

VERMONT DEPARTMENT OF TAXES

FINAL REPORT PURSUANT TO ACT 68 OF 2023: STATEWIDE REAPPRAISALS AND PROPERTY DATA

Submitted December 16, 2024

**Submitted by
Office of the Commissioner
and Division of Property Valuation and Review
Vermont Department of Taxes**

**Submitted to
House Committee on Government Operations and Military Affairs
House Committee on Ways and Means
Senate Committee on Finance
Senate Committee on Government Operations**

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Introduction

Background

This report is a legislatively mandated response to recent developments and long-standing structural challenges within Vermont's property valuation system. The structural challenges within the Vermont property valuation system are not new. They have, however, been exacerbated over the last several years. There is a lack of available firms to conduct reappraisal work in Vermont to keep the grand list accurate and equitable. Small Vermont municipalities face a special challenge in hiring reappraisal firms because the relatively small scope of work and the unpredictability of future contracts is not financially viable for many firms to take on. In addition to struggling to find reappraisal firms who will even bid on, let alone accept, contract work to conduct reappraisals, many Vermont municipalities struggle to find individuals to serve as listers and assessors for regular grand list maintenance.

The number of outstanding reappraisal orders reflects the acute challenge municipalities face. At the time of finalizing this report, 135 municipalities are actively under an order to reappraise their grand list. Additional reappraisal orders will be issued based on the upcoming results of the 2024 equalization study.¹ There are 60 towns (24%) that had their last reappraisal more than 15 years ago. The average last year of reappraisal in Vermont is 2016. Towns are currently booking reappraisals for calendar years 2026–2029. In the past 10 years, approximately 19 towns on average have completed reappraisals each year.

This context is important, because it demonstrates that a large portion of grand lists in Vermont need updating. Outdated grand lists cause inequity between taxpayers because their properties are valued and thus taxed inconsistently. “[I]nfrequent reappraisals create a system of de facto valuation freezes. Valuation freezes have been known to cause regressive values that impact lower value properties causing them to be overtaxed relative to higher valued properties.” (IAAO Report, p. 11).

Legislative Charge: Act 68 of 2023

Act 68 of 2023 made some immediate changes to the reappraisal system in Vermont. It created a six-year cycle for each town to reappraise beginning on January 1, 2025, unless a longer period is approved by the State. It repealed reappraisal orders based on the Common

¹ For more details on PVR annual reports and equalization studies, see the Department of Taxes website: <https://tax.vermont.gov/pvr-annual-report>; <https://tax.vermont.gov/forms-and-publications/reports>; <https://tax.vermont.gov/document/equalization-study-statistics-history>.

Level of Appraisal (CLA) but retained the Coefficient of Dispersion (COD)² as a reason for the State to order towns to reappraise. It also phased in training and certification requirements for listers and assessors.

Section 4 of Act 68 of 2023 required the Department of Taxes to submit a report to the legislative committees of jurisdiction on or before December 15, 2024, regarding two main issues: updating the reappraisal system to achieve a six-year reappraisal cycle and studying property tax data and classifications. The Act also required an initial progress report on the Department's work by the end of 2023, which included a preliminary schedule and groupings of towns to implement the six-year cycle.

Methodology

Act 68 of 2023 tasked the Department of Taxes with conducting a review of the current reappraisal system and recommending a system that would enable property reappraisal in Vermont every six years. To help fulfill these charges, the Department contracted with the International Association of Assessing Officers (IAAO), a nonprofit, educational organization and the primary publisher, educator, and leader of standards in the field of mass appraisal and assessment administration. IAAO conducted its research and surveys to provide a report with recommendations covering reappraisals, appeal structures, property data, capacity building, and considerations for equity and antibias measures. IAAO's report considered best practices within assessment offices across the United States, current practices in Vermont, and stakeholder opinions on improvements. See the IAAO Report in Appendix A for additional details.

The Department engaged with various stakeholders throughout the process of preparing this report. This included regular meetings with IAAO, the Vermont Center for Geographic Information (VCGI); question-and-answer sessions with reappraisal firms; a meeting with all Computer Assisted Mass Appraisal Systems (CAMA) vendors in Vermont and VCGI; a webinar with CAMA vendors, a webinar for stakeholders regarding the IAAO report, and regular question-and-answer sessions at bi-monthly Vermont Assessors and Listers Association (VALA) meetings.

Summary of recommendations

1. Multi-town assessment districts (ADs)
 - The Department recommends convening a working group composed of municipal, state, and other appraisal industry stakeholders to recommend

² The Coefficient of Dispersion (COD) is a measure of uniformity of appraisal within a town. The Common Level of Appraisal (CLA) is a measure of how accurately a town's grand list reflects fair market values. See, 32 V.S.A. § 5401(1) and (3).

composition of new assessment districts, using existing county or regional boundaries.

- The Department recommends assessment districts also conduct annual grand list maintenance tasks for municipality members as well as facilitate data collection and reappraisal activities.
- Full-time, paid AD staff who work across member towns.
 - AD staffing will replace current municipal elected listers and/or appraisers (some of whom will become AD employees).
 - Municipal shares contributed to fund the assessment district could be prorated according to relative parcel counts in each member municipality.
- PVR staff support for regional coordination and training.

2. Reappraisal contracting

- The stakeholder working group should consider and make recommendations on:
 - Structuring reappraisal contracting at the AD level
 - The role of the State in contracting and oversight
 - Standardized terms of all AD reappraisal contracts

3. Reforming the appeal structure

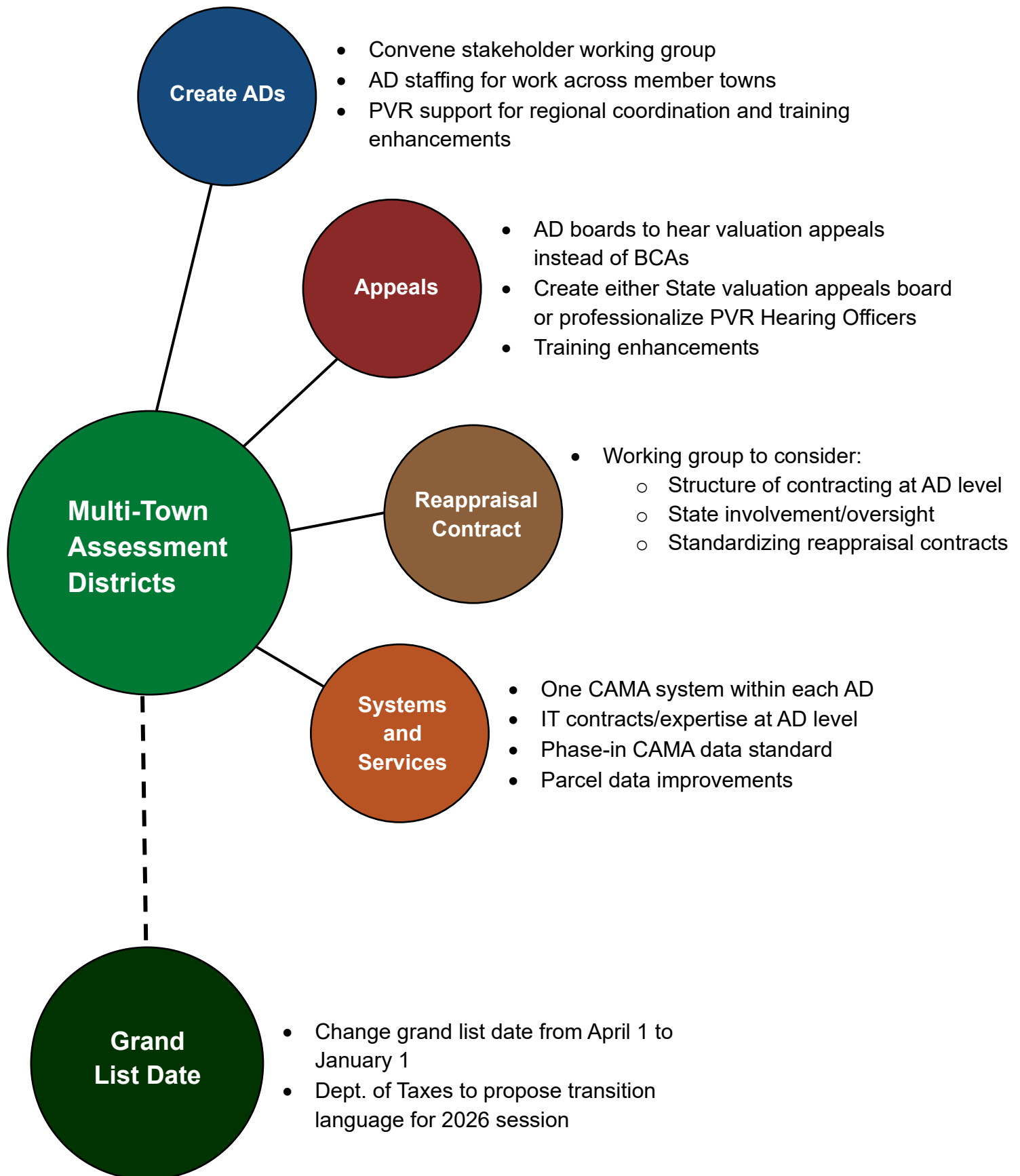
- Create assessment district boards to hear valuation appeals instead of boards of civil authority (BCAs).
- Create either a State valuation appeals board or professionalize PVR Hearing Officers to hear appeals from assessment district boards.
- Training enhancements for new board roles

4. Grand list assessment date

- Change date to January 1 from the current April 1
- Continue the legal review and research to consider transition issues and statutory interactions. Bring transition language back to the 2026 legislative session.

5. Information Technology and property data

- Support for VCGI recommendations on enhancing parcel data quality to facilitate fair, timely, and accurate property valuations and reappraisals.
- Phase in Computer Assisted Mass Appraisal (CAMA) data standard to enable data aggregation at the State level to support policymaking data
- Do not create any new property types on the grand list



Reappraisal System³

The grand list plays an extremely important role in Vermont's property tax structure. Currently, each municipality in Vermont is tasked with maintaining both their State education grand list and municipal grand list. Each municipality is individually responsible for soliciting reappraisal firms and contractors to conduct reappraisals. Reappraisals are the "mass appraisal of all property within an assessment jurisdiction accomplished within or at the beginning of a reappraisal cycle." (IAAO Report, p. 10). Given that Vermont uses a shared, statewide Education Fund, it is imperative for the stability of both State and local property tax revenues that each municipality maintains its grand list information in a uniform manner and keeps the grand list information up to date. The grand list in Vermont contains approximately 340,000 active parcels and is valued at around \$120 billion. The grand list raises over \$1.4 billion to fund education in Vermont and over \$600 million to fund municipal services.

The State currently provides municipalities with the following funding in acknowledgment of the work that municipalities perform to maintain the statewide education grand list:

- \$8.50 per grand list parcel to be used only for reappraisal and reappraisal-related costs and for maintenance of the grand list. 32 V.S.A. § 4041a(a)⁴. FY24 appropriation of \$2.875 million.
- \$1.00 per grand list parcel for assistance with the annual equalization study. 32 V.S.A. § 5405(f).⁵ FY24 appropriation of \$338,000.
- Towns are eligible to retain 0.225% of education tax revenue collected. 32 V.S.A. § 5402(c)(2).⁶ FY24 revenue retained valued at \$3.28 million.

When discussing the reappraisal system, it is imperative to also consider the grand list maintenance that must be performed annually to maintain consistency and equity in between reappraisal activities. Examples of annual maintenance work includes property transfers, subdivisions, valuing new construction or additions, providing valuations for the Current Use

³ The legislative charge given to the Department of Taxes in Act 68 of 2023, Sec. 4(b) is to conduct a review of the current reappraisal structure in Vermont and in other states, and to recommend a system that would enable reappraisal of property in Vermont every six years, starting on April 1, 2027. The proposed system is expected to incorporate the National Conference of State Legislatures (NCSL) principles of a high-quality tax system.

⁴ This fee was first enacted in Act 60 of 1997, Sec. 46. The fee became effective in 1998 at \$6.00 per parcel. It was amended several times over the next decade and has been set at \$8.50 since 2016. See, Act 134 of 2016, Sec. 6.

⁵ This fee was first enacted in Act 60 of 1997, Sec. 45 and the amount has never been amended since. The fee became effective in 1998.

⁶ This allowance was first enacted in Act 60 of 1997, Sec. 45. The allowance first became effective in 1998 at 0.5%. It was amended several times over the next decade and has been set at 0.225% since fiscal year 2009 (starting July 1, 2008). See, Act 65 of 2007, Sec. 289.

program as well as implementing homestead declarations. This work is necessary to maintaining both the municipal and the State education grand list.

Act 68 of 2023 created a six-year cycle for each town to reappraise beginning on January 1, 2025, unless a longer period is approved by the Director of Property Valuation and Review (PVR). Maintaining a six-year reappraisal cycle length is supported by the IAAO Report, its surveys of other states' practices, industry best practices, and its own Technical Standard on Property Tax Policy, Sec. 3.3.5. "Physical review, including on-site verification, is recommended every 4–6 years." (IAAO Report, p. 12). This report makes recommendations to change the Vermont reappraisal system in ways that would enable reappraisal every six years.

Recommendations

The Department's recommendations regarding the Vermont reappraisal system are based on findings from the Department's stakeholder engagement work and the IAAO Report. The IAAO Report was based on national best practices and international appraisal standards, current practices in Vermont, and stakeholder surveys. See the IAAO Report in Appendix A for additional details.

Findings: Size of municipality

Vermont's current assessment jurisdictions are based on municipalities. This results in Vermont's average assessment jurisdiction having the smallest average parcel count of any state reporting parcel counts and ranks Vermont as having the lowest average population per assessment jurisdiction in the country. (IAAO Report, p. 28). As identified in the IAAO Report, of the 25 other states that were surveyed, 84% assess property at either the county or state level and 76% assess at the county level. (IAAO Report, p. 21). Of the 12 states that supplied parcel counts, the median parcel count per assessment jurisdiction was 28,189. In comparison, Vermont's average assessment jurisdiction is 1,373 parcels. There are 153 jurisdictions in Vermont that have parcel counts of less than 1,000 parcels and 51 jurisdictions that have less than 500 parcels. Additionally, in stakeholder feedback, many reappraisal contractors in Vermont (and nationwide) alluded to the fact that it is not financially viable to assess small jurisdictions.

Findings: System complexity and equity

Vermont operates a highly complex education finance system, which is heavily reliant on municipalities and in many instances local volunteers, who work hard to do a difficult job with the resources available to them. The Department's recommendations impact this entire, interconnected property tax and valuation system. "Every part of an assessment system affects the whole assessment system, and so creating efficiencies will allow time and resources to be spent creating more efficiencies, and more equitable values." (IAAO Report, p. 51).

As system complexity continues to evolve, and due to Vermont's statewide, shared education property tax system, enhanced oversight, regular data maintenance, and data standardization will all help to bolster stability, transparency, and equity in the property tax system. These conditions would all be improved by creating larger assessing jurisdiction groupings. This recommendation aligns with the NCSL's principles of a high-quality tax system. See Appendix C for more details; see, also, the Addressing Inequity and Bias in Property Valuation section for a more detailed discussion of the Department's recommendations.

It was highlighted throughout stakeholder engagement and the IAAO Report that Vermont's appeal structure has room for improvement, especially with regard to inequities that may arise from the small and hyper-local boards that hear valuation appeals. Also noted was a lack of professionalized staff or training requirements for the individuals who make appeal decisions. Creating larger, multi-town assessment districts would enable larger and more diverse appeal boards and greater professionalization of appeal officers. These improvements would contribute to greater equity within the valuation appeals system. See the Valuation Appeals Structure section for a more detailed discussion of the Department's recommendations.

Recommendation 1a: Combine jurisdictions into assessment districts for both reappraisal and grand list work

Findings: Assessment districts and more frequent reappraisals would incentivize more reappraisal firms to work in Vermont

Creating fewer assessment districts with greater numbers of parcels would ideally incentivize regional and national reappraisal firms to consider working in Vermont. The IAAO Report states, "Jurisdiction size is also a consideration for contractors. While some contractors are happy to work in smaller jurisdictions others will only work in larger jurisdictions. One contractor stated that they do not bid on jurisdictions with parcel counts below 1,200. As of 2022, 160 of 251 or 64% of municipalities in Vermont had under 1,200 parcels. Interviews with some regional and national contractors indicated the most efficient jurisdiction size for Vermont would be between 10,000 to 20,000 parcels, or potentially to do statewide reappraisals." (IAAO Report, p. 21). The Department recommends that assessment district groupings be designed to have at least 10,000 parcels.

In addition to creating larger assessment districts, implementing the six-year reappraisal cycle established in Act 68 should also help attract reappraisal professionals to Vermont. The Department's stakeholder engagement and the IAAO Report both highlighted this effect. A six-year cycle will allow contractors to rely on consistent and predictable work, which in turn will enable them to hire employees and scale up their services. "A primary factor working against the assessment profession in Vermont is the lack of consistent assessment cycles. Interviews revealed it can be difficult to plan a career or life around a part-time position and inconsistent reappraisal cycles faced by most jurisdictions in the state. Contractors spoke of having to hire staff on a temporary basis for a job in a certain part of the state just to lay them off when the

job is done. Moving to a regular cycle and committing to following that cycle and providing the proper resources to ensure the success of regular reappraisal cycles, will encourage staff to call the assessment field their profession.” (IAAO Report, p. 48).

Findings: More parcels per assessment district improves reliability and equity of valuation

Increasing the number of parcels in each Vermont assessing jurisdiction by creating larger assessment districts will also increase the available sales data, which will in turn improve the reliability and equity of property valuation. “The more sales data, the more reliable the valuation estimate. A lack of reliable and current sales data becomes increasingly challenging in times of a slow sales market and in the case of unique properties, made even more difficult when a jurisdiction is as small as many are in Vermont.” (IAAO Report, p. 28). Additionally, “a lack of consistent reappraisal cycles creates a lack of consistency, and a reactive rather than proactive property assessment system.” (IAAO Report, p. 10).

The Department of Taxes recommends creating larger assessment districts with at least 10,000 parcels to conduct both annual grand list maintenance tasks as well as facilitate data collection and reappraisal activities. Across much of the country, assessment activities are managed at the county government level. Of the states that responded to IAAO’s survey, 76% indicated their assessment functions were handled at the county level. (IAAO Report, p. 21). The Department believes that a larger appraisal approach should also be implemented in Vermont.

The Department of Taxes recommends that each municipality within the assessment district retains their own individual grand list, equalization study sales review, CLA, tax rates, and education tax liabilities. However, the routine work currently performed by municipal assessment staff or elected listers would be performed by full-time assessment positions at the assessment district level. See Recommendation 1b below. All towns in the assessment district would be reappraised together as a group, ultimately creating efficiencies and savings that would achieve larger economies of scale across the State as a whole.

Implementation

In the preliminary progress report required by Act 68, the Department created Geographic Assessment Areas (GAAs) as one possible example of larger groupings.⁷ Following further research, including the conclusions of the IAAO report, the Department sees the value to forming the assessment districts based on existing regional governance structures like regional planning commission (RPC) areas or counties. Using an already established government structure would have the benefit of leveraging pre-existing shared or collaborative agreements

⁷ See, Department of Taxes, “Progress Report Regarding Statewide Reappraisals and Property Data, Pursuant to Act 68 of 2023” (December 15, 2023), Pub. RP-1327, available online: <https://tax.vermont.gov/sites/tax/files/documents/RP-1327.pdf>.

between member parties. This structural choice is supported by VCGI, in its “Recommendation 12: Make Proposed Assessment Districts Consistent and Compatible with Existing Administrative Boundaries”. See the VCGI report in Appendix B for more details. If a new structure was established such as a GAA, then member agreements, a collaborative structure, or both would need to be created from scratch.

Decisions about how larger regional assessment districts should be created would benefit from a collaborative committee process involving stakeholders as voting members. **For implementing a change of this magnitude, the Department of Taxes recommends that the General Assembly create a working group of the municipal and valuation stakeholders who will ultimately be tasked with carrying out the work.** This group of “boots on the ground” experts should be created to help inform and enable a smooth transition and to work through the details of how to best manage reappraisal contracting at the assessment district level, including the level of State and municipal involvement in contracting work. The Department of Taxes anticipates this work to significantly align with the Legislative Committee studying County and Regional Governance, created by Act 118 of 2024. See the following sections below for more detailed recommendations: Recommendation 6 (create working groups composed of critical stakeholders) and Recommended next steps: 2025 legislation.

