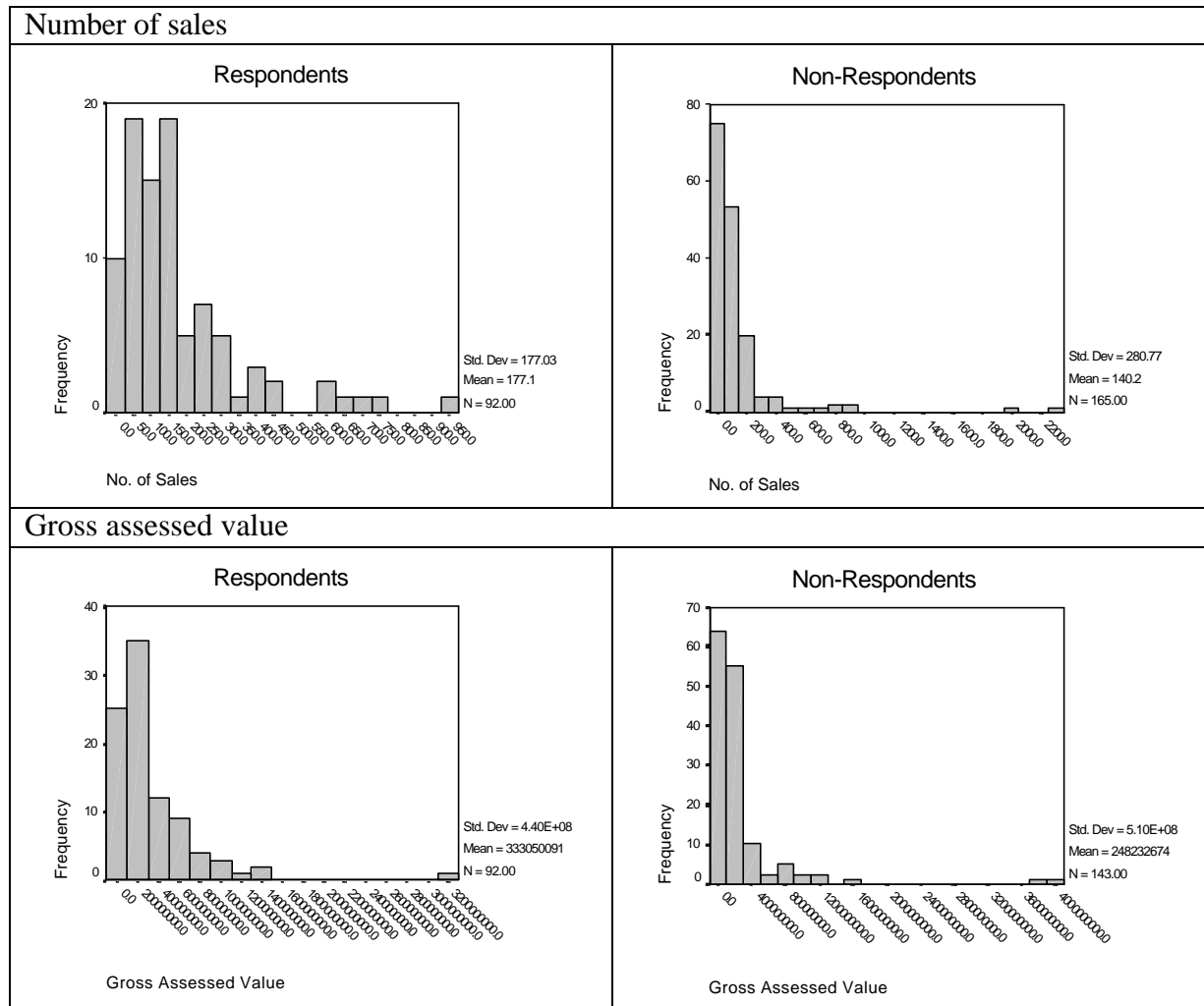


Median ratio



COD

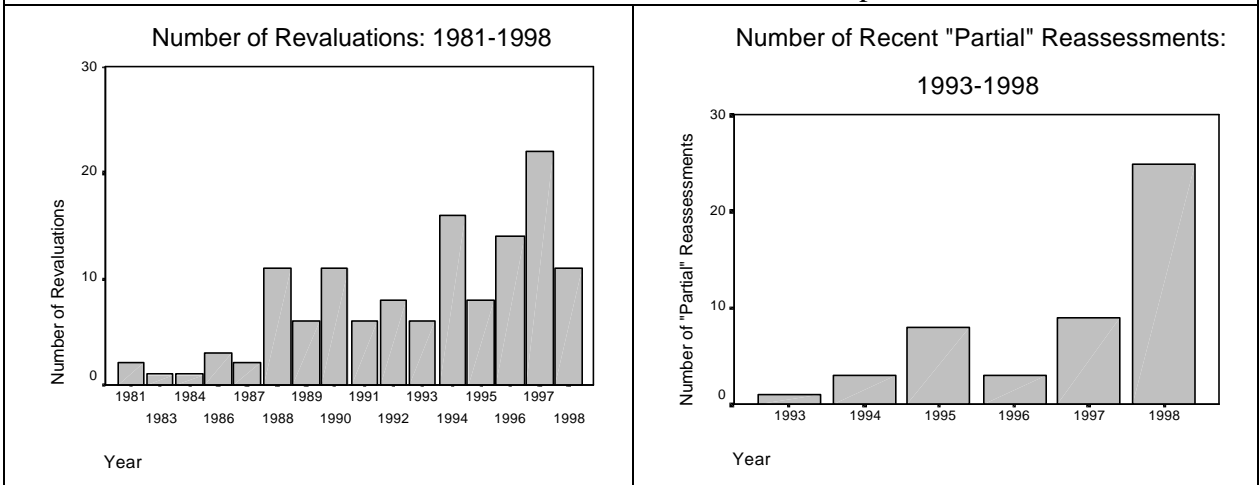




Reassessments

Exhibit A-3 combines information about reassessment from the DRA and our assessment practices survey. It reveals that many New Hampshire municipalities ignore the constitutional five-year reassessment mandate. Only seventy-seven (30 percent) had a full revaluation between 1993 and 1998. Even after adding “partial” reassessments, less than half of municipalities (126) undertook any reassessment activity. Further analysis of the data revealed that seventy-five municipalities were not known to have undertaken any reassessment activity since 1981.

Exhibit A-3: Reassessments in New Hampshire



Sixty-seven respondents supplied information on parcel counts and full revaluation costs. Exhibit A-4 displays this information. As can be seen, revaluations typically cost about \$40 per parcel (which also is typical of other states). However, there has been a slight upward trend in revaluation costs.

Exhibit A-4: Revaluation Costs Per-Parcel

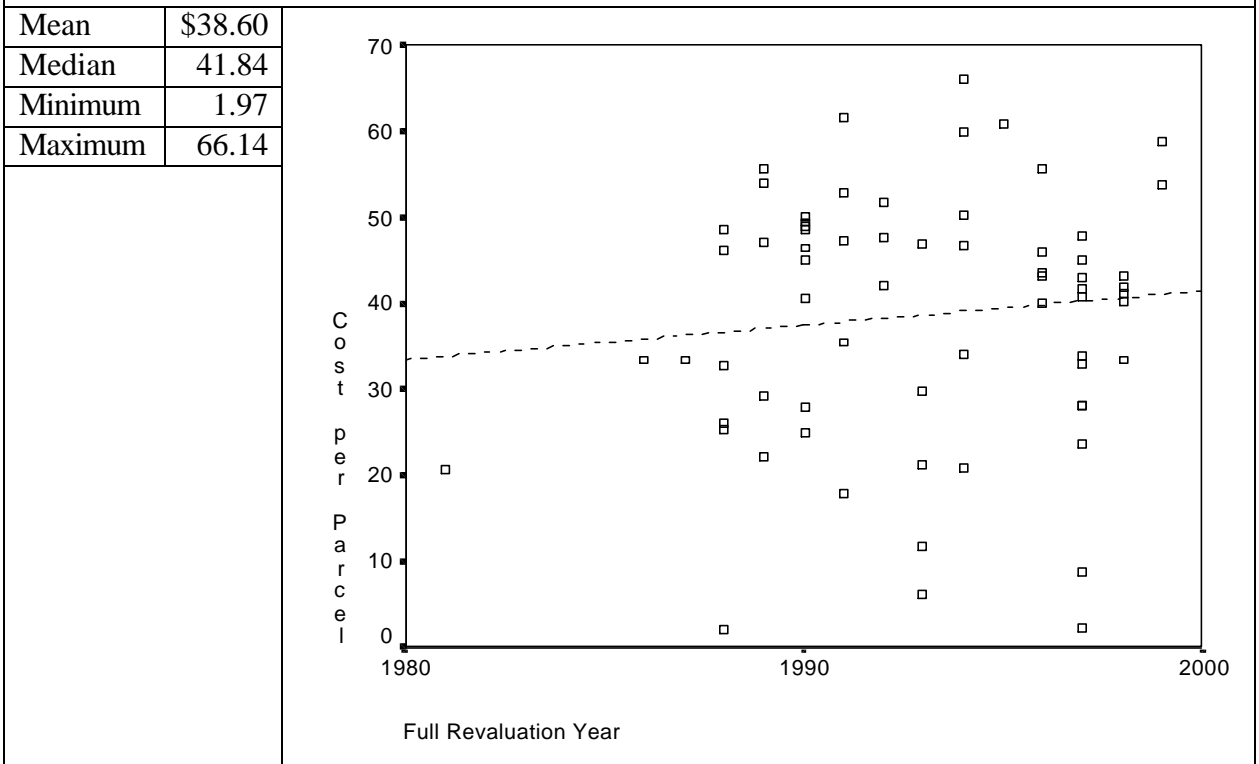
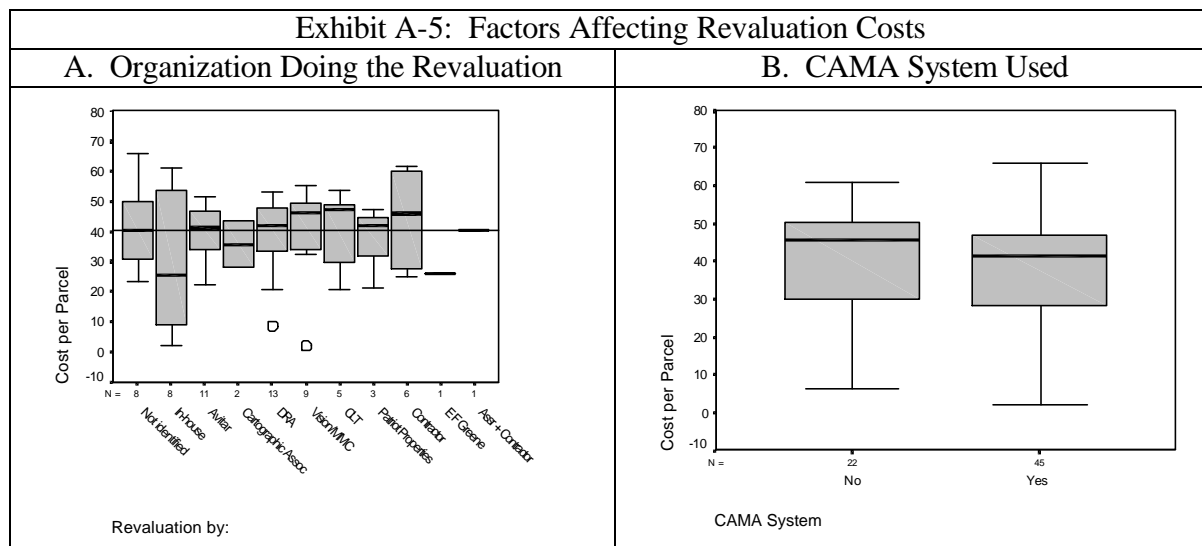