Recommendation 1b: Assessment district professionals who work across AD member towns

Findings: Employment resources and career opportunities

Municipalities across the State are struggling to procure assessment services for their annual grand list maintenance. This can be attributed to several factors, including small municipality size and lack of assessment professionals in the State. In smaller communities, there is not enough annual work to justify hiring a full-time or even part-time employee, which makes it difficult to incentivize and find individuals willing to do the requisite assessment work. Therefore, these communities often either rely on voted listers that provide assessment services in an essentially volunteer capacity or contract a reappraisal firm to do their annual assessment work. The PVR District Advisors at the Department of Taxes currently offer excellent training and education opportunities for the local assessment community, but it can be difficult for individuals working in a voluntary capacity to attend those trainings.

Creating larger assessment districts will enable municipalities to share assessment employees, enabling the creation of full-time and part-time positions with benefits that could be a viable career path for individuals interested in the assessment profession.

The current population of Vermont listers and assessors would be an excellent pool of talent to utilize to fill these assessment district positions.

Findings: Data maintenance and reinspection

Conversations with IAAO and reappraisal contractors during the preparation of this report identified that the majority of the time and expense of reappraisal is generated by the need to perform property inspections, because data has not been kept up to date by municipalities since the last reappraisal. One of the goals of creating larger assessing jurisdiction groupings, would be enabling employment of full-time or part-time assessment professionals. These professionals would not only be able to navigate the annual assessment tasks of evaluations, property transfers, homestead declarations, etc., but would also keep local property data up to date for the next reappraisal. With the appropriate training and education, local assessment professionals could be tasked with doing property reinspection at a cadence of a sixth of local property each year, so that when it came time to do their reappraisal, the underlying grand list data would be up to date. This would in turn reduce the amount of work and expense of the reappraisal work. See discussions about reappraisal and reinspection timing recommendation in the IAAO Report, pp. 7-17. This could also be a significant piece of the puzzle for completing reappraisals in a more timely and standardized manner.

Implementation

Creating assessment districts of at least 10,000 parcels will achieve the goal of creating larger parcel counts for reappraisal as well as justify creating full-time assessment positions at the assessment district level. These positions may be modeled after the assessment structures that are successfully used by some of the larger towns and cities in Vermont with parcel sizes ranging from 5,000-10,000. These municipalities can employ a full-time assessor and often an assessment clerk or assistant assessor that assists with all the administrative tasks associated with grand list maintenance.

Assessment district positions would be funded at the assessment district level. Municipal shares contributed to fund the assessment district could be prorated according to relative parcel counts in each member municipality. The shared assessment professional(s) would work across each town and in each town's local system. Each town would be required to use the same CAMA program for ease of use and training for the shared employee(s) and to enable the group to reappraise together. For more discussion of AD CAMA transition, see the Information Technology and Property Data section of this report.

The number of employees required in each assessment district would vary based on the number of parcels. For example, a 10,000-parcel assessment district may have two or more municipal employees, and the cost of these employees would be shared across all towns in the district. The member towns would receive the benefits of having employees that are dedicated to managing their annual grand list maintenance, keeping assessment and mapping information up to date, and providing oversight of reappraisals conducted by firms. The two municipal employees could be an assessment district clerk that may handle administrative assessment tasks, such as homestead current use, exemptions, name change, property

transfers, etc., and a district assessor that manages valuations for property additions, renovations, follow up on permits, and generally keeping the valuation information up to date. This district assessor employee would also be tasked with performing sales validations for the equalization study. These assessment positions would also be available to assist with the reappraisal process. Assessment district-level administrative tasks would not include property tax billing and collection, which are handled by different municipal staff.

The Division of Property Valuation and Review (PVR) District Advisors would assist these assessment district employees, much in the same manner with which they currently assist the municipal lister and assessor community. District Advisors would continue to offer training, consultation, and oversight. The Department of Taxes would also continue to be a resource to train or support these individuals in attending valuation-specific training courses, such as those offered by organizations like IAAO.

In Act 68, the Legislature enacted a phased-in requirement for contracted assessors first, beginning on July 1, 2023, and elected listers second, beginning on January 1, 2026, to meet the assessor training requirements established by the Director of PVR. Elected listers who do not meet the training requirements at the time of their election are allowed one year from taking office to comply with the training requirements. Legislation will be necessary to adjust these statutory training requirements to adapt to the creation of assessment districts and different staffing configurations.

Regarding State support for the transition and ongoing coordination, the Department can help support the working group and can provide additional training and assistance to help onboard, train, and support the new regional assessment professionals. Once final details are known about the structure and composition of how assessment districts would function, there may be more conversations needed about staffing levels within PVR to support the reformed system. This may include one-time creation of new enhanced training materials, or ongoing needs to support the regional employees and reappraisal contracts in the assessment districts. Career development and other educational opportunities in the State Colleges should be considered for the property assessment profession.

Recommendation 2: Standardized contracting at the assessment district level

The Department of Taxes believes that the State should play a role in contracting for reappraisal services. Standardized core components of reappraisal contracts would allow State staff to more easily facilitate reappraisals and the related expectations. State involvement would help ensure that each assessment district has equal access to resources and that there is more consistency in the scope of work provided by reappraisal firms. In the current system, smaller towns have a very difficult time finding reappraisal contractors willing to work in their jurisdiction. Practically speaking, this means that several towns do not get any responses from contractors, and those few contractors who currently do serve Vermont

municipalities and do respond, are scheduling reappraisals out to Grand List 2029 due to the extremely high demand for their services.

Rather than hundreds of variations of contracts being executed in isolation, with differing expectations and costs, there could be shared expectations and some level of oversight over all reappraisal contracts with State involvement. This would help ensure that reappraisals are conducted consistently across different municipalities and meet IAAO standards as recommended in the IAAO Report, pp. 19, 23, 62, 64.

Implementation

The Department of Taxes recommends that the working group discussed in Recommendation 1a work toward an approach to structuring reappraisal contracting at the AD level.

A statewide effort of the magnitude recommended in this report should be informed by the parties directly doing the work. IAAO recommended that “A group of stakeholders should meet to develop a list of requirements that reappraisal contractors must meet to ensure compliance with state laws, IAAO Technical Standards, and industry best practices. Potential stakeholders could include listers, assessors, reappraisal contractors, and PVR staff.” (IAAO Report, p. 19).

Recommendation 3: Transition plan for reappraisal orders and contracting

Transition from the current municipal reappraisal system into a fully realized assessment district structure will take time to be successful. Currently, most Vermont municipalities are under a reappraisal order, and dozens already have upcoming reappraisal contracts through 2029. The existing reappraisal orders, based on prior CLA-required orders as well as current coefficient of dispersion (COD)-required orders, continue to be issued and remain in effect. There is still a statutory requirement for a municipality to reappraise if its education grand list has a COD greater than 20. 32 V.S.A. § 4041a(b). As of January 1, 2025, per Act 68 of 2023, Sec. 2, municipalities “shall commence a full reappraisal not later than six years after the commencement of the municipalities’ most recent full reappraisal unless a longer period of time is approved by the Director.” 32 V.S.A. § 4041a(d).

Therefore, Vermont’s reappraisal system is currently operating under a hybrid model, where towns can reappraise either voluntarily, under order, or in anticipation of the six-year cycle. Towns can also do so independently of any other town. If the assessment district model is anticipated to be effective for 2030, then a transition plan must be established to address reappraisal orders and contracting. The Department will continue to maintain its annual publication of the six-year schedule, informed by the ongoing and most recently completed reappraisals. The Department recommends that the General Assembly enact session law transition language to ensure that the current system of individual town reappraisals ceases, and the new system of assessment district-level reappraisals begins. To achieve this, the transition legislation should address at a minimum three issues:

1. No new reappraisal orders based on either the COD or the six-year cycle should be issued by PVR after [X] date. Given that it takes a few years to contract for and complete a reappraisal, this needs to take effect sooner than 2030. This may or may not include an end date to the suspension.
2. Any outstanding reappraisal orders for which there is no contract in place on or before 2030 should no longer have the force and effect of law.
3. No new municipal reappraisal contracts should be entered into after [X] date. The goal is for all – or most – contracted reappraisals to be completed by 2030. Given that it takes a few years to contract for and complete a reappraisal, this needs to take effect sooner than 2030.

The Department also recommends that considering and suggesting updates to any legislative transition language should be a task given to the working group creating new assessment districts, and that these suggested updates be included in the working group’s report back to the Legislature in 2026.

Recommendation 4: Change the grand list assessment date from April 1 to January 1

Currently, April 1 is central to the grand list process because the value of a property is based on its condition “as of” this date. For example, currently, a building under construction is only taxed based on whatever state the building is in on April 1, even if it improves significantly after that date.

Table 1: Grand List Calendar

Date	Small Towns	Large Towns
Assessment (“As Of”) Date	April 1	April 1
Homestead Declarations Filed	April 15	April 15
Latest Abstract can be Lodged	June 4	June 24
Grievances Must be Filed by	June 19	July 9
Grievances Hearings End	July 2	July 22
Result of Grievance Mailed	July 9	July 29
Latest Grand List can be Lodged	July 25	August 14
Appeals to BCA and BCA Hearings + Errors and Omissions	Through December 30	Through December 30

The idea of moving this date has surfaced perennially in discussions with the Vermont Association of Listers and Assessors (VALA) as well as in legislative testimony on Act 68 (H.480). Specific concerns are notably the tight timeline for the municipal grievance processes. However, since submission of the preliminary progress report required by Act 68, the Department's stakeholder engagement and the results of the IAAO survey have demonstrated significant stakeholder support for changing the date of property assessment. The Department of Taxes heard from reappraisal contractors that they would be able to perform more reappraisals annually both if larger assessment district groupings were created and if they had more time to complete the grievance process. The Department therefore recommends moving the annual date of property assessment from April 1 to January 1.

The full in-depth legal and statutory review necessary to ensure comprehensive and consistent legislative changes are made to achieve this recommendation was not able to be completed by the Department at the time of publishing this report. Modifications to the April 1 date will impact other areas of property tax administration and statutorily required processes, including the annual equalization study and the attestation of homestead ownership on the annual homestead declaration. If the General Assembly is interested in pursuing this change, the Department would welcome a discussion about how to continue and finalize the review to ensure the change is implemented successfully. See the section Recommended next steps: 2025 legislation for more details.

Recommended next steps: 2025 legislation

The Department recommends that the General Assembly establish a statewide stakeholder committee to determine the best approach for forming assessment districts and structuring reappraisal contracting. The working group should be required to complete their work and submit their recommendations to the General Assembly for the 2026 legislative session. A statewide effort of the magnitude recommended in this report should be informed by the parties directly doing the work. The Department recommends that a committee of municipal officials, reappraisal firms, CAMA vendors, and partner organizations, such as the Vermont League of Cities and Towns (VLCT) and the Vermont Assessors and Listers Association (VALA) be formed to jointly establish the specific construct for new assessment districts and reappraisal contracting.

Transition plan

In order to achieve a six-year reappraisal cycle and shift to an assessment-district-based reappraisal system, there needs to be an end date to the current municipal reappraisal system. Therefore, the Department recommends that the General Assembly enact transition language to phase-in the new assessment district system by 2030. The language should address at least the three issues:

1. Prohibiting any new reappraisal orders based on either the COD or the six-year after [X] date. Given that it takes a few years to contract for and complete a reappraisal, this needs to take effect sooner than 2030. This may or may not include an end date to the suspension.
2. Removing the legally binding effect of any outstanding reappraisal orders for which there is no contract in place on or before 2030.
3. Prohibiting any new municipal reappraisal contracts from being entered into after [X] date. The goal is for all – or most – contracted reappraisals to be completed by 2030. Given that it takes a few years to contract for and complete a reappraisal, this needs to take effect sooner than 2030.

Valuation Appeal Structure⁸

Issues and current law

In order to be successful in adhering to a six-year reappraisal cycle, Vermont's property valuation system needs to be updated to create new, more efficient assessment groupings or districts responsible for conducting reappraisals as well as for maintaining property grand lists. Under this recommended new structure, assessment districts will become the administrators of property valuation functions in Vermont instead of municipalities, so appeals will need to be made to assessment districts, not municipalities. For recommendations on grouping municipalities into assessment districts, see the Reappraisal section of this report.

Vermont's valuation appeals system would benefit greatly from the efficiencies, economies of scale, and equity gained by grouping more parcels and larger populations into each assessment district. These districts should hear valuation appeals in Vermont instead of municipalities, which on average have the smallest average parcel count of any state in the country. No other state groups assessment appeals from so few parcels and from such small population groups. Increasing the size of Vermont assessment districts will increase the available sales data, which will in turn improve the reliability of property valuation and lead to more equitable outcomes for appeals. See, IAAO Report, p. 28.

Small assessment jurisdictions like Vermont municipalities can be averse to the costs of litigating valuation appeals. This leads to more settlements, which can result in grand list values that are lower than fair market value. Creating larger assessment jurisdictions with more resources will help insulate the grand list from disadvantageous settlements.

"Many valuation cases are settled in smaller jurisdictions because the cost to litigate these cases is more than the jurisdiction can afford. Settling cases based on litigation costs is an unfortunate circumstance that causes inequity in the assessment and resulting property taxes. Larger jurisdictions are less susceptible to these types of situations." (IAAO Report, p. 21).

Current Vermont law vests most property valuation administrative functions, including valuation appeals, with municipalities. Appeals from property valuation decisions therefore start with municipal assessing officials. First, a taxpayer may contest an appraisal with the town board of listers (or assessors) within 14 days after notice of appraisal.⁹ On or before May 20 each year,

⁸The legislative charge given to the Department of Taxes in Act 68 of 2023, Sec. 4(b)(3)(C) is to propose the creation of a reappraisal appeal structure that (i) ensures impartiality and installs procedural safeguards against conflicts of interest; (ii) ensures all communities have convenient and reasonable access to State appeal hearings, regardless of appellant's geographical location; (iii) incorporates the strengths and advantages of other State administrative appeal structures; and (iv) takes into consideration any other matters relating to appeals, including a recommendation on narrowing or eliminating the role of Boards of Civil Authority within the appraisal appeal process.

⁹ 32 V.S.A. § 4403

listers must give notice and meet at a place where taxpayers can come to grieve their appraisals.¹⁰ Second, within 14 days after notice of a decision by listers, any person aggrieved by the listers' decision can appeal to the municipal board of civil authority by filing in writing with the town clerk.¹¹

Third, within 30 days of the date the decision is mailed by the board of civil authority, both the property owner and the town selectboard have the right to appeal a board of civil authority's decision¹². The appellant may choose whether to file the appeal with either the Director of Property Valuation and Review (PVR) at the Department of Taxes and be heard by a hearing officer, or the Superior Court of the county where the property is located. *Id.* If the appellant chooses to appeal to the Director of PVR, then the Director may nonetheless determine that the appeal involves a complex or unique property or valuation that would be best adjudicated by the Superior Court, and so the Director may decline to assign a hearing officer, and instead forward the appeal to the Superior Court.¹³

Whether a valuation appeal from a board of civil authority decision is heard and decided by a PVR hearing officer or the Superior Court, the fourth and final level of appeal is to the Supreme Court of Vermont.

Recommendations

Recommendation 1: Create valuation appeal boards for each assessment district

The Department recommends restructuring and streamlining the property valuation appeals process. Once the parameters for assessment districts have been defined (see the Reappraisal section of this report for detailed recommendations), a new board of appeals should be created at the assessment district level. This would provide a valuation board for each assessment district. The board's membership and funding could be provided in whole or in part by each town in the assessment district. Each town's funding contribution could be based on a factor like parcel counts or population, since some towns will inevitably generate more appeals than others.

Implementing this recommendation will require legislative action to create new assessment district appeal boards. Vermont law had a valuation appeal board on the books prior to 2018, but it had different functions and was part of a fundamentally different system than what the Department recommends here.¹⁴ Nevertheless, prior statutory language could be a model, with modifications, for drafting legislation to create new assessment district appeal boards.

¹⁰ 32 V.S.A. § 4221

¹¹ 32 V.S.A. §§ 4404 and 4407; see also 24 V.S.A. § 801

¹² 32 V.S.A. § 4461

¹³ 32 V.S.A. § 4461(a).

¹⁴ See, 32 V.S.A. § 5407, enacted by 1997 Act 60 § 45, amended by 1999 Act 49 § 5, and repealed by 2018 (Sp. Sess.) Act 2 § 4

Additionally, other, non-tax-related appellate structures in Vermont and other states' tax appellate bodies could be used as models for new assessment district appeal boards.

The Department researched several existing statewide and regional appeal structures in Vermont, including at the Vermont Agency of Human Services, the District Environmental Commissions that hear Act 250 appeals, the Vermont Department of Labor, and the Vermont Agency of Transportation. Of those researched, all provide at least three levels of appeal culminating in a final appeal to the Supreme Court of Vermont. All appeals to a factfinder such as an administrative law judge or a board or specialized division of the Superior Court are heard de novo, which means anew. In other words, all facts are open to review and the judge or board can accept new testimony. Taking the example of the District Environmental Commissions, each of the nine commissions is composed of a chair, two members, and four alternates. See, Appendix D for more detail about these existing statewide or regional appeal structures in Vermont. The Department recommends creating a similar structure to these other appellate boards in Vermont, like the District Environmental Commissions for Act 250 appeals, and providing de novo review authority to the assessment district valuation boards.

The Department researched several other New England states' property valuation appeals structures, including Maine, Massachusetts, New Hampshire, and Rhode Island. Generally, most New England states, including Vermont, allow a first level of appeal at the municipal level. In Maine, Massachusetts, and New Hampshire, there is also an appellate board at either the county or state level – or both – that hears appeals from local property valuation decisions. The number of board members in each state varies from three in New Hampshire and five in Massachusetts, to 15 members in Maine. Board members are generally statutorily required to have certain qualifications, including expertise in taxation or of real estate valuation and appraisal. In Maine, membership is equally divided among attorneys, real estate brokers or appraisers, engineers, assessors who are certified by the State Tax Assessor to perform assessing functions. Members are all paid, however, the rate of compensation in each state varies significantly depending on the board's duties. For example, Massachusetts and New Hampshire have full-time boards and pay members annual compensation and expenses, whereas Maine pays its board members \$75 per day of hearings and does not compensate for time spent preparing for a case. Massachusetts has the highest paying positions, but its state-level Appellate Tax Board also hears appeals on many different tax types, not just property valuation. See, Appendix D for more detail about other New England states' property valuation appeal structures.

Recommendation 2: Maintain local grievance process for the first level of appeal

The Department recommends maintaining an informal, local grievance process for the first level of appeal. The first appeal would be to the assessing official and the reappraisal firm, as applicable. Under current law, this is called the lister grievance, which provides a more informal

venue than a board or court hearing for property owners to contest property values.¹⁵ This level of appeal is important to resolve minor and uncomplicated valuation issues, especially issues that are primarily factual. Many property owners find this process less intimidating and more accessible than a formal appeal, especially when owners are not represented by an attorney. Implementing this recommendation will only require legislative action to remove references to listers and replace with assessing officials, since the assessment district will be setting and defending property values. It may also be helpful to clarify that grievances are required to be held in the town where the property under appeal is located.

Recommendation 3: Remove municipal boards of civil authority from the valuation appeals process and instead require appeals from local grievances to be filed with the assessment district board

The Department recommends having appeals from local grievance decisions be made to a valuation appeals board for each assessment district instead of to municipal boards of civil authority (BCA). The BCA should be removed from the property valuation appeals process. Sending appeals to the multi-town assessment district board would pool towns' resources, which is a critical change for an industry experiencing a shortage of experts, many of whom are reaching retirement age. This would allow for qualified and trained individuals to arbitrate these grievances, unlike the current system, where local officials are not required to take any training before conducting hearings or making decisions. Centralizing resources would achieve far greater economies of scale than the current system that relies on each individual town to administer valuations primarily through part-time employees and volunteers. For the economies of scale to be achieved by creating assessment districts, the only logical authority to hear property valuation appeals is the assessment district. Furthermore, the authority setting values must be the authority to hear appeals. Implementing this recommendation will require legislative action to amend or repeal 32 V.S.A. Chapter 131, Subchapter 1 and §§ 4224, 4341, 4461, 4464 and 5403.

Sending appeals to an assessment district board could help address concerns about equity raised during legislative deliberations in 2023. PVR fields dozens of complaints annually about conduct, decisions, neglect, or incompetence by local officials as property owners navigate the valuation appeals process. To address some of these concerns, appeals could be heard and decided on by board members from both the town where the property under appeal is located, and the other towns in the assessment district. Having board members from a larger geographic region serving multiple municipalities could provide greater impartiality and neutrality in decision making. The current membership of boards of civil authority is required by

¹⁵ 32 V.S.A. §§ 4221 and 4222

Vermont statute, and includes: the town clerk, selectboard members, and the justices of the peace residing in the town.¹⁶

Another concern raised during legislative deliberations in 2023 was that property owners may be dissuaded from appealing an appraisal because of the formality of a legal appeals process. However, a hearing by an assessment district appeals board will not inherently be a more formal meeting than one held by a board of civil authority. Furthermore, the equity concerns addressed by an assessment district level appeal structure outweigh those of formality. Ensuring that at least the first level of appeal is allowed to local assessing officials also addresses concerns about formality preventing taxpayer engagement and access to justice.