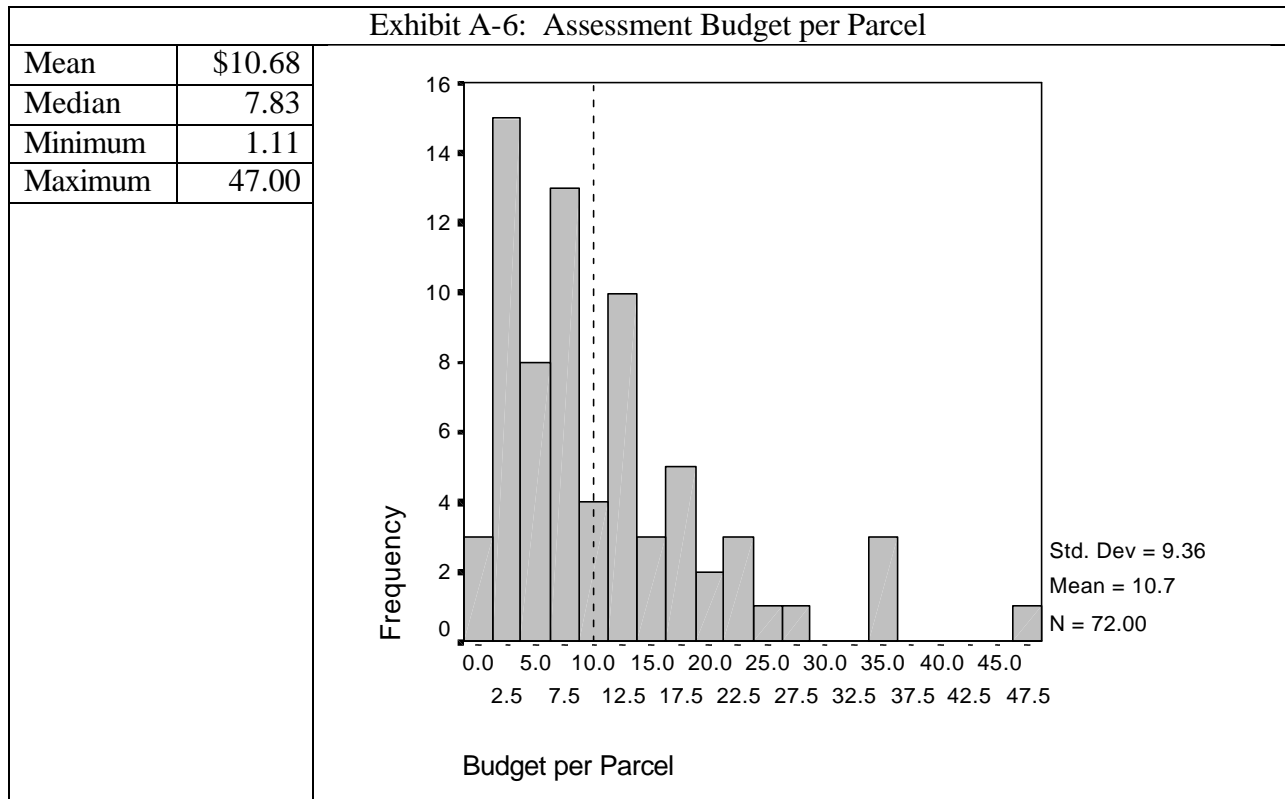
Exhibit A-5 displays “box plots” of factors that can affect revaluation costs. Each “box” represents a category of data, such as “in-house” revaluations or “municipalities with a CAMA system.” In each box, the dark horizontal line indicates the median cost per parcel. The tops and bottoms of the boxes represent the 75th and 25th percentiles, respectively (half the observations fall in this range). The lines extending above and below the boxes (“whiskers”) show the range of costs per parcel not considered outliers or extremes, which are depicted by circles.



Panel A reveals considerable similarity in costs by various revaluation contractors, including the DRA, which is the largest provider of revaluation services in the sample. As might be expected, in-house revaluations tend to be less expensive. Interestingly, panel B suggests that a revaluation involving a CAMA system is no more expensive than one without.