An additional concern about access to justice is the physical location of appeal hearings. That becomes a consideration if intermediary appeals are heard by boards made up of several towns instead of one board at the town-level. The need for geographic accessibility for appellants should be balanced with the need expressed by reappraisal firms to limit the number of separate appeals that firms have to defend at the same time. The more centralized and fewer conflicting appeal hearings that are scheduled, the more hearings that reappraisal firms can attend, and therefore the more reappraisals in the state that can be completed in the same year. It would also be helpful to clarify the location where assessment district appeal board hearings are required to be held, and whether proximity to the location (town or county, for example) of the property under appeal must be taken into account. Assessment district appeal boards would therefore balance geographic accessibility and streamlining staffing and other necessary resources for reappraisals.

Removing the municipal boards of civil authority from the property valuation appeals process may cause strong reactions from proponents of local control. However, this is not an elimination of local control. Rather, it's a consolidation and sharing of local functions and resources across multiple towns. For the reasons set out above relating to equity, economies of scale, and access to justice, the Department recommends removing municipal boards of civil authority from the property valuation appeals process and instead requiring appeals from local grievances to be filed with the assessment district valuation appeal boards.

Recommendation 4: Require appeals from assessment district appeal boards to be filed with the State before entering the court system, but retain PVR discretion to forward appeals of unique or complex properties or valuations to court

The Department sees several options for restructuring the appeals process after a new assessment district valuation board has rendered a decision: either creating full-time, salaried hearing officer positions or creating a statewide assessment appeals board. Regardless of which option is selected, the current structure that allows an appellant to choose where to file

¹⁶ 24 V.S.A. § 801; see also 1 V.S.A. § 122

an appeal from a local decision should be eliminated. Current law allows an appeal to be made either to a hearing officer appointed by the Director of Property Valuation and Review (PVR) or to the Superior Court, at the choice of the appellant. Instead, appeals should be required to be made at the State level, and either the Director of PVR or the statewide board should have the discretion to forward appeals of complex or unique properties or valuations to the Superior Court.

Additionally, regardless of which option is selected, the current resources allocated to the part-time PVR hearing officer role must be addressed. PVR currently faces chronic challenges in recruiting and retaining qualified hearing officers. This is due in part to the specialized expertise and experience required to hold hearings and render decisions on appraisal appeals, which can be technical and complex. These challenges are exacerbated by the limited pay and part-time nature of the work as laid out under current statute.¹⁷ This structure and lack of resources dissuades many qualified individuals from serving as hearing officers.

The need to deepen the expertise of valuation hearing officers has long been recognized by the Supreme Court. Justice Dooley's dissenting opinion in the *Vermont Transco v. Town of Vernon* case recognized that over the years, the Court has found reviewing PVR hearing officer decisions to be challenging because the decisions are often not as well done as a court decision.¹⁸ Justice Dooley encouraged the Legislature to reconsider allowing complex property valuations to be appealed to administrative hearing officers, given the high stakes involved.¹⁹ This case was part of the impetus in 2022 for giving discretion to the PVR Director to transfer appeals of complex or unique property valuations from a hearing officer to be heard instead by the Superior Court.²⁰

Furthermore, there is a somewhat open question about the authority of the PVR hearing officers to decide statutory exemption questions and constitutional issues. Hearing officers are

¹⁷ See, 32 V.S.A. § 4465

¹⁸ *Vermont Transco LLC v. Town of Vernon*, 197 Vt. 585 (2014), ¶ 36 [This case raises a strong question as to whether the administrative process is up to the decisionmaking that is called for. At one point in the past, we reversed and remanded virtually every decision that came from the administrative hearing authority for property tax appeals, usually because of inadequate findings. [...] Over time, the appeals process was reformed to the single hearing officer model we now have, and the quality of the adjudication improved so that most administrative decisions are affirmed by this Court. Nevertheless, the quality of adjudication of cases involving high-value commercial and industrial properties has continued to raise concerns.]

¹⁹ *Vermont Transco v. Town of Vernon*, ¶ 38 [In my opinion, a case of this size and complexity, where each party is fully represented by counsel, belongs in superior court where the judge is more used to evaluating expert testimony of this intricacy and is skilled in producing a good quality and complete decision. The Legislature should reconsider the unfettered choice the current statute allows and restrict larger cases, like this, to court appeals. While I would expect the administrative appeal route to be initially less expensive and more efficient, it is not ultimately so if the chance of reversal on appeal is very high. In any event, the amount in controversy is sufficiently high to warrant a higher-cost adjudication process.]

²⁰ 32 V.S.A. § 4461(a) as amended by Act 163 of 2022, Sec. 5

supposed to determine valuations, not these more complex issues. The caselaw is clear that exemption questions and determining the constitutionality of statutes are solidly outside the purview of hearing officers.²¹ However, the caselaw generally suggests that determining the constitutional applicability of statute to certain facts to determine valuations is allowed.²² Vermont law on determining valuation appeals specifically requires hearing officers to “take into account the requirements of law as to valuation, and the provisions of Chapter I, Article 9 of the Constitution of Vermont [Proportional Contribution Clause] and the 14th Amendment to the Constitution of the United States [Equal Protection Clause].”²³

Any legislation creating a new valuation appeal structure should be clear that if the matter under appeal relates to an exemption or constitutional issues that are broader than valuation, the case should go to court, not to whatever iteration of an appeals board or professional hearing officer the Legislature might enact.

In lieu of the current optional level of appeal to PVR before entering the court system, the Department’s first recommendation is to eliminate the part-time PVR hearing officer role and to create one, statewide assessment appeals board to hear appeals from the new statewide assessment district appeal boards. The State board would be made up of experts with legal and appraisal qualifications, including attorneys and certified appraisers. Resources would still need to be dedicated to the statewide board to ensure a more professionalized career path is created for board members, including training and certification, than exists under the current system that is overly reliant on part-time PVR hearing officers. There would nonetheless be offsetting savings, especially for the judicial system, if more a professionalized board of appeals were created to hear more sophisticated appeals. This recommendation could also help reduce the caseload of the Superior Court. Implementing this recommendation will require legislative action to amend 32 V.S.A. §§ 4461–4469.

Second, and also in lieu of the current optional level of appeal to PVR before entering the court system, the Department sees an alternative option of creating full-time salaried positions at PVR. This level of appeal from the new assessment district appeal boards’ decisions would be mandatory, rather than optional. However, the Department recommends that the Director of

²¹ *Subud of Woodstock, Inc. v. Town of Barnard*, 169 Vt. 582, 732 A.2d 749, at 751 (1999).

²² *Alexander v. Town of Barton*, 152 Vt. 148, at 151-152, 565 A.2d 1294 (1989) [the Legislature clearly intended that the Board would adjudicate constitutional questions in determining the validity of town appraisals; and quoting K. Davis, *Administrative Law Treatise* § 20.04, at 74 (1958): We commit to administrative agencies the power to determine constitutional applicability, but we do not commit to administrative agencies the power to determine constitutionality of legislation. Only the courts have authority to take action which runs counter to the expressed will of the legislative body.]; *Westover v. Village of Barton Electric Dept.*, 149 Vt. 356, at 359, 543 A.2d 698 (1988) [administrative agencies have no power to determine the constitutional validity of statutes.].

²³ 32 V.S.A. § 4467.

PVR continue to have discretion to forward appeals of complex or unique properties or valuations to the Superior Court. If this option is selected, then resources would still need to be dedicated to creating a more professionalized career path for hearing officers, including training and certification, than exists under the current system that is overly reliant on the selfless volunteerism of a few underpaid public servants. There would nonetheless be offsetting savings, especially for the judicial system, if more professionalized hearing officers were hearing more sophisticated appeals. This recommendation could also help reduce the caseload of the Superior Court. Implementing this recommendation will require legislative action to amend 32 V.S.A. §§ 4461–4469.

Recommendation 5: Direct appeals from State-level assessment decisions to the court system

An appeal from the State’s decision, made by either a new State assessment appeals board or a full-time hearing officer depending on what the Legislature chooses, would be brought to the Supreme Court of Vermont. This would be the final level of appeal. Likewise, if an appeal was forwarded to the Superior Court because of the complexity of the property or valuation, the final level of appeal would be to the Supreme Court of Vermont. Implementing this recommendation will require legislative action to amend 32 V.S.A. §§ 4461–4469.

Volume of property valuation appeal hearings

In Vermont, from calendar years 2019-2023, the hearing officers appointed by the Director of PVR held a total of 211 appeal hearings, with a yearly average of 42 hearings. Two to three hearing officers at a time handled this caseload. What is striking about these figures is the significant number of appeal cases that resulted in a decision with no change to the property value. Close to half of the appeals during this five-year period led to no change in value. This may be due to the number of pro se appellants who brought valuation appeals.²⁴ Pro se appellants frequently do not know that they are required to provide affirmative evidence of fair market (FMV) and that personal or otherwise subjective anecdotes do not meet this evidentiary burden.

²⁴ “Pro se” means individuals who represent themselves in legal proceedings without an attorney.

Table 2: Change to Fair Market Value by Calendar Year

Calendar Year	Fair Market Value Reduced	Fair Market Value Raised	Fair Market Value Unchanged	Total Appeals
2023	7	3	9	19
2022	15	4	15	34
2021	24	1	24	49
2020	19	3	21	43
2019	46	1	19	66

Source: Vermont Department of Taxes

Nationally, property valuation appeal volumes are demonstrated by the following table that the IAAO compiled from responses to its survey sent to property tax agencies in all 50 states and the District of Columbia.

Table 3: IAAO Report, p. 30, Table 8.1 Assessment Appeal Volume from Other States

State	Jurisdiction Type	Parcels Based on 2024 IAAO PTPA Survey	1 st Level Appeals	1 st Level Appeals as a % of the Parcel Total	2 nd Level Appeals	2 nd Level Appeals as a % of the Parcel Total	3 rd Level Appeals	3 rd Level Appeals as a % of the Parcel Total
Hawaii	County	80,579	1,424	1.77%	970	1.20%	-	-
Indiana	County	3,500,000	55,367	1.58%	1,200	0.03%	-	-
Kansas	County	1,655,300	40,511	2.44%	2,848	0.17%	2,579	0.16%
Maryland	County	2,395,462	89,111	3.72%	22,517	0.94%	2,635	0.11%
Montana	State	942,452	19,937	2.12%	593	0.06%	42	0.00%
North Carolina	County	-	-	5%	<1,000	-	-	-
Mean	-	2,225,249	-	2.77%	-	0.48%	-	0.09%
Median	-	2,025,381	-	2.28%	-	0.17%	-	0.11%
Vermont Current	Municipal	350,000	-	Not Available	-	Not Available	-	Partially Available

IAAO explained the table as illustrating that “the states that reported data have a first level appeal rate between 1% and 5% of all parcels. The second level appeal rates range from near 0% to just over 1% of all parcels, and third level appeals are near 1/10 of 1% of all parcels on average.” IAAO report, p. 30. The report highlights that “property value appeals have been higher than normal nationwide recently due to the fluctuations in market value seen over the past four years.” (IAAO Report, p. 30).

Based on appeal numbers received in the IAAO survey sent to all 50 states and the District of Columbia, IAAO estimates appeal counts for Vermont as follows:

- “A first level stabilized appeal rate of 2% to 3% would be reasonable. Based on Vermont’s current parcel count, that would result in a stabilized first level appeal count between 7,000 and 10,500 statewide annually.
- “A second level stabilized appeal rate of 0.25% and 1.00% would be reasonable. Based on Vermont’s current parcel count that would result in a stabilized second level appeal count between 875 and 3,500 statewide annually.
- “A third level stabilized appeal rate of 0.10% and 0.20% would be reasonable. Based on Vermont’s current parcel count that would result in a stabilized third level appeal count between 350 and 700 statewide annually.

“It is important to be aware that appeals will likely be higher than the rates indicated above, particularly after major changes to an assessment system or after major changes in assessed values that occur when property are valued infrequently. The above appeal counts should be considered in the make-up of reappraisal and appeal structures and potential staffing of a stabilized assessment system.” (IAAO Report, p. 31).

Information Technology and Property Data²⁵

The Department of Taxes, in response to the legislative charge outlined in Act 68 of 2023, Section 4, is tasked with providing recommendations and considerations related to (1) information technology systems that gather and maintain property data related to reappraisals and grand list maintenance, and (2) property data itself – its value for distinguishing between different property types and their uses, its bearing on improving accuracy and equity in property tax valuation, and its usefulness for making policy decisions.

For this work, the Department collaborated with the Vermont Center for Geographical Information (VCGI), who are the subject matter experts in parcel mapping and property data maintenance, to better understand available technology and best practices in this space, and how modern imagery and mapping tools could serve the needs of Vermont’s municipalities, assessment and reappraisal professionals, and Vermont policymakers.

Property assessment is evolving rapidly due to technological advancements that offer new tools for more frequent and accurate reappraisals. Emerging technologies are proving valuable supplements to traditional valuation techniques, providing local valuation staff and contractors with more effective tools to ensure efficient and equitable property valuations.

Current landscape and challenges

Currently, each municipality in Vermont independently selects and funds their own software systems related to the administration of the statewide education property tax system. These systems may include:

- Computer Assisted Mass Appraisal Systems (CAMA): Used by to determine the grand list value of properties based on local data collection.
- Mapping and Parcel Data Maintenance Systems (GIS Software): Used to manage parcel geometry, feeding into the statewide parcel mapping program.
- Tax Billing and Accounting Software: Handles tax billing and collection.
- Sketching Software: Translates physical property measurements into square footage and other attributes, often integrated with CAMA or GIS systems.

²⁵ The legislative charge given to the Department of Taxes in Act 68 of 2023, Sec. 4(b)(3)(D) directed the Department to make recommendations for streamlining, integrating, and updating State and municipal vendor agreements and information technology systems for reappraisals and grand list maintenance. The legislative charge given to the Department of Taxes in Act 68 of 2023, Sec. 4(b)(1)(B), (b)(1)(D), (b)(1)(E), and (b)(4) is to recommend how to (i) distinguish between property types and characteristics, (ii) reconfigure and consolidate equalization study categories, and (iii) do so using existing IT systems, creating a new data collection and reporting system, or both. This includes consideration of existing definitions and data metrics currently gathered by municipal Computer Assisted Mass Appraisal (CAMA) systems and the potential for using those definitions and data to collect information on properties in this State. Additionally, Act 68 asks for a proposal to integrate new or updated property types into the municipal and statewide education grand lists, as applicable, and the overall property taxation system beginning on January 1, 2026.

- Imaging Resources (Orthophotography, Oblique Imagery, LIDAR, etc.): Provide aerial and 3D images to support measurements and the identification of changes to properties, such as boundary lines or building additions.

These systems are maintained at varying levels of consistency, with some municipalities managing them locally, while others rely on contractors, such as assessment firms or mapping vendors. The quality of training, system support, price, and data consistency varies significantly depending on local funding priorities set by selectboards and city councils, and varies depending on what type of staffing situation the municipality has (i.e., hired vs volunteer). This inconsistency makes it difficult for policymakers and other stakeholders to have reliable data to make informed decisions.

Findings: Inconsistent access to tools creates challenges for assessment

Many municipalities do not currently use aerial imagery or sketching software. Imagery allows assessors to identify unreported property changes, such as new constructions or additions, helping the equity of valuation processes by ensuring all taxable improvements are included. Imagery tools, especially when combined with technologies like change detection software or sketch verification, help identify unreported property changes, such as new construction. These tools can be especially valuable in areas without zoning regulations or permitting requirements, where property modifications may not be flagged through official channels. In these cases, listers and/or assessors must rely on resource-intensive physical inspections to identify property changes, which are challenging to deploy in a comprehensive way that ensures equal treatment for property owners in a given community.

IAAO highlights the value of technology in improving the efficiency and accuracy of property assessments. According to the IAAO, the use of tools like LIDAR, orthophotography, and oblique imagery has saved many offices significant time and resources by reducing the need for costly physical reinspections. Some jurisdictions have even moved to fully remote reinspections by combining aerial imagery with complementary measurement and change detection technologies. IAAO recommends incorporating these "alternate reinspection techniques" into regular assessment practices to increase valuation equity, save time, and reduce costs associated with traditional inspections (IAAO Report, p. 46).

Recommendation 1. Regional Assessment Districts should become the primary entity for data software contracts and technical expertise

In line with the rest of this report, consolidation at the assessment district level provides significant opportunities for improving IT infrastructure and operational efficiencies. The assessment district (AD) should become the primary entity for vendor contracts and relationships, as it is more feasible to develop local staff expertise in these tools at the AD level, where staff are more likely to be full-time and dedicated (a situation that is not always the case at the municipal level). In certain cases, the State of Vermont could take the lead in

hosting statewide contracts, as outlined in VCGI Recommendation 6, to further streamline and standardize assessment-related imagery technologies across the State.

The valuable insights provided by the Vermont Center for Geographic Information (VCGI) in their accompanying report (Appendix X) include specific recommendations and implementation strategies for integrating new tools and best practices into Vermont's assessing jurisdictions. These recommendations address improvements in parcel mapping and data maintenance and standardization, as well as strategies for the systematic rollout of higher-resolution aerial imagery. The Department supports VCGI's recommendations on enhancing parcel data quality to facilitate fair, timely, and accurate property valuations and reappraisals. We encourage readers to review VCGI's full report for detailed recommendations.

Recommendation 2a. Town members in each Assessment District should use the same CAMA system

Behind every town's grand list is a more expansive database that informs final property values known as Computer Assisted Mass Appraisal, or CAMA. CAMA systems contain data that could be useful at the State level to stakeholders who track information about Vermont's housing stock, such as the age of the buildings, the number of residential units, heating sources, and more. However, today CAMA data is formatted and organized differently across the four vendors operating in Vermont. The Department of Taxes does not receive this granular data because it is not related to tax administration.

Vermont is currently served by four CAMA vendors. Vermont previously had a Statewide hosted CAMA system, New England Municipal Resource Center (NEMRC) Microsolve, which a majority of Vermont towns (76%) continue to contract with today.

The Department does not recommend transitioning back to statewide unified CAMA. In the absence of a statewide CAMA system, IAAO recommends that the state work with stakeholders to develop standardized data, data quality, management and security requirements, and engage with listers and assessors, CAMA providers and reappraisal firms to find the best workable solution for Vermont. Many of the data quality advantages cited by stakeholders and IAAO will be attainable through the rollout of statewide data standards, detailed in Recommendation 2b.

In the regionalized AD model, it will be imperative for all member municipalities within each AD to use the same CAMA system. Transitioning to a new CAMA system is best undertaken at the time of a reappraisal, so uniformity across the towns within an AD would likely phase in during the towns' first reappraisal cycle within the new AD structure.

Recommendation 2b. Standardize and aggregate data on property characteristics at the state level

CAMA data has great potential for improving statewide understanding of certain property characteristics related to key public policy concerns (e.g., housing).

The Department partnered with VCGI to explore opportunities to standardize and centralize collection of granular CAMA fields. This work included direct engagement with Vermont's CAMA vendors, who proved valuable thought partners in this effort and submitted example data extracts to aid VCGI in evaluating the potential for developing standard schema for certain useful data fields. Please refer to the appended report from VCGI for details and implementation steps regarding the recommendation to Implement Vermont CAMA Data Standard and Require Submittal to State.

Data limitations and administrative challenges regarding actual, present-day use

While standardized CAMA data can help our understanding of public policy concerns, CAMA data has limited utility to answer questions about how properties are actually being used by property owners at a given point in time. The valuation information in CAMA is collected at the time of reappraisal and is generally only updated when improvements are made (if zoning is triggered) or at the time of another reappraisal. Therefore, it is not an accurate source of real-time information on how a property is being used or whether it is vacant or not.

Property classification based on actual use in a given year

Consistent with previous legislative discussions, the Department of Taxes does not recommend creating any new property use classifications on the grand list. The Department sees a high risk of inequity and noncompliance in administering different tax treatment based on new classifications.

Vermont's statewide education grand list exists for the purpose of administering Vermont's unique system of shared property tax revenue. Act 60 of 1997 required towns to continue to maintain their own municipal grand lists while also collecting and organizing the State-mandated data related to the new statewide education property tax. Because town officials need to track the taxable value and characteristics of each property for the purposes of both municipal taxes and statewide education taxes, maintenance of the grand list is especially complicated and onerous in Vermont. Tracking exemptions is already a significant challenge because different exemptions exist for municipal and State property taxes and the homestead versus nonhomestead tax classification is further layered on top of that. This complexity is compounded by the fact that many towns still rely on volunteers or very part-time employees to do this work. The capacity does not exist today for State or local officials in Vermont to start tracking how properties (or parts of properties) are being used each year.