Funding and Staffing

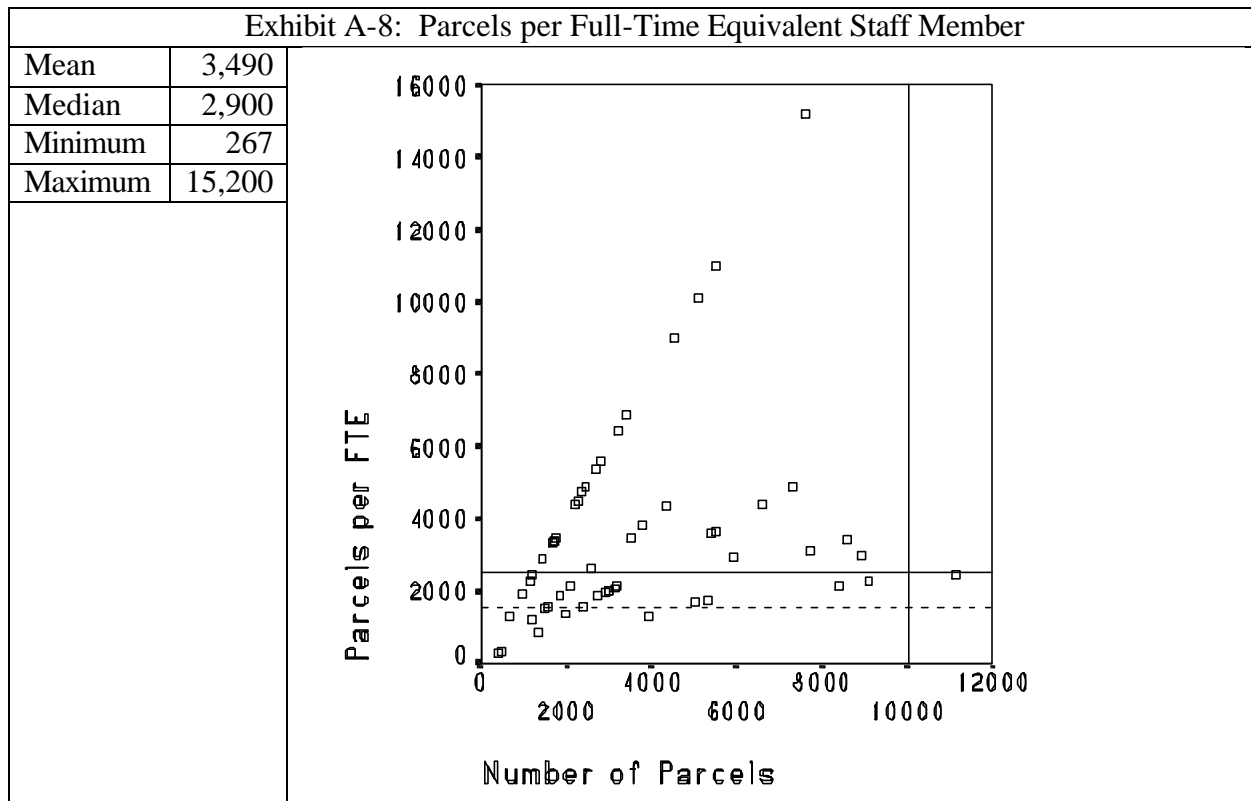
Seventy-two of the respondents provided information on parcel counts and budgets. Exhibit A-6 presents information on budgets per parcel. The vertical reference line in the chart indicates the minimum amount considered necessary to maintain assessment records and perform other routine operations. Thirty-nine (54 percent) had funding below this level. Only nineteen (26 percent) had budgets of at least \$15 per parcel, which is considered the minimum necessary to support an annual reassessment program.



A commonly used benchmark for the adequacy of staffing in an assessor’s office is parcels per employee. Typically, jurisdictions with fewer than 10,000 parcels have about one full-time equivalent (FTE) employee for every 1,000 to 1,500 parcels. The ratio increases to one for every 2,500 parcels for jurisdictions with 10,000 to 20,000 parcels. Over 20,000, the average rises to 1:3,000 to 1:3,500. We were interested in how New Hampshire assessor’s offices compared to these benchmarks. Fifty-seven (62 percent) of respondents reported having at least one full-time or part-time position in the assessor’s office. Assuming that a part-time position is the equivalent of 0.5 FTE, exhibit A-7 presents the distribution of FTE sizes. Exhibit A-8 presents statistics on staffing ratios and a scatterplot of the resulting ratios. The points in the scatterplot are in rays because, with small staffs, FTEs begin at 0.5 and increase in 0.5 increments to a maximum of 4.5 as shown in exhibit A-7, with 0.5, 1.0, and 1.5 being most common. The upper (steepest sloped) ray represents municipalities with 0.5 FTEs. The chart shows that many municipalities with small staffs have extreme workloads.

All but one of the responding municipalities fall in the “small” category (that is, they fall to the left of the vertical line in the plot). As can be seen, only eight of the small jurisdictions seem to be adequately staffed. Clearly, low expenditures for assessment administration in New Hampshire translate into inadequate staffing.