Legislative interest in classification that specifically identifies secondary residences

If the Legislature wishes to pursue a new tax classification for secondary residences, it is imperative to understand and address the definitional and administration challenges of such a policy, and its novelty in the national landscape. Thoughtful consideration of these challenges is important to counter the high risks of inequity and noncompliance, which would undermine the policy goals of the Legislature.

If the Legislature pursues a distinct property classification for second homes, or for another “actual use,” to be subject to a different tax treatment than other properties, the Department offers the following considerations:

1. The new classification would not be the same as a grand list category.
2. Classification may need to be done through self-attestation
3. Clear definitions are imperative, and may be difficult to achieve
4. Consider use-based exemptions rather than use-based differential rates

1. The new classification would not be the same as a grand list category.

The current fifteen grand list categories are unrelated to how a property is taxed. Grand list categories are not defined in law and exist for the sole purposes of the annual Equalization Study conducted by PVR, which determines the Common Level of Appraisal (CLA) for each town. Consistent with best practices for property valuation, these grand list categories are based on the “highest and best use” of the property – meaning how the property would be presented for sale on the open market – and not on how the property is being used in any given year. The categorization of an individual property is only reviewed at the time of a town-wide reappraisal and in a few other limited circumstances.

PVR provides guidance to local assessing officials on how to categorize properties in their jurisdiction, but consistency in categorization can be challenging in a system that is currently administered across more than 250 assessing jurisdictions. This challenge is accentuated when grand list categorization has no bearing on the property taxes paid by the owner, and any one property’s categorization has only minimal effect on the town’s overall CLA.

2. Classification may be based on self-attestation

Vermont’s annual separation of homesteads from the rest of the grand list is an example of tax classification and is very common in other taxing jurisdictions. The homestead versus nonhomestead tax classification is entirely unrelated to the grand list categories described above; a homestead could fall in almost any grand list category.

By default, all property in Vermont (in all 15 grand list categories) is nonhomestead property. 32 V.S.A. § 5401(10). However, owners of property that will be used as the owners’ principal residence are required to submit a “Homestead Declaration” in the spring of each year indicating that they will use the property for that purpose. 32 V.S.A. § 5410. The declaration

serves to shift the classification of the property in the grand list from nonhomestead (the default) to “homestead”. Vermont’s homestead declaration form is an example of “self-attestation,” where a property owner attests to the taxing authority how their property will be used that year. In Vermont, homestead property is taxed at a different rate than nonhomestead property and owners of homesteads are eligible for property tax credits based on their income.

If secondary residences or another new classification of property is to be taxed differently, the Legislature may consider self-attestation to administer that classification as well. Relying on the property owner to self-identify based on a clear definition of property use may be better than relying on local assessing officials, as there is no clear methodology, nor capacity, for local assessors to make that determination for each property in their municipality.

Self-attestation, however, is not without challenges. Many nonresident owners of second homes have no interaction with the Vermont Department of Taxes because they often do not pay state-level taxes. Compliance will be challenging in these cases, where a property owners may not know about an attestation filing requirement.

3. Clear definitions are imperative, and may be difficult to achieve

If policymakers decided to create a separate tax classification for secondary residences, they would need to first agree on and define in statute what constitutes a secondary residence. As previously flagged by the Department of Taxes in testimony and in studies, defining what exactly constitutes a secondary residence is not simple.²⁶ There is no workable definition of secondary residence in existing Vermont law, and while some definitions exist in other jurisdictions, it is unclear if those would be consistent with the policy goals of Vermont policymakers.

For instance, Honolulu law has a separate classification and distinct tax rates for “Residential A” properties, which applies to residential properties where an owner does not claim the home exemption and the total assessed value is more than \$1,000,000.²⁷ In addition to including Honolulu’s “second homes,” it also includes properties that are rented. In recent years, Honolulu has reduced rates applying to Residential A properties in an effort to target tax relief to “secondary homeowners” who provide rental housing for local families.²⁸

²⁶ See, for example, Vermont Department of Taxes, “Act 73 Secondary Residences Report of 2021” (January 15, 2022); 2023 recap of report (January 19, 2023); “Why Isn’t It Easy to Tax Second Homes?” (April 4, 2024).

²⁷ https://codelibrary.amlegal.com/codes/honolulu/latest/honolulu/0-0-0-5832#JD_Ch.8Art.7.

²⁸ Council of the City and County of Honolulu, Resolution 33, <https://hnlidoc.ehawaii.gov/hnlidoc/document-download?id=16712>; see, also, <https://www.hawaiiitribune-herald.com/2023/06/20/hawaii-news/council-lowers-tax-rate-for-owners-of-second-homes-used-for-rentals/>.

Consider the following examples of Vermont properties and whether they would – or should – qualify as second homes:

- A three-season camp on Caspian Lake in Greensboro that has a grand list value of a million dollars.
- A second home in Stowe that's listed for ten million dollars, but the owner rents a cabin on the property to a couple who takes care of the property year-round.
- A commercial building in Brattleboro with a restaurant on the first floor and apartments above that are rented on Airbnb.

Note that none of the example Vermont properties above would fit the definition of secondary residence that is subject to the new property transfer tax rate created in Sec. 73 of Act 181 of 2024.²⁹

While a broad definition is unlikely to meet policy goals, a complex definition (one that considers nuance of mixed-used properties or part-year rentals) may be difficult to administer consistently and equitably, especially if the law relies on the decentralized assessment community to identify these property uses rather than relying on the property owner to self-identify.

4. Consider use-based exemptions rather than use-based differential rates

There are some well-defined situations where properties are taxed differently in Vermont based on how they are being used. There are around two dozen situations where a property in Vermont could be exempt or partially exempt from property taxes based on its use. These are described in detail in the Joint Fiscal Office's Biennial Tax Expenditure Report.³⁰ Each of these exemptions is defined in law and the Department of Taxes provides further interpretation and support to help local assessing officials determine if a property qualifies. Many of the exemptions are straightforward (such as for schools, hospitals, and cemeteries) and, notably, can safely be assumed to carry over from year to year, so they are relatively easy to administer. Some exemptions, such as the \$10,000 exemption from the residence of a veteran, depend on the annual use of the property and therefore require an annual self-attestation on the part of the owner.

Among Vermont's existing property tax exemptions is one for "qualified housing," or rent-restricted apartment buildings. See, 32 V.S.A. § 5404a(a)(6). Those properties are granted an

²⁹ 32 V.S.A. § 9602(4); see, also, [https://legislature.vermont.gov/Documents/2024/Docs/ACTS/ACT181/ACT181 As Enacted.pdf#page=122](https://legislature.vermont.gov/Documents/2024/Docs/ACTS/ACT181/ACT181%20As%20Enacted.pdf#page=122).

³⁰ https://ljfo.vermont.gov/assets/Subjects/Tax-Expenditure-Reports/359cc7d34b/GENERAL-366325-v1-2023_Tax_Expenditures_Report.pdf

exemption of up to 10% of the property value, meaning the property is taxed on as low as 90% of its full taxable value.

Reducing the taxable property value for properties used for a specific purpose that the Legislature wants to incentivize is administratively possible – if a workable definition exists. Administrative complexities arise when part of a property is being used for the desired activity, but another part is not, or if the use of the property changes from year to year. Creating a preferential tax rate for a subset of properties based on their use is the most challenging administratively and would require substantial new programming.

Addressing Inequity and Bias in Property Valuation

Act 68 of 2023, Section 4(b)(2) required the Department of Taxes to identify and recommend the means to achieve consistency in property valuation and taxation across the State in order to prioritize the elimination of racial, socioeconomic, and other implicit biases. Throughout this report, the Department weaves recommendations to achieve greater equity and progressivity into the property valuation and reappraisal system. In general, following the report recommendations will contribute to increased valuation equity. Notably, based on the Department's engagement with stakeholders and the findings from the IAAO Report, the Department's primary recommendation is to restructure the reappraisal system away from the multitude of assessing jurisdictions at the municipal level with very low parcel counts and to create larger, multi-town assessment districts instead. This recommendation paired with more frequent reappraisals and a more professionalized assessment workforce in Vermont would achieve greater equity and diversify decision-making. See, also, Appendix C, Principles of a High-Quality Tax System.

“Assessors and fee appraisers are often grouped together as the national public does not necessarily understand the difference. Fee appraisers that might do an appraisal for a loan have been accused of undervaluing property based on race or other factors while some assessors have been accused of overvaluing property based on race or other factors. It's important to understand the difference between assessors and fee appraisers as the techniques used are quite different. [...]

“In assessment there is generally a division of labor where the person that inspected the property is a different person than the person setting the value. Assessors typically value thousands of properties each and these values typically come months or years after any inspections have been done by the appraiser setting the value. The chances of the same person that did the inspection valuing the property is low. Property assessments for tax purposes also generally go through layers of quality control designed to find outlier data and values to help the office work to correct the outliers and ensure fair and equitable treatment of all properties within the jurisdiction. In many assessment offices informal appeals are heard by one assessor and then later reviewed by a department manager to ensure valuation equity and parity in final valuation decisions.

“Assessors are focused on providing fair and equal treatment of all property and property owners. Assessors do not track race but do track values and property characteristics. Racial equity is of course important, but when assessors speak of valuation equity or inequity, they are generally referring to the equal treatment of all property types, classes and value ranges.” (IAAO Report, p. 61).

“The value of an educated assessment workforce cannot be overstated. Assessment training and education revolves around fair and equal treatment of properties and property owners. IAAO’s recommended training standards should be adopted for assessors and listers in the state of Vermont. State level training is also vitally important to ensure equitable compliance with state legal and policy requirements.

“Jurisdictions that are very small could be inadvertently treated less equitably than larger jurisdictions, because of a lack of sales data to calculate a sales ratio, CLA, COD, PRD or PRB. The statistical accuracy of a sales ratio study with few transactions will be lower than the statistical accuracy of a sales ratio study done with a large number of transactions. For this reason, these small jurisdictions are also more susceptible to large shifts in their CLA adjustments.

“Infrequent valuations are known to be regressive in nature causing lower valued properties to be taxed at a higher rate than higher valued properties. For this reason, it’s important to keep values up to date by revaluing frequently [...]” (IAAO Report, p. 62).

Act 68 of 2023 also tasked the Department with conducting implicit bias reduction training for listers and assessors and reviewing and revising its guidance for instances of racial, socioeconomic, and other implicit biases. Since the passage of Act 68, the Department has engaged with the Vermont Office of Racial Equity (VTORE) a number of times, including a three-part training series for Department staff to learn practices to reduce implicit bias in our own work, training, and materials. This training includes foundational work on diversity, equity, inclusion, and racism. This training also allows for Division of Property Valuation and Review (PVR) training materials moving forward to be produced and updated without instances of implicit bias. An example of the Department’s revision effort is the Lister Handbook, which is being revised and updated in 2025 to include legislative initiatives from the 2023 session.

The Department initially planned to hold annual training for municipal officials, partnering with the VTORE and an outside vendor. Upon researching and identifying that there was not a specific training that would pair reasonably with the planned programming from the VTORE, the Department issued a Request for Proposal for an anti-bias training program for listers and assessors. The Department is currently reviewing the proposals and seeks to select a vendor in time for training to take place following Town Meeting elections in March 2025. The team of reviewers includes the instructional staff, PVR staff, Equity Liaisons, and an individual who does not work for the Department with experience in the equity field.

The Department invited municipal officials to two webinars hosted by IAAO, which several PVR staff also attended: Building from Bias (June 28, 2023) and Racial and Social Equity in Assessments (October 2, 2024). The State reimburses costs associated with these trainings from the Lister and Assessor Education funding.

Appendix A: International Association of Assessing Officers (IAAO) Full Report

Research on Property Tax Administration Valuation Best Practices
October 2024

RESEARCH ON PROPERTY TAX ADMINISTRATION VALUATION BEST PRACTICES

State of Vermont
October 2024



PROFESSIONAL
CONSULTING SERVICES
OF IAAO, LLC

A wholly owned subsidiary of IAAO

ABOUT PROFESSIONAL CONSULTING SERVICES OF IAAO, LLC

The International Association of Assessing Officers (IAAO) is a nonprofit, educational organization founded in 1934. It is a global community of diverse mass appraisal professionals advancing fair and equitable property appraisal, assessment administration, and property tax policy through professional development, research, standards, and technical assistance. Its members are government officials and others interested in the administration of assessment and property tax. All IAAO members subscribe to IAAO's Code of Ethics and Standards of Professional Practice and to the Uniform Standards of Professional Appraisal Practice (USPAP).

The IAAO is the primary publisher, educator, and leader of standards in the field of mass appraisal and assessment administration. As a standard-setting organization, the IAAO has published fifteen standards aimed at improving assessment practices. As an educator, the IAAO has established a curriculum of courses and workshops to supplement university-level and professional training for individuals interested in pursuing a career in property tax administration. We offer the only comprehensive program of mass appraisal courses in the world. In addition, we offer special seminars and an international conference on assessment administration annually.

The IAAO professional designation program recognizes that assessment administration is a specialty within public service and that assessment personnel are mobile. The association therefore offers professional designations to certify the competence of individuals and to attest to their competence when career paths cross state/provincial lines.

Several routes are available to designations, all of which involve some independent project, such as a demonstration appraisal or a mass appraisal case study, in addition to the successful completion of one of the prescribed curricula. The IAAO offers six designations: a generalist designation requiring demonstrated competence in all areas of assessment—Certified Assessment Evaluator (CAE)—and five specialist designations: Mass Appraisal Specialist (MAS), Residential Evaluation Specialist (RES), Cadastral Mapping Specialist (CMS), Personal Property Specialist (PPS), and Assessment Administration Specialist (AAS).

For more than 20 years, the association has established voluntary, objective standards for the improvement of assessment practices and conducted a research and technical services program to help jurisdictions attain these standards. Technical assistance services or consulting services are offered in a number of areas and by means of a variety of arrangements. Our most common engagement is to perform an evaluation of assessment practices within a specific jurisdiction.

IAAO is an independent association not affiliated with any vendor, company, or firm in the private sector or any other association not in the assessment field. IAAO does not undertake technical assistance projects for taxpayers or any other individual or group in the private sector.

IAAO has been a leader in mass appraisal education, technology, and standard-setting for mass appraisal and ad valorem systems in North America and many countries around the world. IAAO has the team, resources, and ability to provide services to meet Client needs.

Professional Consulting Services of IAAO, LLC (PCSIAAO) provides professional consulting worldwide based on a deep and objective understanding of the assessment challenges confronting property valuation and tax practitioners. PCSIAAO is a wholly owned subsidiary of the International Association of Assessing Officers (IAAO).

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I. INTRODUCTION

As part of an RFP process necessitated by Vermont Act 68 of 2023 Professional Consulting Services of IAAO, LLC (PCSIAAO) was contracted to provide comprehensive research on best practices within assessment offices across the United States. Additionally, the RFP required the final report include coverage of various aspects of property valuation for taxation purposes including: reappraisals, appeal structures, property data, capacity building, and considerations for equity and anti-bias measures.

This report is designed to look at three major data sources.

1. *Vermont's Current Practices and Stakeholders Opinions on Improvements*
2. *Practices, Procedures, and Opinions on Best Practices from other States*
3. *International Association of Assessing Officer's (IAAO) 15 Technical Standards*

The above sources of information helped frame the recommendations made throughout this report.

A significant portion of this project included gathering information from key stakeholders from within the State of Vermont through surveys, emails, personal interviews, and conversations with stakeholders throughout the State. Additionally, other states were surveyed to better understand best practices as related to the scope of this project. IAAO has developed 15 Technical Standards representing best practices in the field of mass appraisal for property tax purposes upon which assessment offices are often evaluated. IAAO's 15 Technical Standards will be cited throughout this report.

It's important to remember that improvements to the assessment system and recommendations cannot stand on their own nor do they occur in a vacuum. Changes should be made in a systematic way by considering the processes and procedures required and impacted by each step in the process. Simple, systematic, and easy to understand processes should be implemented whenever possible. Overly complex policies that are difficult to understand and difficult to execute will often fail to produce equitable results in the end.

II. THE PROJECT PROCESS

1. The Property Valuation and Review (PVR) Division of the Vermont Department of Taxes conducted education sessions to inform PCSIAAO staff on current laws, regulations, and dynamics within the State.
2. PCSIAAO worked with PVR staff to develop pertinent questions for the surveys conducted by PCSIAAO as part of this project.
3. PCSIAAO distributed this bespoke survey to stakeholders within Vermont including listers, assessors, clerks, treasurers, selectboard members, city council members, village trustees, mayors, city councilors, village managers, town managers, town administrators, district appraisers, and state property valuation and review staff.
4. PCSIAAO distributed a second, distinct, survey to state oversight agencies in all 50 states and the District of Columbia to understand operational procedures and best practices in other states.
5. PCSIAAO staff met with the Vermont Association of Listers and Assessors to talk about the information gathering process and to encourage listers and assessors to reach out with questions and information they felt was pertinent for PCSIAAO to consider regarding the scope of this project.
6. PCSIAAO met with the Vermont House Ways and Means Committee to update the Committee on progress, plans and to answer questions and hear concerns from the Committee members.
7. PCSIAAO presented data on IAAO's 15 technical standards to the Vermont PVR staff.
8. PCSIAAO met with Vermont PVR staff on a monthly then weekly basis to discuss progress and discuss various assessment subjects.
9. PCSIAAO interviewed reappraisal and computer assisted mass appraisal software providers in an attempt to better understand the dynamics of contracting for assessment services within the State of Vermont and the greater New England area.
10. PCSIAAO interviewed Listers, Assessors, and District Advisors from Vermont to gain a greater understanding of current processes discussing what works and what could be improved in the Vermont assessment system.
11. PCSIAAO staff attended the Vermont Assessors and Listers Association (VALA) annual conference to better understand challenges and solutions for Vermont's current assessment system.
12. Staff from both PVR and PCSIAAO met with listers, assessors and vendors to discuss survey results.
13. Based on the information gathered and discussed PCSIAAO developed a report making recommendations for implementation of best practices and strategies identified during the research, tailored to Vermont and its property tax system.
14. The final portion of this project will include legislative testimony by PCSIAAO staff.

III. SURVEY QUESTIONS, ANSWERS, IAAO STANDARDS, ANALYSIS AND RECOMMENDATIONS

The following sections cover the survey questions, a summary of survey answers, IAAO Standards, analysis of survey answers and IAAO Standards, and PCSIAAO's recommendations.

Reappraisal Cycle Length

Vermont Stakeholders Survey Responses

The following question was asked as part of a survey sent to listers, assessors, clerks, treasurers, selectboard members, city council members, village trustees, mayors, city councilors, village managers, town managers, town administrators, district appraisers, and state department of tax staff.

“What reappraisal frequency would you recommend the State of Vermont adopt? Why?”

Reappraisal Frequency	Votes	Percentage of Total
Annual	3	1.29%
2 Years	5	2.15%
3 Years	14	6.01%
4 Years	10	4.29%
5 Years	78	33.48%
None of the Above	123	52.79%
Total	233	100.00%

Upon reviewing the results, it can be surmised a 5-year cycle was selected as it was the longest frequency offered in the survey. Based on this question, stakeholders within Vermont overwhelmingly believe that reappraisal cycle length should be greater than four years with only 13.37% of respondents being in favor of a reappraisal cycle length of 4 years or less and 47.21% of respondents being in favor of reappraisal cycle lengths of 5 years or less.

Reading the comments some respondents indicated a longer reappraisal cycle length than five years.

Based on analysis of comments the following more detailed analysis can be seen.

TABLE 1.2 Reappraisal Cycle Frequency based on State Stakeholder Responses Including Comments

Reappraisal Frequency	Votes	Percentage of Total
Annual	3	1.29%
2 Years	5	2.15%
3 Years	14	6.01%
4 Years	10	4.29%
5 Years	78	33.48%
6 Years	15	6.44%
6-8 Years	7	3.00%
7 Years	3	1.29%
8 Years	2	0.86%
8-10 Years	4	1.72%
9 Years	0	0.00%
10 Years	20	8.52%
None of the Above	72	30.90%
Total	233	100.00%

As shown in the chart above, no respondent suggested a reappraisal cycle length longer than 10 years.

Responses from Other States

The following question was asked of property tax oversight agencies of all 50 states and the District of Columbia.

“How often are properties reappraised in your state?”