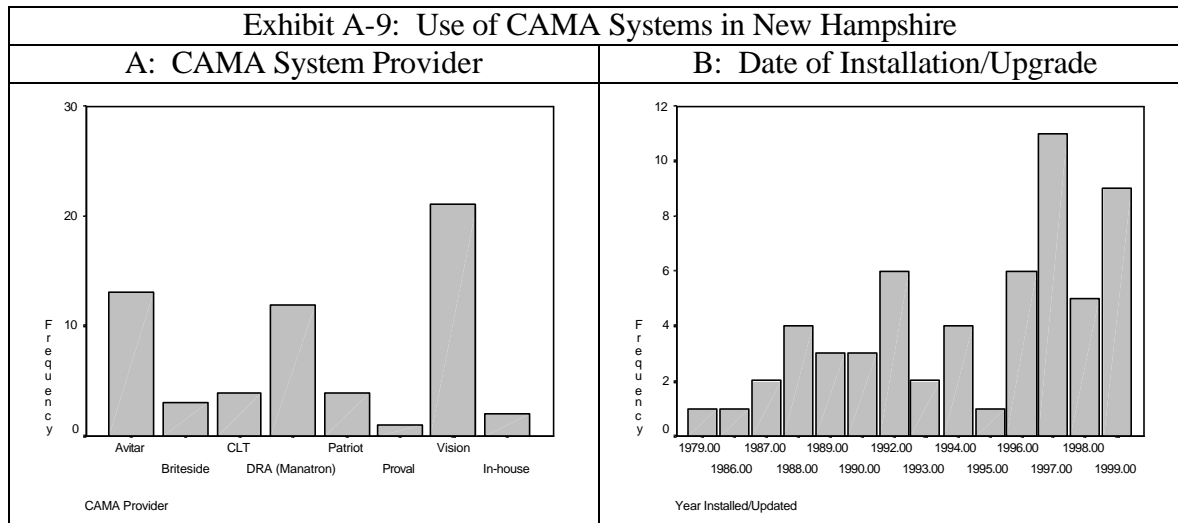
Exhibit A-7: Distribution of Number of Full-Time Equivalent Positions	
FTE Size	Number of Municipalities
0.5	21
1.0	11
1.5	15
2.0	1
2.5	2
3.0	3
3.5	0
4.0	2
4.5	1
Total	57



Computer-Assisted Mass Appraisal Systems

Sixty-one of the survey respondents (66 percent) reported use of a CAMA system, and sixty identified the system provider (see exhibit A-9). Fifty-eight gave the date of installation or of the latest upgrade.

Exhibit A-9: Use of CAMA Systems in New Hampshire



As would be expected, in thirty-nine instances, the CAMA system was installed in conjunction with a revaluation, and the revaluation contractor usually is the CAMA system provider.

It is noteworthy that municipalities that have CAMA systems are more likely to have the systems and procedures in place necessary for market value assessment. For example, forty (66 percent) of municipalities with CAMA systems emphasize the sales comparison approach in valuing residential properties, whereas only 39 percent of those without CAMA systems emphasize the approach. Similarly, 51 percent of municipalities with CAMA systems make ratio studies, while only 35 percent of those without them do. In still another example, 82 percent of municipalities with CAMA systems have a sales file versus 61 percent of those without a CAMA system.

Property Inventory Maintenance

We inquired about practices designed to ensure that property records were complete and up-to-date. Nineteen of responding towns (21 percent) report that the assessor’s office does not maintain a set of cadastral maps. Such maps (also called tax or assessment maps) are the foundation of an effective property inventory.