TABLE 1.3 Reappraisal Cycle Frequency by State

Reappraisal Frequency	Occurrences	Percentage	State
Annual	9	34.62%	FL, HI, DC, ID, KS, MN, SD, UT, WY
Two Years	3	11.54%	CO, IA, MT
Three Years	2	7.69%	MD, OH
Four Years	4	15.38%	AR, IL, IN, LA
Five Years	4	15.38%	CT, MI, NH, SC
Eight Years	1	3.85%	NC
Not Mandated	3	11.54%	ME, OR, PA
Total	25	100%	

PCSIAAO utilized the results from IAAO's 2023 Property Tax Policy and Administration (PTPA) Survey to build a more complete picture of the reappraisal cycles used nationwide. *Table 1.4* below displays the combined information from both surveys.

TABLE 1.4 Reappraisal Cycle Frequency by State adding IAAO's 2023 PTPA Survey Results			
Reappraisal Frequency	Occurrences	Percentage	State
Annual	11	37.93%	FL, HI, DC, ID, KS, MN, SD, UT, WY, MA, TX
Two Years	4	13.79%	CO, IA, MT, MO
Three Years	2	6.90%	MD, OH
Four Years	4	13.79%	AR, IL, IN, LA
Five Years	4	13.79%	CT, MI, NH, SC
Eight Years	1	3.45%	NC
Not Mandated	3	10.34%	ME, OR, PA
Total	29	100%	

IAAO Standards

- IAAO's *Standard on Property Tax Policy* published in 2020 states:

"5.1 Fundamentals: Current Market Value the Basis for Taxation

To best reflect the changes inherent in a dynamic economy and to maximize fairness and ease of understanding, assessments should be based on the current market value of property. Values in one area may increase, whereas those in another may decrease or stabilize. Property taxes then shift to areas with increasing wealth as measured by property value. Only a system requiring current market value acknowledges these changes in local economies and the distribution of property-related wealth. Assessing property at current market value maintains a uniform relationship between property-based wealth and property taxes. Also, current market value requires valuations based on objective market evidence. Under a current market value standard, it is easier for the public to understand whether they are being treated fairly. ***Current market value implies annual assessment of all property.*** This does not necessarily mean that every value must be changed each year. In annual assessment, the assessing officer should consciously reevaluate the factors that affect value, express the interactions of those factors mathematically, and use mass appraisal techniques to estimate property values. Thus, it is necessary to observe and evaluate, but not always to change, the assessment of each property each year in order to achieve current market value. It is recommended that assessing officers establish regular reappraisal cycles or at least appraisal level and uniformity (vertical and horizontal equity) thresholds that trigger reappraisal (see the *Standard on Ratio Studies* [IAAO 2013b]). When assessments are not updated annually, the valuations on properties not reassessed in a given cycle may change dramatically when they are reassessed; this in turn adds to criticisms of current market value-based systems." (***Bold Italic*** added for emphasis.)

- IAAO's *Standard on Mass Appraisal 2017* states:

"4.8 Frequency of Reappraisals:

Section 4.2.2 of the *Standard on Property Tax Policy* (IAAO 2010) states that ***current market value implies annual assessment of all property.*** Annual assessment does not necessarily mean, however, that each property must be re-examined each year. Instead, models can be recalibrated, or market adjustment factors derived from ratio studies or other market analyses applied based on criteria such as property type, location, size, and age.

Analysis of ratio study data can suggest groups or strata of properties in greatest need of physical review. In general, market adjustments can be highly effective in maintaining equity when appraisals are uniform

within strata and recalibration can provide even greater accuracy. However, only physical reviews can correct data errors and, as stated in Sections 3.3.4 and 3.3.5, property characteristics data should be reviewed and updated at least every 4 to 6 years. This can be accomplished in at least three ways:

- Reinspecting all property at periodic intervals (i.e., every 4 to 6 years)
- Reinspecting properties on a cyclical basis (e.g., one-fourth or one-sixth each year)
- Reinspecting properties on a priority basis as indicated by ratio studies or other considerations while still ensuring that all properties are examined at least every sixth year” (***Bold Italic*** added for emphasis.)

Analysis

It became clear to PCSIAAO project staff in talking with stakeholders in Vermont that a lack of consistent reappraisal cycles creates a lack of consistency and a reactive rather than proactive property assessment system.

A major concern voiced by stakeholders was the cost associated with frequent reappraisals. It’s important to understand that the current method of accomplishing reappraisals is not the only way things can or should be done. Also, while overall cost is a concern, significant consideration should be given to the costs born by taxpayers paying more than their fair share of the tax burden throughout Vermont because of the lack of regular reappraisals.

Much of the costs of reappraisals within Vermont are related to the costs associated reinspections of properties per current Vermont statutes and regulations. Most states do not require interior reinspections which are a time and resource intensive process. Many other states allow for digital reinspection techniques using aerial imagery for exterior inspections of properties. Some of these processes can be automated using modern technology to complete work in a fraction of the time at a fraction of the cost.

Some of the Vermont survey respondents see reappraisal and reinspection as being the same thing.

- **Reappraisal** - The mass appraisal of all property within an assessment jurisdiction accomplished within or at the beginning of a reappraisal cycle. A subsequent (and possibly periodic) mass appraisal of all property of a specified class or classes within an assessment jurisdiction. Factors considered may include changes in physical condition, use, or the market. Also called Reassessment or Revaluation.
- **Reappraisal Cycle** - Time needed, taken, or permitted for a jurisdiction to reappraise all properties of a specified class or classes, as may be mandated by law or rule. See Reappraisal.
- **Reinspection** - A property inspection process that is completed to ensure data quality. Reinspection could include exterior inspections, interior inspections, inspections based on digital imagery or a variation or combination of the three. These typically happen on a cyclical basis and could be in conjunction with a reappraisal or on a different cycle. (Also known as data collection in Vermont.) (This could consist of listers, assessors or contractors inspecting properties.)

In much of the Country reinspections are done on a 3-to-6-year cycle while reappraisals are completed on a 1-to-5 year cycle. The premise that reinspections and reappraisals need to happen at the same time could have skewed the results of the stakeholder survey to a longer cycle.

For example, in Texas most jurisdictions reappraise every year, but reinspections are only required every three years. In Kansas reappraisals happen every year, but reinspections are only required every 6 years. Massachusetts requires annual statistical reappraisals, with reinspections every 10 years.

Another factor that contributes to an increased cost of reappraisals in Vermont is the lack of economies of scale when conducting reappraisals. Vermont has the lowest number of parcels per assessment jurisdiction in the Country as well as the lowest population per assessment jurisdiction in the Country. If assessment jurisdictions were combined economies of scale could be realized offering a more financially feasible assessment model.

If an annual reappraisal cycle was implemented in Vermont full property reinspection's could happen every 4 to 6 years. Data could be checked on off years by using property surveys, reviewing permits, reviewing sales and using digital imagery and automated review processes to keep data up to date. Valuation models could be updated every year and valuations could be sent to property owners every year.

As shown in *Table 1.4*, annual reappraisals are the most common frequency length with 38% of respondents indicating that they reappraise property on an annual basis. 52% of responding states indicate reappraising every 2 years or less. Of the 29 states that responded to the survey 25 or 86% reported completing reappraisals on cycles of 5 years or less.

An annual reappraisal cycle would reduce the need, impact and cost of equalization in Vermont. Additionally, annual reappraisals are much less regressive than infrequent valuations and help to ensure greater valuation equity. More cost analysis can be found later in the report.

It should also be known that infrequent reappraisals create a system of de facto valuation freezes. Valuation freezes have been known to cause regressive values that impact lower value properties causing them to be overtaxed relative to higher valued properties.

Recommendations

Much of this recommendation is based on other policy changes when it comes to reinspection requirements, frequency and assessment jurisdiction size. Based on survey responses from across the country, within Vermont and looking at IAAO standards, PCSIAAO would recommend an initial reappraisal cycle length of 6 year or less with statistical reappraisals on off years and a plan to move to full annual reappraisals. It should be noted that the longer the period between reappraisals the more inequity that will exist within the assessment system even with a direct or indirect equalization processes in place. More frequent reappraisals including an annual reappraisal cycle would be recommended to increase valuation equity and fairness within the system as different areas and types of properties appreciate and depreciate at different rates naturally in the market.

Subjects covered later in this report including capacity building and equity and anti-bias measures make an additional compelling case for an annual reappraisal cycle.

Reinspection Cycle Length

Responses from Other States

The following question was asked of property tax oversight agencies of all 50 states and the District of Columbia.

“How often does your state require reinspections?” (Data Collection)

Reinspection Frequency	Occurrences	Percentage	State
Three Years	2	8.00%	DC, MD
Four Years	4	16.00%	IL, IN, ME, MN
Five Years	5	20.00%	FL, ID, MI, SC, UT
Six Years	4	16.00%	KS, MT, OH, WY
Ten Years	2	8.00%	CT, MA
Not Mandated	8	32.00%	CO, HI, IA, NC, NH, OR, PA, SD
Total	25	100.00%	

IAAO Standards

- IAAO’s *Standard on Property Tax Policy 2020* states:

“Ongoing valuation systems require maintenance and updating of property characteristics data. **Physical review, including on-site verification, is recommended every 4–6 years. Digital imaging technology tools may be used to supplement field reinspections with a computer-assisted office review** (IAAO 2017, Section 3.3.5).”
(**Bold Italic** added for emphasis.)

Analysis

Based on the information found in table 2.1, 60% of respondents follow IAAO’s standard on reinspections of at least every 6 years.

It should be noted that even though some states do not mandate reinspections they are still happening, just not at a mandated interval. As an example, North Carolina stated that they recommend counties reinspect per IAAO standards of between 4 to 6 years but have no statutory requirement.

Recommendations

Reinspections should be done every 4 to 6 years at a minimum per industry best practices and IAAO Technical Standards. Reinspections do not have to coincide with reappraisals. Rather, reinspections could be completed every four to six years and reappraisals conducted at the frequency established by the state, with annual reappraisal being the preferred frequency per industry best practices.

Criteria and Mechanisms for Off-Cycle Reappraisals

Vermont Stakeholders Survey Responses

The following question was asked as part of a survey sent to listers, assessors, clerks, treasurers, selectboard members, city council members, village trustees, mayors, city councilors, village managers, town managers, town administrators, district appraisers, and state department of tax staff.

“What mechanism would you recommend indicating the need for an off-cycle reappraisal, if any?”

This was an open-ended question, and a wide variety of answers were given. Of the answers given 122 were applicable to the question. *Table 3.1* is a summary of those 122 answers.

TABLE 3.1 Stakeholder Recommendations for Off-Cycle Reappraisals		
Mechanism	Votes	Percentage
Common Level of Appraisal (CLA) / Coefficient of Dispersion (COD)	34	27.87%
Common Level of Appraisal (CLA)	27	22.13%
Coefficient of Dispersion (COD)	13	10.66%
Sale Ratio	24	19.67%
None	21	17.21%
IAAO Ratio Standards	2	1.64%
Price Related Differential (PRD)	1	0.82%
Total	122	100.00%

* The terms above are defined in the glossary near the end of this report.

Responses from Other States

The following question was asked of property tax oversight agencies of all 50 states and the District of Columbia.

“Do you have criteria and mechanisms for off-cycle reappraisals?”

TABLE 3.2 Do Other States Complete Off-Cycle Reappraisal?			
Answer	Occurrences	Percentage	State
Yes	12	52.17%	CO, DC, ID, IL, IN, MD, ME, MI, MT, NC, NH, SC
No	11	47.83%	AR, CT, FL, HI, IA, KS, OR, PA, SD, UT, WY
Total	23	100.00%	

A follow-up question was asked of state oversight agencies, **“If yes, what are those criteria and mechanisms?”**

TABLE 3.3 Criteria for Off-Cycle Reappraisals in Other States		
Criteria or Mechanism	Occurrences	Percentage
Change in the Property	4	33.33%
Equalization Reappraisal Option/Mandate	6	50.00%
Sale of a Property	2	16.67%
Total	12	100.00%

- **Change in the Property:** A change in a property for states that use this for a criteria for reappraisal typically look at new construction, additions, remodels, demolition, or a change of use as a trigger for reappraisal.
- **Equalization Reappraisal Option/Mandate:** In some states the local jurisdiction has the option to reappraise more often if there is a need and in other states the failure to meet minimum sales ratio, COD and PRD standards can trigger a reappraisal.
- **Sale of a Property:** Reappraisals are triggered when a property sells. This is the California Prop 13 model. This model is found to be very inequitable.

States that complete reappraisals annually have no need for off-cycle reappraisals, due to the nature of annually revaluing and considering property data, sales, and appeal each valuation. States that appraise every two years typically do not have the time or staff to reappraise in off years due to the short turnaround time between reappraisals.

IAAO Standards

While different states handle off-cycle reappraisals in different ways they all aim to bring the assessment level to a market level or closer to what a property would sell for on the open market. The most widely used measures reviewed to determine if values are reflective of the market and equitable include the sales ratio, COD, PRD and PRB. See the glossary at the end of this report for definitions of these terms.

IAAO's *Standard on Ratio Studies* dictates that the appraisal level or sales ratio that is calculated by dividing the assessed value by the sales price should have a median ratio between 90% and 110%. If a group of properties are outside this range a reappraisal would be appropriate. (See *IAAO Standard on Sales Ratio Studies 2013*, 9.1 Level of Appraisal, Page 17)

The COD is commonly used to measure the uniformity of the appraisals in relation to the market. IAAO's *Standard on Ratio Studies* includes the following acceptable COD ranges.

Type of property-General	Type of property-specific	COD Range
Single-family residential (including residential condominiums)	Newer or more homogeneous area	5.0 to 10.0
Single-family residential	Older or more heterogeneous areas	5.0 to 15.0
Other residential	Rural, seasonal, recreational, manufactured housing, 2-4 unit family housing	5.0 to 20.0
Income-producing properties	Larger areas represented by large samples	5.0 to 15.0
Income-producing properties	Smaller areas represented by smaller samples	5.0 to 20.0
Vacant land		5.0 to 25.0
Other real and personal property		Varies with local conditions

(See *IAAO Standard on Sales Ratio Studies 2013*, Table 1-3)

The PRD and PRB are commonly used to measure vertical equity. IAAO's *Standard on Ratio Studies* recommends a PRD between 0.98 and 1.03, where a PRD of below 0.98 indicates progressivity or that high value properties are over appraised in relation to low value properties and a PRD above 1.03 indicates regressivity or that low value properties are over appraised in relation to high value properties. An ideal PRD would be 1.00. The PRB is preferable to the PRD as the PRD is sensitive to extreme prices or ratios. The recommended range for a PRB is -0.05 to 0.05. A PRB range that falls outside -0.10 to 0.10 indicates unacceptable vertical inequities. A PRB below -0.05 indicates regressive values and a PRB above 0.05 indicates progressive values. The ideal PRB would be 0. (See IAAO *Standard on Sales Ratio Studies 2013*, 9.2.7 Vertical Equity, Page 19)

Analysis

Off-cycle reappraisals typically take place because there is a valuation equity issue. If an off-cycle reappraisal must be conducted it would likely be done due to lack of uniformity and equity in assessed values. A full off-cycle reappraisal is difficult to carry out due to the time required to conduct a complete reappraisal. If there are triggers for an off-cycle reappraisal these triggers typically indicate there is an issue with the appraised values. Frequent reappraisals avoid gaps in valuation equity and help ensure equitable assessed values every year.

- A statistical reappraisal could be completed in off-cycle years, but statistical reappraisals are known to be less equitable than full reappraisals.
- Training assessment staff takes years and is difficult to do in a short period of time. Consistent regular full reappraisal cycles will create a stable known workload that the assessment workforce and reappraisal contractors can plan around.
- Budgeting for off-cycle reappraisals is challenged by the fact that government budgets are set many months in advance.
- Full reappraisals that are set on a regular basis are more efficient than infrequent reappraisals. An annual reappraisal cycle becomes increasingly more efficient as staff follow the same process each year.

Recommendations

If off-cycle reappraisals are used, they could be triggered by using IAAO's standards on sales ratios as stated in IAAO's *Standard on Sales Ratio Studies*.

A property tax system should be fair and equitable. Reappraising in off-cycle years can be difficult to staff and results in values that are applied after there is already an equity problem. Proactive reappraisals that keep properties equitably valued as a standard practice would be a better approach. Mandating full annual reappraisals is the best way to eliminate the need for off-cycle reappraisals and better supports the equal treatment of all taxpayers.

Use of Statistical Reappraisals in the Property Valuation Process

Vermont Stakeholders Survey Responses

The following question was asked as part of a survey sent to listers, assessors, clerks, treasurers, selectboard members, city council members, village trustees, mayors, city councilors, village managers, town managers, town administrators, district appraisers, and state department of tax staff.

“What are your thoughts on statistical reappraisal? If statistical reappraisals continue to be used in Vermont moving forward, do you have any suggestions for improvements to the process or suggestions for a new process?”

TABLE 4.1 Stakeholders in Favor of and Not in Favor of Statistical Reappraisals

Answer	Occurrences	Percentage
In favor	88	74.58%
Not in favor	30	25.42%
Total	118	100.00%

Statistical reappraisal can be a cost-effective alternative to a full reappraisal, however the majority of respondent indicated that statistical reappraisal should be used with caution.

Below is a summary of the potential shortfalls or issues with statistical reappraisal per the respondents:

- Without accurate data a statistical reappraisal will be unsuccessful.
- Should not be used too many times in a row as reliability will diminish as time goes on.
- Some suggested alternating statistical reappraisals with true reappraisals.
- Statistical reappraisals should only be allowed if CODs are low. High CODs indicate the need for a full reappraisal.

Responses from Other States

The following question was asked of property tax oversight agencies of all 50 states and the District of Columbia.

“Does your state complete any statistical reappraisals?”

TABLE 4.2 Other States that Complete Statistical Reappraisal

Answer	Occurrences	Percentage	State
Yes	12	46.15%	CO, CT, DC, IA, MN, NC, NH, OH, OR, SD, UT, WY
No	14	53.85%	AZ, AR, FL, HI, ID, IL, IN, KS, MD, ME, MI, MT, PA, SC
Total	26	100.00%	

A follow-up questions was asked: **“If yes, what techniques are used?”**

Statistical reappraisals are a tool that can be used when jurisdictions fall outside a predetermined sales ratio range. Some states and jurisdictions will apply a factor to values to directly or indirectly adjust the values to the required sales ratio range or target.

IAAO Standards

- IAAO's *Standard on Mass Appraisal of Real Property 2017* states:

"5.2.1 Assessment Level:

Assessment level relates to the overall or general level of assessment of a jurisdiction and various property classes, strata, and groups within the jurisdiction. Each group must be assessed at market value as required by professional standards and applicable statutes, rules, and related requirements. The three common measures of central tendency in ratio studies are the median, mean, and weighted mean. The *Standard on Ratio Studies* (2013) stipulates that the median ratio should be between 0.90 and 1.10 and provides criteria for determining whether it can be concluded that the standard has not been achieved for a property group. Current, up-to-date valuation models, schedules, and tables help ensure that assessment levels meet required standards, and ***values can be statistically adjusted between full reappraisals or model recalibrations to ensure compliance.*** (Bold Italic added for emphasis.)

Analysis

As is stated in IAAO's *Standard on Mass Appraisal for Real Property*, statistical reappraisals can be used to adjust values between full reappraisals, however the further away from the full reappraisal the more inequity will exist in the system. It should be noted that although statistical reappraisals can be a good tool to bring appraisal level in line on average, there are typically more winners and losers in a statistical reappraisal versus a full reappraisal. Winners and losers come in the form of taxpayers that pay less than their fair share and taxpayers that pay more than their fair share. Overall valuation equity on a statistical reappraisal is lower than on a full reappraisal. Chances are higher that both horizontal equities as measured by the COD and vertical equity as measured by both PRD and PRB will be outside IAAO standards for years that statistical reappraisal is completed.

Vermont currently allows for statistical reappraisal as long as it is done within 5 years of a full reappraisal.

A statistical reappraisal is preferable to no reappraisal and typically has a lower cost and takes less time to implement.

Recommendations

A full reappraisal is preferred to a statistical reappraisal in all ways except in cost and time. When time and resources are not available to conduct a full reappraisal, a statistical reappraisal can be used, but it should be noted that equity will suffer versus completing a full reappraisal as different properties and areas appreciate and depreciate at different rates over time.

Evaluation Criteria to use when Evaluating Reappraisal Contractors

Vermont Stakeholders Survey Responses

The following question was asked as part of a survey sent to listers, assessors, clerks, treasurers, selectboard members, city council members, village trustees, mayors, city councilors, village managers, town managers, town administrators, district appraisers, and state department of tax staff.

“What evaluation criteria would you recommend in evaluating reappraisal contractors?”

A wide range of answers were provided. Below is a summary of some of the most common and relevant answers.

- Requiring references be provided as part of the RFP process
- Following IAAO’s *Standard on Contracting for Assessment Services*
- Ensure that contractors follow all IAAO standards
- Quality of work should be judged based on a sales ratio study
- PVR could develop a list of requirements that the contractors must meet in completing a reappraisal. PVR could certify that the list had been completed based on information provided by the vendor and or the jurisdiction.
- Final payments wouldn’t be made until results could be verified, potentially through an independent audit or a state audit.
- Results of reappraisal audits would be public record and could be provided to other jurisdictions to facilitate selecting contractors.

IAAO Standards

- IAAO *Standard on Contracting for Assessment Services 2019* states:

“The key principles within this standard are as follows:

- The solicitation for contract services must clearly describe the project, including major deadlines and the means by which success will be measured.
- The contract for services must clearly and completely describe the project as well as the parties involved and their responsibilities.
- There must be a complete understanding of the methods and means for monitoring the project, including the determination of project completion.”

Analysis

Ensuring that contractors meet minimum standards is the best way to ensure properties are valued both fairly and equitably. During conversations with stakeholders in Vermont, it was suggested the State might consider developing standardized contracts for jurisdictions to use. PCSIAAO agrees, having standardized contract language would help ensure minimum standards are met and take some risk out of contracting for reappraisal services for both the jurisdiction and service providers.

Standardized audits of reappraisals would also help to ensure that minimal standards are met, and taxpayers are getting good value for their money. Audits can be done by the state, local assessor, lister or an independent subcontractor could be hired to ensure valuation equity and compliance with state laws, IAAO Technical Standards, and other industry best practices. Final payments to the contractors could be contingent on passing minimum performance standards.

Recommendations

A group of stakeholders should meet to develop a list of requirements that reappraisal contractors must meet to ensure compliance with state laws, IAAO Technical Standards, and industry best practices. Potential stakeholders could include listers, assessors, reappraisal contractors, and PVR staff. This checklist could be used by auditors to ensure that assessment best practices were followed, and assessments are consistent statewide. Enforcement mechanisms should be included in any recommendations to ensure valuation equity.

Before contracting for a reappraisal contractor, PCSIAAO strongly recommends a jurisdiction take the time to fully read and understand IAAO's *Standard on Contracting for Assessment Services*.

Assessment of Reappraisal Best Practices in Other Jurisdictions that Could be Relevant and Beneficial to Implement in Vermont

Vermont Stakeholders Survey Responses

The following question was asked as part of a survey sent to listers, assessors, clerks, treasurers, selectboard members, city council members, village trustees, mayors, city councilors, village managers, town managers, town administrators, district appraisers, and state department of tax staff.

"What reappraisal best practices from other jurisdictions could be relevant and beneficial to implement in Vermont? Why?"

A wide range of answers were provided, and a summary of the most common and relevant answers included:

- No requirement for interior inspections
- Require interior inspections
- Allow aerial imagery to take the place of or in place of part of the in person reinspections
- Use a sketch checking or change finding software to assist with reinspections
- Require minimum education for listers, assessors and contractors
- Better education for the public
- Condense assessment jurisdictions
- Reappraise by assessment district
- Reappraise by county
- Reappraise by school district
- Keep reappraisals by municipality
- Simplify the property tax system
- Remove the civil board of appeal level of appeal
- Regular reappraisals
- The state should review data collection

IAAO Standards

- IAAO's technical standards including recommended best practices in assessment can be found free of charge at www.iaao.org.

These technical standards include:

- Standard on Assessment Appeal
- Standard on Automated Valuation Models
- Standard on Community Outreach
- Standard on Contracting for Assessment Services
- Standard on Data Quality
- Standard on Digital Cadastral Maps and Parcel Identifiers
- Standard on Manual Cadastral Maps and Parcel Identifiers
- Standard on Mass Appraisal of Real Property
- Standard on Oversight Agency Responsibilities
- Standard on Professional Development
- Standard on Property Tax Policy
- Standard on Ratio Studies
- Standard on Valuation of Personal Property
- Standard on the Valuation of Properties Affected by Environmental Contamination
- Standard on Verification and Adjustment of Sales

Analysis / Recommendations

Consideration of potential policy changes include:

- Interior reinspection requirements are a divisive topic in the state of Vermont.** The question of whether interior reinspections are beneficial should not be of much debate as more information is typically better. The real question is at what cost are you going to continue to require interior inspections? Interior reinspections are a time, labor and therefore cost intensive activity. The process of mass appraising property involves a series of decisions revolving around providing the most equitable appraisals in the most efficient and cost-effective way. During interviews, reappraisal contractors stated that property owners don't want data collectors in their homes, with the percentage of successful interior inspections falling every year. The contractors also spoke of the regressivity of such inspections as owners of second homes aren't typically home whereas people that only have one home are more likely to be home – leading to a default assumption of condition for those properties without an interior inspection a disparate treatment of residential properties that tends to favor one class/group over the other. Much of the labor involved in a reappraisal has to do with the reinspection process. When considering how other states handle this matter the majority do not require interior inspections. Many areas around the Country have conducted a cost benefit analysis and made the decision that the time and money spent doing interior inspections could be better spent on other functions that are less intrusive to property owners and have a higher return on investment.
- A certain level of education should be required for not only listers and assessors, but also for reappraisal staff, PVR staff and anyone involved in the appeals process.** An educated assessment industry facilitates equity, consistency and professionalism throughout every step of the process. See IAAO's *Standard on Professional Development*.

- **Educating the public is just as important as educating assessment professionals.** The rumor mill can run wild when it comes to what assessors do and do not do. For this reason, it is vital for policies and procedures to be consistent statewide. This can be accomplished through PVR policies that have been developed with stakeholder input. The public's understanding of the issues and assessment process is paramount to moving the assessment industry in Vermont forward. Addressing property owner questions is an important part of the assessment process. See IAAO's *Standard on Community Outreach*.
- **Assessment jurisdiction size or makeup was one of the most contentious questions asked in the Vermont assessment community.** A potential change in assessment jurisdiction sizes and groupings brings in many unknown variables yet to be addressed by anyone in Vermont. Cost savings, reduced complexity, capacity building, and equity are among several reasons it makes sense for Vermont to condense assessment jurisdictions. For comparison, Vermont assessment functions are handled at the municipal level, however, as shown in the *Table 6.1* below 76% of the states that responded to the survey or this report indicated their assessment functions were handled at the county level. This in no way means that Vermont would need to assess at the county level but rather serves to help illustrate that some consolidation should be considered within Vermont.

TABLE 6.1 Assessment Jurisdiction Level

Assessment Office	Occurrences	Percentage	State
County	19	76.00%	AR, AZ, CO, FL, HI, IA, ID, IL, IN, KS, LA*, NC, OH, OR, PA, SC, SD, UT, WY
Municipal	4	16.00%	CT, ME, MI, NH
State	2	8.00%	MT, MD
Total	25	100.00%	

*For the purpose of this analysis parishes are grouped with counties.

Of the 12 states that supplied PCSIAAO with jurisdiction parcel counts, the median parcel count per assessment jurisdiction was 28,189. While in comparison, Vermont's average assessment jurisdiction is 1,373 parcels.

In responding to this question, stakeholders that were in favor of maintaining the municipal level assessment offices as they currently exist, spoke of the local knowledge that a municipal level assessor or lister has regarding their community.

Alternatively, stakeholders in favor of condensing assessment offices spoke to the lack of data and resources, valuation inequity, challenges of oversight, and the cost of doing business for the municipal level offices.

Many valuation cases are settled in smaller jurisdictions because the cost to litigate these cases is more than the jurisdiction can afford. Settling cases based on litigation costs is an unfortunate circumstance that causes inequity in the assessment and resulting property taxes. Larger jurisdictions are less susceptible to these types of situations.

Jurisdiction size is also a consideration for contractors. While some contractors are happy to work in smaller jurisdictions others will only work in larger jurisdictions. One contractor stated that they do not bid on jurisdictions with parcel counts below 1,200. As of 2022 160 of 251 or 64% of municipalities in Vermont had under 1,200 parcels. Interviews with some regional and national contractors indicated the most efficient jurisdiction size for Vermont would be between 10,000 to 20,000 parcels, or potentially to do statewide reappraisals.

When it comes to equalizing values across the State a lack of sales data in smaller jurisdictions has been known to create a challenge. With small jurisdictions comes small sample sizes. Small sample sizes are more susceptible to outliers creating inequity in the application of formulas such as the CLA.

- **Simple to understand and implement property tax policy saves resources and is more equitable.** Overly complex policy creates an environment where laws could be interpreted in different ways and can be hard for property owners that don't work in the assessment field to understand. When consistent policies exist statewide it also makes the job of educating the public much easier.
- **Changing the make-up of the assessment appeal structure** was an issue that was brought up in many conversations with various stakeholders within Vermont.

Most states have an informal appeal process held at the local level with the staff who originally set the property's value. Having appeals at the local level is important as it allows those that set the value the chance to correct errors for the future and answer questions about why a property was valued a certain way in an informal setting. In most states, appeals move on to a board of appeals, small claims, chief magistrate, or other level. After an intermediate appeal level appeals typically go to a state board of assessment appeals or tax appeals. Appeals typically move into the court system after a state board of assessment or tax appeals has had an opportunity to review the case and render a decision.

If assessment jurisdictions were condensed it would make sense to continue to have informal level appeals with the assessment office or contracted reappraisal firm. After the informal level the board of civil authority would be replaced with an elected or appointed board of local appeals at a geographic assessment level, county level, district level or whatever assessment level exists. The third level of appeal would then be a state board of assessment appeals or tax appeals. This board could be made up of an odd number of individuals and could be elected or appointed. A fourth pro tem member would be available for vacancies or sickness on the state level board. Appeals past that level would go to the court system.

- **A regular reappraisal cycle means that proactive measures can be taken to help facilitate equitable valuation of property.** Non-regular reappraisal cycles typically become a reactionary cycle lacking consistency and is challenging to manage for all involved.

Regularity and consistency create stability and predictability in the form of consistent value changes that reflect the market better than large valuation jolts caused by non-routine reappraisals that can be more difficult for the public to accept.

Additionally, reappraisal firms have a difficult time staffing to complete work that can fluctuate with economic cycles in a non-cyclical system. There is currently little incentive for reappraisal firms to train staff for a region of the state knowing they will have to later lay them off, due to a lack of regular and predictable work in that area. From an employee's standpoint, the lack of consistent and predictable work is a disincentive to work in the industry.

As demonstrated earlier in this report, regular reappraisals are the standard rather than the exception nationally. PCSIAAO recommends regular reappraisals, preferably on an annual basis.

- **State oversight is an important aspect of a well-functioning assessment system.** Without state audits and oversight including enforcement provisions consistency cannot happen.
 - The following are responsibilities that an oversight agency such as PVR should take on per IAAO's *Standard on Oversight Agency Responsibilities*.

"2.2 Responsibilities of Oversight Agencies

Governing laws set the responsibilities of oversight agencies as well as the corresponding responsibilities of primary assessors and other property tax officials. Monitoring and compliance responsibilities may include, but are not limited to, the following (in alphabetical order):

- Complex property valuation assistance/central assessment
- Education and certification of assessment professionals
- Financial assistance, cost-sharing, and budget
- Forms development
- Guidelines, manuals, and specifications
- Investigation and/or research of taxpayer complaints
- Legal and legislative responsibilities
- Performance evaluation
- Professional association involvement
- Public relations programs
- Technical research, reporting, support, and assistance."

Oversight responsibilities should include checks on jurisdictions to ensure laws and policies are being followed. This could include:

- Data consistency and reinspection checks
- Permit review checks
- Sales review checks
- Checking to make sure values are supported by a mass appraisal valuation model
- Sales ratio checks to ensure fair and equitable values and equal distribution of property tax loads
- Tax roll approval to ensure all aspects of state law and policy were completed.

Other states have been known to create grade cards requiring certain tasks as listed above or a certain percentage of tasks to be completed to meet state compliance requirements. If minimum standards are not met by a jurisdiction a mechanism to cause compliance or remove assessors or listers should be in place to ensure consistency statewide.

Additionally, legal options should exist for local jurisdictions to appeal oversight decisions to remove a lister or assessor through a state board or assessment appeal and through the court system.

Finally, an independent audit of oversight actions on a periodic basis can help ensure professional and efficient oversight is occurring.

Appeal Structure

Identify Political Subdivision Levels Used Around the Country for Effectively Conducting Property Tax Appeals, Considering Relevant Population for an Efficient and Effective Appeals Process. Analyzing the approaches taken by other states, including their political subdivisions, in establishing their reappraisal appeal structure. Recommending a fair and transparent reappraisal appeal structure in Vermont.

Vermont Stakeholders Survey Responses

The following question was asked as part of a survey sent to listers, assessors, clerks, treasurers, selectboard members, city council members, village trustees, mayors, city councilors, village managers, town managers, town administrators, district appraisers, and state department of tax staff.

“What would be the most effective, efficient, and appropriate political subdivision level for conducting property tax appeals? Please consider relevant population for an efficient and effective appeals process.”

Many of the respondents assumed that the appeals would either be done at the municipal level or at the state level based on their understanding of how things might work. Most respondents believed that initial appeals should happen at the local level. In some cases, respondents specified they thought the appeals should be done at the municipal level and other times they simply stated the local level. Some did suggest an assessment district, county, or school district first level appeal.

Responses from Other States

The following question was asked of property tax oversight agencies of all 50 states and the District of Columbia.

“At what political or jurisdictional levels are appeals held in your state?”

First Appeal Level	Occurrences	Percentage	State
County	20	80.00%	AR, AZ, CO, FL, HI, IA, ID, IL, IN, KS, LA*, MD, MT, NC, OH, OR, PA, SC, SD, UT, WY
Municipal	4	16.00%	CT, ME, MI, NH
State	1	4.00%	MT
Total	25	100.00%	

**For the purpose of this analysis parishes are grouped with counties.*

Washington DC was removed from the analysis due to the fact that it is neither a city, state nor county and just 68 square miles.

Montana completes first level appeals at the state level as they are responsible for the initial value and then the second level of appeals is at the county level.

IAAO Standards

- IAAO's *Standard on Assessment Appeals – 2016* covers questions surrounding appeal structures:

“3. Structure of the Recommended Appeal System for Locally Assessed Property

There are two aspects of an assessment appeal: matters of valuation or fact, such as the amount of an assessment, and matters of law, such as interpretation of statutes. Matters of valuation or fact should be addressed at the administrative level, with the state or provincial property tax tribunal the final resort for administrative appeals.

For locally assessed property, the appeals system should consist of

1. Informal appeal
2. One or more levels of formal appeal
3. Court of law.

At each of these levels, the appeal body should publish and make available deadlines, operating procedures, rules, and regulations so that all parties understand what is required of them and how the appeal will be conducted.

The second level of appeal is handled by administrative or quasi-judicial appeal boards and tribunals, which are concerned primarily with the accuracy of assessments for specific classes of properties, taxpayers, or areas. These boards and tribunals should provide a broad base of expertise to determine individual assessments.

Further appeals of the legality of an assessment are dealt with by the courts assigned jurisdiction over matters of law. An appeals system should direct taxpayers to the appropriate court and explain the procedures for filing an appeal.”

- IAAO's *Guidance on Developing Mass Appraisal and Related Tax Policy 2023*,

“9.3 Appeal Systems

An appeals system may have numerous levels. At each of these levels, the appeal body should publish and make available deadlines, operating procedures, rules, and regulations, so that all parties understand what is required of them and how the appeal will be conducted.

For all assessed property, the appeals process should be conducted at the following levels:

- Informal review by the assessor, including an on-site inspection of the property if practicable
- Formal review by appeals board (local, state, provincial, or national)
- Formal judicial review

The process should include the following features:

- Reasonable fees and filing costs based on some measure of appeal complexity
- Notification of hearing procedures and results at each decision level, including reason for decision
- Hearings
- Public relations

Appeals boards must be knowledgeable and competent to hear appraisal-related appeals. An independent or supervisory agency should provide training for hearing officers. Board members should not have conflicts of interest that may bias their decisions. After the informal review, all formal proceedings should be open to the public and transcripts made available. Notification of the hearing time and place should include the time to be allotted to the case and a brief explanation of procedures and rules of evidence.”

Analysis

Assessment appeals are an important part of the assessment process and afford property owners the opportunity to address disagreements with their property value. Appeals are also an opportunity for the assessor to make corrections when errors are found in the property record or valuation methods or models.

Of the states that replied to the survey all but one had a first level appeal at the municipal or county level. The assessment function in most states is managed at the county level due to the increased efficiency that a larger assessment office can realize. It is typical for the first level of appeal to be held in the office where the value was generated. It should be noted that the New England states that replied to the survey all have their first level appeals at the municipal level like Vermont.

Montana, who is in the unique position of having all assessments completed at the state level, has the first level of appeal with the state's Department of Revenue as they are the party responsible for the initial valuation. The second level of appeal goes to a county tax appeal board. If either party is dissatisfied with the county level appeal the decision can be appealed to the Montana Tax Appeal Board. Once those three levels have been exhausted, either party can appeal that decision to district court and then can move on to the Montana Supreme Court if necessary.

Many stakeholders within Vermont requested additional training and education for members of the Board of Civil Authority (BCA) if the BCA process is to continue. Such an education requirement could include the obligation to, at a minimum, take and pass PVR's State sponsored Statutes & Rules in Property Assessment course to understand the laws and regulations guiding the performance of listers and assessors.

Considering a relevant population for an efficient and effective appeal process economies of scale can be an impactful factor, as the larger the assessment jurisdiction the more efficient the appeals process can be.

Population and Parcel Count / Assessment Jurisdiction

Each of the following states provided statewide parcel counts as part of IAAO's 2023 Property Tax Policy and Administration (PTPA) survey. Utilizing IAAO's PTPA survey information and data from the 2020 U.S. Census, the average jurisdiction sizes existing across the Country are as follows:

TABLE 7.2 Assessment Jurisdiction Size from Other States						
State	Jurisdiction Type	Population Based on 2020 US Census	Parcels Based on 2024 IAAO PTPA Survey	Number of Assessing Jurisdictions	Average Population / Assessing Jurisdiction	Average Parcels / Assessing Jurisdiction
Arkansas	County	3,011,524	2,114,190	75	40,154	28,189
Arizona	County	7,151,502	3,411,962	15	476,767	227,464
Florida	County	21,538,187	10,815,396	67	321,465	161,424
Hawaii	County	1,455,271	80,579	5	291,054	16,116
Idaho	County	1,839,106	1,112,216	44	41,798	25,278
Indiana	County	6,785,528	3,500,000	92	73,756	38,043
Kansas	County	2,937,880	1,655,300	105	27,980	15,765
Maryland	County	6,177,224	2,395,462	23	268,575	104,151
Michigan	Municipal	10,077,331	4,777,698	1,515	6,652	3,154
Montana	State	1,084,225	942,452	1	1,084,225	942,452
Oregon	County	4,237,256	2,185,227	36	117,702	59,951
Pennsylvania	County	13,002,700	12,940,329	67	194,070	193,139
Mean		6,211,770	2,959,881	49	166,953	69,663
Median		4,237,256	1,884,745	50	117,702	28,189
Vermont Current	Municipal	643,077	350,000	251	2,562	1,394
Vermont School District Proposal	School District	643,077	350,000	120	5,359	2,917
Vermont Geographic Assessment Area Proposal	Geographic Assessment Areas	643,077	350,000	53	12,134	6,604
Vermont County Proposal	County	643,077	350,000	14	45,934	25,000
Vermont Assessment District Proposal	Assessment District	643,077	350,000	6*	107,179	58,333
Vermont State Assessed Proposal	State	643,077	350,000	1	643,077	350,000

*Any number of districts could be used in this example.

TABLE 7.3 Assessment Jurisdiction Size from New England Only

State	Jurisdiction Type	Population Based on 2020 US Census	Number of Assessing Jurisdictions	Average Population / Assessing Jurisdiction
Connecticut	Municipal	3,605,944	169	21,337
Maine	Municipal	1,362,359	494	2,758
Massachusetts	Municipal	7,029,917	352	19,971
New Hampshire	Municipal	1,377,529	259	5,319
Rhode Island	Municipal	1,097,379	39	28,138
Mean		2,894,626	263	15,505
Median		1,377,529	259	19,971
Vermont Current	Municipal	643,077	251	2,562
Vermont School District Proposal	School District	643,077	120	5,359
Vermont Geographic Assessment Area Proposal	Geographic Assessment Areas	643,077	53	12,134
Vermont County Proposal	County	643,077	14	45,934
Vermont Assessment District Proposal	Assessment District	643,077	6*	107,179
Vermont State Assessed Proposal	State	643,077	1	643,077

*Any number of districts could be used in this example.

In talking with reappraisal contractors from the New England area it was revealed that smaller contractors prefer doing work in jurisdictions with parcel counts below 6,000 parcels. Larger reappraisal companies stated they preferred to work with parcel counts in the range of 10,000 to 20,000 in a jurisdiction or possibly the whole state.