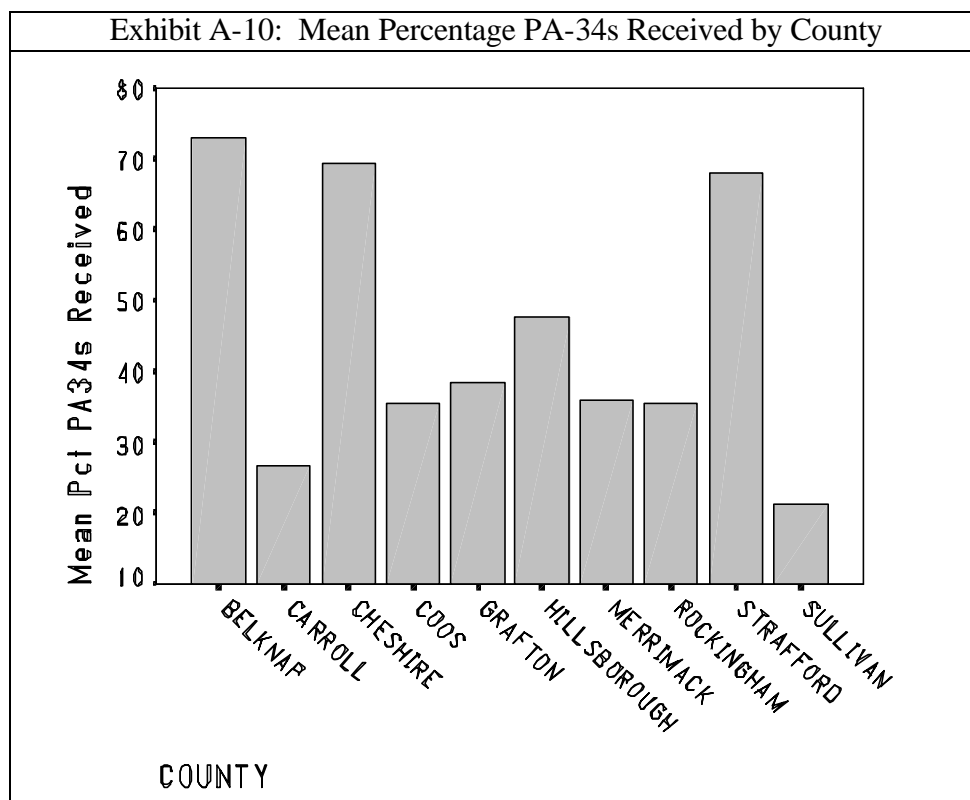
A carryover from 18th century property tax systems is the provision in RSA 74:4 for “taxpayer inventory blanks,” which are returns that the taxpayer is supposed to obtain, complete by providing a description of her or his property, and return to the assessor each year by 15 April, unless the municipality has opted out under RSA 74:4-a. Except when property ownership and use are tightly regulated and when the property tax system is very simple, international experience with such returns has shown them to be unreliable as a source for consistent and accurate property descriptions. Nevertheless, thirty-one (34 percent) of responding municipalities still rely on inventory blanks. Fortunately, assessors in 90 percent of these municipalities verify the returned blanks. Eighty-three (90 percent) of respondents reported inspecting properties with outstanding building permits (including twenty-six of the municipalities still relying on inventory blanks).

Amazingly, four responding towns (4 percent) neither verify returned inventory blanks nor inspect permits.

Only ten (11 percent) of responding municipalities have a program of routinely inspecting all properties to ensure that property records are correct. Only twenty (22 percent) of responding municipalities routinely inspect sales to ensure that their descriptions of those properties are correct. The failure to inspect recently sold properties contributes to the unreliability of the DRA's equalization studies and could adversely affect any direct market models developed by the municipality.

Market Data Collection

1999 was the first year assessors were to receive copies of real estate transfer questionnaires (PA-34s), and all but three responding municipalities reported receiving them. However, several respondents noted that they were of negligible value, chiefly because many were incomplete. We also asked for what percentage of all sales were PA-34s received. Sixty-one (66 percent) of responding municipalities provided an estimate of the percent of PA-34s received. Typically about 70 percent are received. However, the percentage received ranged greatly. We theorized that this might be a function of conveyancing practices, which might vary by county. Exhibit A-10, a bar chart of the mean percentages received by county seems to bear this out. Compare the typical percentage received in Carroll and Sullivan Counties with the percentages received in Belknap, Cheshire, and Stratford Counties.



Sixty-nine (75 percent) of the responding municipalities reported that they maintained a sales file. However, only eleven (12 percent) collected income and expense data regularly. Only thirty-three (36 percent) used a nationally recognized cost service.

Use of the Three Approaches to Value

We inquired about which of the three approaches to value were relied upon in the valuation of residential, apartment, commercial, and industrial property. Although some respondents did not reveal which approaches to value were relied upon, we outlined the pattern of responses in section 2.2.7 of our report.