Vermont's average assessment jurisdiction size is just 1,394 parcels, more simply put, the smallest average parcel count of any state reporting parcel counts. Vermont has an average population per assessment jurisdiction of just 2,562. That ranks Vermont as having the lowest average population per assessment jurisdiction in the Country.

Another issue with small assessment jurisdictions is that the appraiser needs a statistically significant number of sales data points to appraise property and produce reliable estimates of values. The more sales data the more reliable the valuation estimate. A lack of reliable and current sales data becomes increasingly challenging in times of a slow sales market and in the case of unique properties, made even more difficult when a jurisdiction is as small as many are in Vermont.

Recommendations

Recommendations on appeal structure change depending on the overall structure of the assessment system.

If no changes are made to the overall structure of the assessment system, it would make sense to allow the reappraisal contractor to have the first level of appeal after a reappraisal since they are the ones that developed the values. The second level of appeal after a reappraisal could move to the elected lister or appointed assessor. The BCA level appeal should be removed as having multiple local level appeals is redundant. The next level of appeal could be a regional assessment board made up of an appointee from each of five adjacent towns. The next level should be a State Board of Assessment or Tax Appeals. A State Board of Assessment or Tax Appeals could be required to have additional training and expertise in assessment appeals best practices. Appeals beyond the State Board of Assessment or Tax Appeals could go to the court system. It does not make sense for PVR to make decisions or to oversee the appeals process especially when some of what is being decided could have to do with directives, policies or decisions made by PVR. PVR could handle informal appeals of PVR valued property, but not valuation appeals coming from locally assessed property. PVR could testify in appeal hearings involving PVR directives, policies or valuation decisions, but should not make rulings on locally assessed property. A State Board of Assessment or Tax Appeals could be an independent government entity and not a division under the Department of Taxes. This would keep the property assessments appeals process as independent and unbiased as possible.

However, if the assessment system is changed to a system where assessments are done at the school district, geographic assessment area, county or assessment district level it would make sense to have the first level informal grievance appeal with the party responsible for the initial property valuation. The second level would be made up of an elected or appointed local appeal board, the third level could be a State Board of Assessment or Tax Appeals, and then appeals would work their way through the court system.

If the state were to be responsible for the reappraisal of property, then an appeal structure could look similar to what is used in Montana. The first level of appeal is with the Department of Tax's property valuation and review or the contractor that developed the values, the second level would be at a local level appeal board with the third level moving to a State Board of Assessment or Tax Appeals. After the board level, appeals could work through the courts.

If revaluations are the responsibility of the state and the state sub-contracts the reappraisal responsibilities it could make sense for the reappraisal firms contracted to reappraise a particular area would also handle the informal appeal level at the local level based on reappraisal contracts.

Additionally, if all property were to be state assessed PVR should be removed from the third level of the appeals process. Appeals past the first level of appeal should be handled by entities independent of PVR.

Determining Appeal Volumes in Jurisdictions with Successful Appeal Models

Responses from Other States

The following question was asked of property tax oversight agencies of all 50 states and the District of Columbia.

“To the best of your knowledge, please provide the number of appeals filed or percentage of properties appealed at each level in your state.”

TABLE 8.1 Assessment Appeal Volume from Other States

State	Jurisdiction Type	Parcels Based on 2024 IAAO PTPA Survey	First Level Appeals	First Level Appeals as a % of the Parcel Total	Second Level Appeals	Second Level Appeals as a % of the Parcel Total	Third Level Appeals	Third Level Appeals as a % of the Parcel Total
Hawaii	County	80,579	1,424	1.77%	970	1.20%		
Indiana	County	3,500,000	55,367	1.58%	1,200	0.03%		
Kansas	County	1,655,300	40,511	2.44%	2,848	0.17%	2,579	0.16%
Maryland	County	2,395,462	89,111	3.72%	22,517	0.94%	2,635	0.11%
Montana	State	942,452	19,937	2.12%	593	0.06%	42	0.00%
North Carolina	County			5%	<1,000			
Mean		2,225,249		2.77%		0.48%		0.09%
Median		2,025,381		2.28%		0.17%		0.11%
Vermont Current	Municipal	350,000		Not Available		Not Available		Partially Available

Analysis

Total appeal counts vary depending on the frequency of reappraisals and requirements for variation in assessment rates, state laws and exemptions among other factors. Of the states surveyed some do not track total parcel counts statewide, others do not track appeal counts at the local level, most of the information available was dependent upon what data was collected by the state oversight agency.

The previous table illustrates the states that reported data have a first level appeal rate between 1% and 5% of all parcels. The second level appeal rates range from near 0% to just over 1% of all parcels, and third level appeals are near 1/10 of 1% of all parcels on average. It should be noted here, property value appeals have been higher than normal nationwide recently due to the fluctuations in market value seen over the past four years.

Findings

Based on appeal numbers received in the survey sent to all 50 states and the District of Columbia the following estimate for stabilized appeal counts considering similar assessment policies are as follows:

- A first level stabilized appeal rate of 2% to 3% would be reasonable. Based on Vermont's current parcel count, this would result in a stabilized first level appeal count between 7,000 and 10,500 statewide annually.
- A second level stabilized appeal rate of 0.25% and 1.00% would be reasonable. Based on Vermont's current parcel count that would result in a stabilized second level appeal count between 875 and 3,500 statewide annually.
- A third level stabilized appeal rate of 0.10% and 0.20% would be reasonable. Based on Vermont's current parcel count that would result in a stabilized third level appeal count between 350 and 700 statewide annually.

It is important to be aware that appeals will likely be higher than the rates indicated above, particularly after major changes to an assessment system or after major changes in assessed values that occur when property are valued infrequently. The above appeal counts should be considered in the make-up of reappraisal and appeal structures and potential staffing of a stabilized assessment system.

Property Data

Determine if Highest and Best Use Categories are Commonly Used Across the Jurisdiction

Vermont Stakeholders Survey Responses

The following question was asked as part of a survey sent to listers, assessors, clerks, treasurers, selectboard members, city council members, village trustees, mayors, city councilors, village managers, town managers, town administrators, district appraisers, and state department of tax staff.

"Are highest and best use categories consistently used in all jurisdictions? If not, please explain the issues and possible solutions."

TABLE 9.1 Are Highest and Best Use Categories Used Consistently Across Vermont?		
Answer	Occurrences	Percentage
Yes	76	52.41%
No	69	47.59%
Total	145	100.00%

A summary of answers on why highest and best use (H&BU) categories are not consistent included:

- Too many categories
- Guidance is vague
- *"1) The contiguous parcel rule requires that properties in identical ownership, touching at any point, must be listed on one taxable parcel. These properties in many cases have different highest and best uses so the assessing official must choose one. I would not recommend reversing this rule as it would be virtually impossible to untangle but instead allowing for capture of category on inactive contiguous parcels and the addition of values within CAMA to ensure that the overall value is not being influenced by the combination of acreages and use of a single set of cost tables.*

- 2) Highest and best use categories S1 and S2 used to be V1 and V2. The “V” categories were to identify vacation or second residences while the “S” categories are intended to identify less than typical residential construction that is not suitable for typical year-round habitation. Remnants of these inconsistencies are found not only due to need for parcel review (auditing) but also due to some assessing officials believing they can manage the homestead qualification process by identifying the occupancy as opposed to highest and best use. These categories should be updated by the reappraisal contractor at the time of reappraisal in conjunction with continued education for both appraisers and assessors.”
- “The State has a policy of combining contiguous parcels as one entry on the GL. If a parcel has a legal H & B use different than the contiguous parcel, than that parcel should have its own entry on the GL and be valued as a separated parcel.”
- Parcel definition goes against H&BU, “Example, if owner has two subdivided lots: lot1 has a dwelling and under 6 ac land (category R1) and lot2 is just vacant land (category M). Following VT parcel definition, we MUST list the two lots under one “account”/SPAN if land is contiguous under same ownership. The state statute and administration system are creating inconsistencies.” “Building lots in developments should be assessed individually. Address at reappraisal”
- Required training on H&BU

Responses from Other States

The following question was asked of property tax oversight agencies of all 50 states and the District of Columbia.

“Are highest and best use categories commonly used in your state?”

None of the 24 states that replied to this question said no to the above question. Highest and best use categories are commonly used across the country.

IAAO Standards

- IAAO’s *Standard on Mass Appraisal 2023* states:

“4. Valuation

Mass appraisal analysis begins with assigning properties to use classes or strata based on highest and best use, which normally equates to current use. Some statutes require that property be valued for ad valorem tax purposes at current use regardless of highest and best use. Zoning and other land use controls normally dictate highest and best use of vacant land. In the absence of such restrictions, the assessor must determine the highest and best use of the land by analyzing the four components—legally permissible, physically possible, appropriately supported, and financially feasible—thereby resulting in the highest value. Special attention may be required for properties in transition, interim or nonconforming uses, multiple uses, and excess land.”

- IAAO’s *Standard on Oversight Agency Responsibilities 2020* states:

“10.2 Procedural and Field Data Quality Audits

Procedural audits and field data quality audits constitute a review of operations intended to discover defective and inefficient practices. These audits should be performed to ensure that quality standards are being met. A few examples of areas that should be included in performance reviews are data collection procedures, valuation methods, and documentation of value overrides. Clear procedures should be developed so primary assessors understand what is tested and the requirements for passing, as well as the consequences and impact of failure (see the IAAO Standard on Property Tax Policy [IAAO 2020a] and Standard on Data Quality [2020b]).”

- IAAO's *Standard on Property Tax Policy 2020* states:

" 7.2.4 Classification of Property

Classification (or differential) systems provide favored treatment to certain types of property. The tax benefit is provided by assessing the property at a fraction of its full market value. Property classes with lower ratios receive greater benefit. As an alternative, some classification systems alter the tax rate, setting a lower rate for the favored classes of property. The rate paid by these taxpayers therefore is lower, although their assessments (values) are unchanged. Although variable tax rates also can add to complexity and confusion, they maintain the independence of the appraisal and taxation processes and may therefore have an advantage over assessment classification schemes for jurisdictions that do not have overall or rate uniformity requirements. Classification differs from exemption in that an application generally is not required. It is instead based on broad categorization assigned by the assessor rather than individual circumstances. Classification does afford some protection from reappraisal effects for protected classes. However, classification violates the economic principles of ad valorem taxation because properties tend to be taxed at more or less favored percentages of value based on political, not economic, conditions. Classification may also violate constitutionally mandated protection from discrimination.¹⁷ Classification adds a layer of complexity to the understanding of the property tax. This effect worsens as the number of classifications and variance in the percentages to be assessed grows.¹⁸ Classification violates the visibility standard providing instead a less open system in which assessment equity errors are easier to hide and more difficult to discover. Numerous studies indicate that appraisal equity, as measured by such indicators as the coefficient of dispersion (COD), improves significantly when governments eschew fractional assessments and classification schemes for full market value.¹⁹ Finally, classification obscures the effective tax rate. In a classification system, the assessment fraction (ratio) for the class must be multiplied by the nominal tax rate to determine the effective tax rate. This step increases confusion and reduces understandability."

Analysis

Importance of Highest and Best Use in Appraisal

IAAO's *Glossary for Property Appraisal and Assessment Third Edition* lists Highest and Best Use as, "The appraisal principle that requires evaluation of all physically possible, legally permissible, financially feasible, and maximally productive (most profitable) uses of a property to determine the use that provides the owner with the highest net return on investment in the property. Highest and best use is evaluated as if vacant land, and as improved."

When valuing property at market value all appraisers look to the highest and best use as their compass directing them to market value. Market value according to Black's Law Dictionary, 2nd Edition is, "In an open and competitive market, a buyer willingly pays and a seller willingly takes this highest estimated, and acceptable, price for an item. Also refer to fair market value (FMV)." In summary a reasonable seller is not going to take the lowest offer, they will typically take the highest offer. The user with the highest and best use of the property will in theory be able to pay the highest price for the property.

Based on interviews and survey responses, it became apparent Vermont stakeholders believe legal, and policy changes should be made to remove requirements to combine adjacent parcels with the same ownership or at least require CAMA software improvements to handle separate highest and best use within the same property record. From interviews with stakeholders, including assessors, listers, and contractors, the current law creates difficulties in handling these situations and the highest and best use categories are not equitable because properties are being treated in different ways.

IAAO's *Standard on Property Tax Policy* states that fewer assessment classes are preferable to many

assessment classes. Multiple assessment rates can confuse the true tax rate paid.

Recommendations

Create a committee or taskforce made up of listers, assessors, vendors, Vermont Center for Geographic Information (VCGI) and PVR staff tasked with developing recommendations for changes to the contiguous parcels questions and issues that currently exist. This committee or task force should make recommendation to the legislature and PVR for legal and policy changes to create more consistent and supportable policy on data management and valuation of parcels.

When legislative and PVR policies are updated, it will be important to work with assessors and listers to develop guides and training which can be utilized by Vermont’s assessment industry to help address these adjacent parcel issues. The next step will be for listers, assessors and reappraisal firms to adopt and follow that guidance to make recommendations for improvements to the procedures as needed. The final process should include a review by PVR of jurisdiction classifications to ensure categories are used in a consistent manner, recommendations for corrections and verification that corrections have been made. It will be important to keep an open dialogue between listers, assessors, contractors and PVR through the development of policy guidance and implementation.

Present-Day Use Categories in Property Data

Investigate the Inclusion of Present-Day Use Categories in Property Data in Other Jurisdictions, Such as Distinguishing Vacant Properties, Second Homes, and Affordable Housing Units

Vermont Stakeholders Survey Responses

The following question was asked as part of a survey sent to listers, assessors, clerks, treasurers, selectboard members, city council members, village trustees, mayors, city councilors, village managers, town managers, town administrators, district appraisers, and state department of tax staff.

“Should jurisdictions in Vermont collect data on present-day use categories for such purposes as distinguishing vacant properties, second homes, and affordable housing units?”

TABLE 10.1 Should Present-Day Use Category Data be Collected?		
Answer	Occurrences	Percentage
Yes	100	72.99%
No	37	27.01%
Total	137	100.00%

Responses from Other States

The following questions were asked of property tax oversight agencies of all 50 states and the District of Columbia.

“Are present day use factors tracked in your state (such as vacant properties, second homes, and affordable housing units)?”

TABLE 10.2 Are Present Day Use Factors Tracked in Other States?			
Answer	Occurrences	Percentage	State
Yes	11	50.00%	CO, DC, HI, IL, IN, MD, MI, NH, OR, UT

No	11	50.00%	AR, CT, IA, ID, KS, ME, PA, SC, SD, WY
Total	22	100.00%	

IAAO Standards

Tracking of second homes is a technique used to identify homes that may or may not qualify for homestead exemptions. IAAO's *Standard on Property Tax Policy 2020* covers potential policy options to give property tax relief to low-income taxpayers.

- IAAO's *Standard on Property Tax Policy 2020* states:

- "7.2.1 Homestead Exemptions**

Homestead exemptions remove a fixed amount or a percentage of value from the otherwise taxable value of a property. The exemption is usually restricted to the primary residence of the taxpayer. Many governments grant such exemptions, sometimes restricting eligibility to individuals meeting certain age or income criteria. Residential homestead exemptions often are supplemented by circuit breaker programs to target additional relief to taxpayers with limited incomes and higher relative tax burdens (see Section 7.2.3).

Fixed-amount exemptions grant proportionately more relief to low-value property, where the fixed amount may make up a significant percentage of the total taxable value. (For example, a \$10,000 exemption reduces the assessment of a \$100,000 home by 10 percent. The same \$10,000 exemption for a \$500,000 home represents just a 2 percent reduction for this high-value property.) To prevent the erosion of the exemption amount due to inflation and appreciation in property values, an indexing mechanism for the exemption amount is recommended. Percentage exemptions do not require indexing but give proportional tax relief to properties, regardless of whether they are low- or high-valued and are therefore less progressive. Occasionally hybrid exemptions, combining a fixed-amount exemption and percentage limits, may be used to focus the exemption where policy makers deem the relief is most appropriate.

Homestead exemptions can be an effective tool for reducing tax burdens; however, they do increase administrative complexity and costs to verify that the taxpayer meets the exemption residency requirements."

- "7.2.3 Circuit Breakers**

Circuit breaker programs provide targeted property tax relief to households with the heaviest property tax burdens relative to their incomes. Circuit breakers are widely used in the United States. The following is an analysis of the main policy options. Most states restrict circuit breakers to low-income elderly homeowners and renters, although 40 percent of states with such programs also cover nonelderly households. Besides deferrals, circuit breakers are the most cost-effective approach to property tax relief because they target assistance to households with the least ability to pay, rather than providing more expensive across-the-board relief to all taxpayers regardless of whether the relief is needed.

The most effective circuit breaker programs set a threshold percentage of income that property taxes must exceed before tax relief is available, with a circuit breaker benefit offsetting property taxes above that level. For example, with a 5 percent threshold circuit breaker, taxpayers would receive a credit equal to the amount by which their property tax bill exceeds 5 percent of their income. In that case, a household with a \$10,000 income and \$800 property tax bill (8 percent of the income) would receive a \$300 tax credit. Some states set multiple threshold percentages, with the thresholds applied incrementally like a graduated income tax.

Other states use sliding scale circuit breakers, which provide all households within an income bracket the same percentage reduction in property taxes, with the percentage decreasing from low- to high-income

brackets. Finally, some states use quasi circuit breakers, which provide fixed-dollar property tax credits to all households within an income bracket, with the size of the tax credits decreasing from low- to high-income brackets. While these two approaches are less targeted than threshold circuit breakers, they are still more cost-effective than across-the-board homestead exemptions or credits.

Circuit breakers are almost always funded by a high-level government, like a state or province. In contrast, other types of property tax relief are often locally funded, in which case local governments must absorb the tax loss themselves and/or raise property tax rates to pay for relief. Thus, state-funded circuit breakers help mitigate fiscal disparities across local jurisdictions and provide tax relief without undermining local fiscal health. Some states directly fund circuit breaker programs by providing credits on the income tax. Alternatively, states may reimburse local taxing jurisdictions for their potential revenue loss due to circuit breakers.

State administrative agencies and local assessors should promote awareness of circuit breaker programs and provide outreach and assistance to those wishing to apply for the benefits.”

• **“7.2.5 Tax Credits**

Tax credits can be an effective way of reducing the financial impact of property taxes on selected types of taxpayers without affecting the assessment process or the ability of local units of government to receive funding generated from the property tax. Tax credits typically are allowed in the form of reduced income tax liability resulting from a property-tax-related expense. For example, low-income renters may be permitted to impute a property tax amount that is embedded within rent paid. This amount or some percentage of this amount may then be refundable or deductible through an income tax credit.

Property tax credits generally are most efficient and feasible when they are administered through a state or local income tax program. Refundable credits are more cumbersome to administer because they require money to be sent to individuals. However, refundable credits have the advantage of providing the full amount of the intended credit, whereas deductions or nonrefundable credits work only to the extent that offsetting income or tax liability exists.”

Analysis

Present day use factors are tracked in a variety of ways in other states. States use the assessment class to track the use of properties such as residential, commercial, vacant, agricultural, etc... Some states use a Land-Based Classification System (LBCS) Function Code to track present day use or the function of the property. LBCS codes are four-digit codes developed by the American Planning Association based on the attributes of a property.

A number of Vermont survey respondents indicated the need for more refined definitions for commercial property types. Discussions with VCGI also supported using LBCS codes to better identify property uses.

Based on interviews with stakeholders within Vermont the system for taxing homestead vs. non-homestead properties does not always produce the desired results as in sometimes the homestead tax rate is higher than the non-homestead rate.

Recommendations

A review of homestead processes should be done to help identify potential improvements or a replacement policy should be developed that is reflective of IAAO’s tax policy recommendations listed above. It could be simpler to eliminate the current homestead exemption process in place of a larger income tax credit.

Ease of implementation and the administrative cost associated with tracking of second homes, vacant homes and affordable homes can be substantial and should be weighed against potential benefits.

Computer Assisted Mass Appraisal Technology and Data Collection

Present Information on Computer Assisted Mass Appraisal Technology and how it is leveraged for data collection, including analysis of the advantages and disadvantages of having a universal data collection system versus having multiple vendors

Vermont Stakeholders Survey Responses

The following question was asked as part of a survey sent to listers, assessors, clerks, treasurers, selectboard members, city council members, village trustees, mayors, city councilors, village managers, town managers, town administrators, district appraisers, and state department of tax staff.

“Would you be in favor of having a statewide Computer Assisted Mass Appraisal (CAMA) software system? Why or why not?”