ASSESSMENT PRACTICES SURVEY

9 August 1999

Municipality:		
Respondent:		How long have you been with the municipality? Since 19____
Address:		Position:
		____ Assessor. ____ Selectman. ____ Contractor ____ Other.
City	ZIP Code:	
Telephone:		E-mail address if available:

Question	1999	1998	1997	1996	1995	1990-94 (specify)	Earlier (specify)
<i>FULL REVALUATIONS</i> (Each assessable property inspected, measured and re-listed as necessary, and individually revalued)							
1 Please indicate the years in which a full revaluation was completed (check or specify year).							
2 Cost of revaluation (dollars)							
3 Contractor (if in-house, put Δ assessor@)							
<i>PARTIAL REVALUATIONS</i> (Revaluations of part of a municipality or type of property, but not including Δ annual maintenance@ work Δ see below)							
4 Please indicate the years in which a partial revaluation was completed (check year)							
5 Approximate percentage of properties revalued							
6 Cost of partial revaluation							
7 Contractor (if in-house, put Δ assessor@)							

Question	1999	1998	1997	1996	1995	1990-94 (specify)	Earlier (specify)
UPDATES (TRENDING)							
8 Please indicate the years in which values were updated by applying a trend factor (check year)							
9 Approximate percentage of appraisals adjusted							
ANNUAL MAINTENANCE							
10 Does the municipality use the Resident Inventory Blank? ___Yes. ___No.							
11 If yes, does the assessing official verify these? ___Yes. ___No.							
12 If no, when did the municipality vote not to use them? Year:							
13 Are properties with building permits inspected? ___Yes. ___No.							
14 Are properties that have been sold inspected? ___Yes. ___No.							
15 Is there a program of inspecting a portion of the properties in the municipality on a cyclical basis? ___Yes. ___No.							
16 Who performs annual maintenance work (put <i>A</i> assessor, <i>A</i> contractor, <i>A</i> or <i>A</i> both <i>A</i> as applicable)?							
BACKGROUND INFORMATION ON ASSESSMENTS AND ASSESSMENT PRACTICES							
17 Total number of parcels							
18 Total budget for assessor=s office							
19 Total number of full-time positions in assessor=s office							
20 Total number of part-time positions in assessor=s office							
21 Does the assessor=s office use a computer-assisted mass appraisal (CAMA) system? ___Yes. ___No.							

Question	1999	1998	1997	1996	1995	1990-94 (specify)	Earlier (specify)
22 If yes, name the vendor that supplied the system (if in-house system, put in-house):							
23 If yes, when was the system installed? Year:							
24 Does the assessor=s office maintain a set of cadastral (property boundary) maps? ___Yes. ___No.							
25 Does your municipality receive copies of DRA form PA-34, Inventory of Property Transfer? ___Yes. ___No.							
26 If yes, for approximately what percentage of all sales are questionnaires received? Percent::							
27 Does the assessor=s office maintain a sales file (a file that contains property characteristics as of the date of sale, the sale price, and codes indicating the usefulness of the sale as an indicator of market value)? ___Yes. ___No.							
28 If yes, when was it created? Year:							
29 If yes, is it computerized? ___Yes. ___No.							
30 If available, approximately how many sales usable for <u>appraisal</u> purposes occur in your municipality each year?							
31 Does the assessor=s office make its own sales ratio studies? ___Yes. ___No.							
32 If yes, please indicate how the results are used (check as many as applicable): ___To determine the need for a reassessment. ___To update (trend) assessments. ___To provide general background information. ___Other (describe):							
33 In your opinion, by what percentage have sales prices for single-family properties in your municipality changed over the three-year period April 1996 to April 1999? Percentage:							
34 Does the assessor=s office regularly collect rental property income and expense (i&e) data? ___Yes. ___No.							
35 If yes, about how many i&e records are currently in the file? Number:							
36 Does the assessor=s office make use of a nationally recognized building and construction cost reporting service? ___Yes. ___No.							
37 If yes, do you use its cost index to update building values? ___Yes. ___No.							

38 Please indicate the primary approach to value used in the appraisal of the following types of property in your municipality (check one approach for .				
	<u>Sales Comparison</u>	<u>Income Capitalization</u>	<u>Cost</u>	
Residential:				
Apartments:				
Commercial:				
Industrial:				
39 If a CAMA system is used in your municipality, is multiple regression analysis (MRA), feedback, or a similar procedure used? ___Yes. ___No.				
40 Please indicate the primary source of utility valuations in your municipality: ___DRA valuation. ___Contractor (if checked, specify who: _____). ___Other (if checked, specify source: _____).				
41 When were utility values last updated? Year:				