Answer	Occurrences	Percentage
Yes	122	69.71%
No	53	30.29%
Total	175	100.00%

A SUMMARY OF REASONS TO HAVE A SINGLE SYSTEM INCLUDED:

- Transparency
- Equity
- Efficiency
- Uniformity
- Consistency
- Public trust
- Simplification
- PVR could train to one system
- Simplified training and consistent work procedures
- PVR oversight of assessments from multiple systems is more difficult
- Facilitates faster changes
- Save money
- Ensure that even the smallest jurisdiction has the same software capabilities as larger jurisdictions
- Increased valuation accuracy

REASONS TO HAVE MULTIPLE SYSTEMS:

- Different parts of the state have different needs
- Don't want to go through a conversion
- Tried before and didn't work
- State doesn't have the capacity to maintain a statewide software
- Towns should have a choice
- Lack of competition if there is only one vendor used statewide

The following question was asked of property tax oversight agencies of all 50 states and the District of Columbia.

“Does every jurisdiction in the state use the same CAMA (Computer Assisted Mass Appraisal) system?”

TABLE 11.2 Is a Single CAMA System Used in Other States?

Answer	Occurrences	Percentage	State
Yes	5	21.74%	HI, KS, MD, MT, WY
No	18	78.26%	AR, CO, CT, FL, ID, IL, IN, ME, NC, NH, OH, OR, PA, SC, SD, UT
Total	23	100.00%	

Washington D.C. was excluded from this count, as they only have one jurisdiction for their small district. It should also be noted that the state of Utah is planning to have all counties on the same system by 2026. Also, Iowa and Michigan stated that 99% of their jurisdictions are on one system. Recent news also reported South Dakota is converting to a single system.

IAAO Standards

- IAAO's *Standard on Mass Appraisal 2017* states:

- “6.3.2 Software**

CAMA software can be developed internally, adapted from software developed by other public agencies, or purchased (in whole or in part) from private vendors. (Inevitably there will be some tailoring needed to adapt externally developed software to the requirements of the user's environment.) Each alternative has advantages and disadvantages. The software should be designed so that it can be easily modified; it should also be well documented, at both the appraiser/user and programmer levels.

CAMA software works in conjunction with various general-purpose software, typically including word processing, spreadsheet, statistical, and GIS programs. These programs and applications must be able to share data and work together cohesively.

Security measures should exist to prevent unauthorized use and to provide backup in the event of accidental loss or destruction of data.

- 6.3.2.1 Custom Software**

Custom software is designed to perform specific tasks, identified by the jurisdiction, and can be specifically tailored to the user's requirements. The data screens and processing logic can often be customized to reflect actual or desired practices, and the prompts and help information can be tailored to reflect local terminology and convention.

After completing the purchase or license requirements, the jurisdiction should retain access to the program source code, so other programmers are able to modify the program to reflect changing requirements. The major disadvantages of custom software are the time and expense of writing, testing, and updating. Particular attention must be paid to ensuring that user requirements are clearly conveyed to programmers and reflected in the end product, which should not be accepted until proper testing has been completed. Future modifications to programs, even those of a minor nature, can involve system administrator approval and can be a time-consuming, costly, and rigorous job. (See *Standard on Contracting for Assessment Services* [IAAO 2019].)

▪ 6.3.2.2 Generic Software

An alternative to custom software is generic software, of which there are two major types: vertical software, which is written for a specific industry, and horizontal software, which is written for particular applications regardless of industry. Examples of the latter include database, spreadsheet, word processing, and statistical software. Although the actual instruction code within these programs cannot be modified, they typically permit the user to create a variety of customized templates, files, and documents that can be processed. These are often referred to as commercial off-the-shelf software (COTS) packages.

Generic vertical software usually requires modification to fit a jurisdiction's specific needs. In considering generic software, the assessor should determine

- System requirements
- The extent to which the software meets the agency's needs
- A timetable for implementation
- How modifications will be accomplished
- The level of vendor support
- Whether the source code can be obtained.

(See *Standard on Contracting for Assessment Services* [IAAO 2019].)

Horizontal generic software is more flexible, permitting the user to define file structures, relational table layout, input and output procedures, including form or format, and reports. Assessment offices with expertise in such software (which does not imply a knowledge of programming) can adapt it for

- Property (data) file maintenance
- Market research and analysis
- Valuation modeling and processing
- Many other aspects of assessment operations.

Horizontal generic software is inexpensive and flexible. However, it requires considerable customization to adapt it to local requirements. Provisions should be made for a sustainable process that is not overly dependent on a single person or resource."

- IAAO's *Standard on Oversight Agency Responsibilities 2020* states:

"13.3 Technical Support and Assistance

Oversight agencies should be equipped to provide a CAMA system and all vital support functions to every primary assessor who cannot afford to purchase a system of its own."

Analysis

A modern assessment office cannot operate in an efficient manner without a modern CAMA system to support all functions. Understanding what CAMA features are available can be a great way to prioritize the needs and wants of the jurisdiction. Some CAMA software offers built-in features whereas others require add-ons or completely separate processes. Features that could be built in or could be an add-on can include, market modeling for sales comparison, income approach capabilities, integrated GIS, file and document storage, sketching software, integrated dashboards, etc. In general, one software that can meet many needs is more efficient than multiple software’s all else equal. Automation and process speed are crucial factors to consider ensuring efficient use of time. It is good to keep in mind that different CAMA systems will require different work procedures and so selecting a CAMA system isn’t a one-dimensional task.

In states where the property valuation is handled at the state level the entire assessment system utilizes a single CAMA system. Survey results indicate the least populated states on average use one system, while the more populated states have multiple CAMA systems. The following tables contain an analysis including population differences below. The states that have multiple CAMA systems have populations that are on average double to triple the size of states with single CAMA systems.

Advantages to a Statewide CAMA System:

A statewide database can be an invaluable resource for any state oversight agency. A statewide system can give the state up to date data on assessment jurisdictions that might otherwise be collected manually and merged to create a complete database to make decisions or identify any inconsistencies. A statewide system helps oversight agencies ensure that state mandates are being followed and with speed and efficiency.

- As an example, the State of Kansas utilizes one CAMA system which is stored on state servers. The state oversight agency is able to query data statewide and create interactive dashboards online that are usable by appraiser’s offices and the public. Giving the public access to non-confidential data is a great way to increase government transparency and promote equity.
- A state provided CAMA system ensures that even the smallest jurisdictions could use the same CAMA system as larger jurisdictions as cost would not be a limiting factor.

TABLE 11.3 States with Single CAMA Systems

Number of CAMA Systems	State	Population per 2020 US Census
Single	HI	1,455,271
Single	KS	2,937,880
Single	MD	6,177,224
Single	MT	1,084,225
Single	WY	576,851
Mean		2,446,290
Median		1,455,271
Multiple	VT	643,077

TABLE 11.4 States with Multiple CAMA Systems

Number of CAMA Systems	State	Population per 2020 US Census
Multiple	AR	1,455,271
Multiple	CO	5,773,714
Multiple	CT	3,605,944
Multiple	FL	21,538,187
Multiple	IA	3,190,369
Multiple	ID	1,839,106
Multiple	IL	12,812,508
Multiple	IN	6,785,528
Multiple	ME	1,362,359
Multiple	MI	10,077,331
Multiple	NC	10,439,388
Multiple	NH	1,377,529
Multiple	OH	11,799,448
Multiple	OR	4,237,256
Multiple	PA	13,002,700
Multiple	SC	5,118,425
Multiple	SD*	886,667
Multiple	UT*	3,271,616
Mean		6,587,408
Median		5,118,425
Multiple	VT	643,077

*Converting to a single CAMA system.

- A statewide single CAMA system also has the advantage of simplifying training and policy given the entire state would be working in one system.
- A single CAMA system would make combining jurisdictions assessment functions more seamless.
- Additionally, a single CAMA system can make it easier for staff to work in multiple jurisdictions since they would only need to be trained on one CAMA system, helping to stretch labor by sharing labor, reducing errors and inconsistencies, increasing equity.
- A single homogeneous CAMA system means that the same work procedures could be used statewide, increasing valuation equity. Further, a statewide database can be accessed by assessors across the state to enhance their ability to analyze sales and property data on unique property types statewide, saving local jurisdictions time and ensuring more equitable valuations between jurisdictions.
- A statewide CAMA system purchased at the state level should cost less than 251 jurisdictions purchasing and paying to maintain 251 contracts. This cost could be shifted from the local level to the state level, and in theory, should lower the overall cost to taxpayers.

Disadvantages to a Statewide CAMA System:

- A single statewide CAMA system would need to have levels of security including partitions allowing only certain prequalified staff to have the ability to edit and change certain fields in the software. This would be true of multiple systems in the state also but is of more importance on a statewide system.
- A single statewide CAMA system would also need to have data back-ups that meet or exceed industry standards. Some states and jurisdictions outsource their data security and storage when they don't have the resources to ensure the highest level of data security. For best practices and risk assessment on data security PCSIAAO recommends Vermont consult with a data security expert.
- A single system discourages competition. In this day and age, a CAMA provider needs to be receptive to changes in legislation, changes in appraisal techniques, changes in complimenting software, and general changes in software technology. A single statewide CAMA provider might have less incentive to modernize and improve a statewide system when they know the state is under contract. If a single system were to be selected, the contract would need to include certain guarantees that the software would continue to be updated and upgraded to keep pace with other similar modern CAMA systems and legal requirements.
- Converting to a single statewide CAMA system would increase costs in the short term.

Recommendations

Whether a state-wide CAMA system is implemented or not, the state should work with listers, assessors, CAMA vendors, VCGI, and other stakeholders or consultants to develop standardized data, data quality, management, and security requirements. These requirements should include adding function codes to further identify property types and uses. If a statewide CAMA system is not developed data standard requirements will help to create consistent data fields simplifying future data management and quality control needs.

If a statewide CAMA system is implemented a State CAMA Committee should be created and be comprised of PVR staff, State IT staff, local assessors and listers, reappraisal vendors, and the CAMA vendor to work through issues and needs of stakeholders. This can be a way to ensure all stakeholders needs are heard facilitating the process of finding workable solutions during the transition and through the use of the software.

If a single statewide CAMA vendor is selected the state should consider what guarantee the state would have that the CAMA system would be modernized and updated in a timely matter over the course of the contract and any subsequent contract extensions.

Additionally, if a statewide CAMA system is implemented it would make sense for jurisdictions to convert to a new system when they're completing routine reinspections in preparation for reappraisals.

If a single statewide CAMA software is implemented PVR will need to add staff to facilitate the implementation process as they assist jurisdictions in converting to the new software and work with the vendor to provide a workable solution for Vermont.

Exploring, Evaluating, and Presenting Advantages and Disadvantages of Aggregating Data at the State or at the County Level

Vermont Stakeholders Survey Responses

The following question was asked as part of a survey sent to listers, assessors, clerks, treasurers, selectboard members, city council members, village trustees, mayors, city councilors, village managers, town managers, town administrators, district appraisers, and state department of tax staff.

“What advantages or disadvantages do you see in aggregating valuation data at the state or county level?”

Below is a summary of applicable answers.

<p>ADVANTAGES:</p> <ul style="list-style-type: none"> ▪ Standardization / uniformity ▪ Economies of scale ▪ Pooling resources ▪ Statistically significant pools of data ▪ Improved data quality and consistency ▪ Greater accessibility ▪ Greater transparency ▪ Enhanced analysis ▪ Greater valuation equity ▪ More sale comparables 	<p>DISADVANTAGES:</p> <ul style="list-style-type: none"> ▪ Data security risk ▪ One size fits all system ▪ Big brother
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IAAO Standards

IAAO standards don't specifically cover aggregating valuation data at different levels.

Analysis

Some of the responses to the question above indicated respondents read the question above as relating to “aggregating valuation” rather than “aggregating valuation data”, which are different topics. The advantages and disadvantages listed above only have to do with the question which was, **“What advantages or disadvantages do you see in aggregating valuation data at the state or county level?”**

In the appraisal world more data is generally better and having the opportunity to review data at the state or county level can be helpful when valuing unique properties. This in no way means an appraiser must use that data only that the data is available if needed.

Disadvantages such as data security risks can be an issue, but with sound data security procedures data security issues can be mitigated. The fear of a one size fits all system forced on local communities should not be dismissed. Ensuring that concerns are heard and addressed are important to any process of change.

Advantages such as transparency, standardization, equity, data quality and uniformity can't be overstated in an assessment system.

Recommendations

The process of standardizing data fields and aggregating valuation data at the state level makes sense from an appraisal, oversight, and legislative perspective based on the greater availability of data in a rapid fashion.

Counting and Defining Criteria for Residential Units

Investigating how residential units are counted and define the criteria used for such classification, including information on how data is collected and recorded pertaining to accessory units and multi-family dwellings

Defining a Residential Unit

- IAAO's *Glossary for Property Appraisal and Assessment, Third Edition* defines:

“Residential Property — Generally includes any property that is used or designed for use by a one - to four- family dwelling in which one or more persons reside. Includes Single-Family residences, up to four multifamily units. This category includes each condominium unit in a multi-unit dwelling structure, plus each condominium owner's share of the common area. See Property, Residential.”

“Residential (Non-Farm) Single-Family — Includes each detached, semi-detached, or attached house, if separately assessed and not on a farm, that is a residence for one family only. For detached houses, this would include one-family rural properties or suburban estates not used primarily for farming, and mobile homes assessed as real property. This category includes each condominium unit in a multi-unit dwelling structure, plus each condominium's share of the common area, unless the common area is separately assessed.”

“Residential (Non-Farm) Multifamily — Includes each residential property that contains two or more living units, including duplexes, apartment houses, and cooperatives that are assessed as a single entity. The category encompasses street-level stores and doctors' offices in apartment buildings but excludes motels or hotels.”

“Condominium — A real property ownership concept in which one can own an undivided interest in a portion of the real property (typically called a unit) and own a shared interest with other unit owners in the public areas of the real property (the common elements).”

“Condominium Unit — The portion of real property owned individually in a condominium ownership concept (as opposed to the common elements in which ownership is shared with other unit owners).”

As is defined above a residential unit could contain a single unit or multiple units and could be attached or detached.

Fannie Mae defines an Accessory Dwelling Unit or ADU as:

“An ADU, commonly referred to as an accessory apartment or in-law suite, is a smaller additional living space on the same lot as a single-family home. It must include space for living, sleeping, cooking and bathrooms independent of the primary residence. While the ADU may or may not include access to the primary residence, it must be accessible without going through the primary residence and there must be some expectation of privacy from the home.

ADUs can be:

- *Within a primary residence, such as a basement apartment*
- *Attached to a primary residence, such as a living area over a garage*
- *Detached from the home entirely; It could even be a manufactured home”*

Collection of Data

Residential units are typically identified at the time of new construction when assessor receives permit information or if left unidentified at the time of construction could be identified during the reinspection process, or while driving the area. Other more modern methods of finding otherwise unidentified structures can include aerial imagery which could include change finding and detecting software’s. Other sources of dwelling units in large developments could include real estate listings, developer or builders’ websites, planning and zoning documentation, local news, etc.

Physical In-Person Reinspections vs. Alternative Reinspection Techniques

Vermont Stakeholders Survey Reponses

The following question was asked as part of a survey sent to listers, assessors, clerks, treasurers, selectboard members, city council members, village trustees, mayors, city councilors, village managers, town managers, town administrators, district appraisers, and state department of tax staff.

“What alternative inspection techniques would you suggest be used or allowed?”

- Drones
- Satellite imagery
- MLS listing Information
- Live remote video tours
- Surveys sent by mail
- Surveys sent by email
- Google imagery
- Industry standards
- Virtual inspections
- Facetime
- Zoom
- Outside only reinspections
- Request property owners send photos
- Self reinspections
- IAAO standards
- Lidar
- Change detection software
- AI tools
- No changes in process
- Aerial imagery
- Drive-by exterior inspections only

Responses from Other States

The following question was asked of property tax oversight agencies of all 50 states and the District of Columbia.

“Does your state require “boots on the ground” reinspections or does it allow for alternate reinspection techniques?”

Answer	Occurrences	Percentage	State
Boots on the Ground	12	50.00%	AR, DC, ID, IL, ME, MI, MN, NH, OH, OR, SC, SD
Alternate Reinspection Techniques	12	50.00%	CO, CT, FL, HI, IN, KS, MD, MT, NC, PA, UT, WY
Total	24	100.00%	

IAAO Standards

IAAO standards allow for digital reinspection techniques and include recommended guidelines.

- IAAO’s *Guidance on Developing Mass Appraisal and Related Tax Policy 2023* states:

“6.4 Alternative to Periodic On-Site Inspections

Provided that an initial physical inspection has been completed — and the requirements of a well-maintained data collection and quality-management program have been achieved — jurisdictions may employ a set of digital imaging technology tools to supplement field inspections with a computer-assisted office review. These imaging tools can include the following:

- Current high-resolution street-view images that enable quality grade and physical condition to be verified
- Orthophoto images updated at least every two years in rapid-growth areas, or at least every five years in slow-growth areas to identify new buildings or alterations
- Oblique aerial photographic images capable of being used for measurement verification, up-dated at least every two years in rapid-growth areas, or five years in slow-growth areas.
- A review of on-line market listing websites with current photographs to verify interior layouts or conditions or show where improvements may have been made.

Some systems rely on well-designed taxpayer declarations, greatly reducing the need to send inspectors into the field.

Effective tool sets validate CAMA data and incorporate change detection techniques that compare building dimension data (footprints) in the CAMA system to geo-referenced imagery or remote sensing data and identify potential CAMA sketch discrepancies for further investigation.

If feasible, valuers should visit assigned areas on an annual basis to observe changes in neighborhood condition, trends, and property characteristics. An onsite physical review is recommended when significant construction changes are detected, a property is sold, or an area is affected by catastrophic damage. Building permits should be regularly monitored, and affected properties that have significant change should be inspected when work is complete.”

Analysis

Digital reinspection techniques have become increasingly popular nationwide as technology has evolved over the past 20 years.

Many Vermont stakeholders commented that some parts of the State do not require zoning or permitting for new structures. That very scenario is a consideration outlined in IAAO's guidance on alternatives to periodic on-site inspections. Assessment offices often use zoning changes and permits as an indicator of changes to properties, without these indicators it can be difficult to identify changes to a property.

The use of technology including lidar, ortho and oblique imagery, along with other tools that allow assessors to view and measure properties from their offices has saved many offices significant time and money by greatly cutting the costs of reinspections.

Many offices across the country use a combination of elevation images, ortho and oblique aerial images, and software measuring or comparison tools to identify changes to properties from the exterior and do not complete interior reinspections. Major efficiency increases have been seen with jurisdictions while maintaining compliance with IAAO sales ratio performance standards. When properties cannot be verified by aerial or street level imagery data collectors drive to those properties and complete in-person inspections.

A well-designed taxpayer declaration system could include an online portal that allows property owners to review the characteristics of their property and submit evidence as to differences in their characteristics or ask for a property inspection.

The use of change detecting software packages or sketch checking software can help to ensure equity across the state while also greatly reducing labor requirements of onsite reinspections.

Recommendations

If a regular reinspection schedule is state mandated the use of alternate reinspection techniques in compliance with IAAO Standards should be used to increase valuation equity and save a considerable amount of time cutting the cost of reinspections.

Capacity Building: Present Strategies and Initiatives to Attract and retain Skilled Professions in the Property Assessment Industry

Vermont Stakeholders Survey Reponses

The following question was asked as part of a survey sent to listers, assessors, clerks, treasurers, selectboard members, city council members, village trustees, mayors, city councilors, village managers, town managers, town administrators, district appraisers, and state department of tax staff.

“Does the State of Vermont have the appropriate amount of assessment talent or staffing to complete current legal requirements of local jurisdictions?”

Answer	Occurrences	Percentage
Yes	17	11.97%
No	125	88.03%
Total	142	100.00%

Responses from Other States

The following question was asked of property tax oversight agencies of all 50 states and the District of Columbia.

“What strategies or initiatives does your state offer to attract and retain skilled professionals to the assessment industry?”

A summary of answers included:

- Competitive compensation and benefits
- Remote work
- Flextime
- Assessment designation holders receive bonuses for holding certain designations.
- Free courses

IAAO Standards

- IAAO's *Standard on Property Tax Policy 2020* states:

“4.2 RESOURCES

With regard to staffing requirements, parcels per employee is a commonly used benchmark. Over the years, the median figure for Canadian and U.S. agencies has grown from about 2,500 to 2,700 parcels per employee (Walters and the IAAO Research Committee 2014, 16).”

Analysis

Many assessors and listers chose government service because of the stability and the chance to serve their community. Many assessors and listers chose to stay in the assessment field because of their commitment to fair treatment of others.

Based on the survey of Vermont stakeholders 88% believe Vermont does not have the necessary assessment talent.

A primary factor working against the assessment profession in Vermont is the lack of consistent assessment cycles. Interviews revealed it can be difficult to plan a career or life around a part-time position and inconsistent reappraisal cycles faced by most jurisdictions in the state. Contractors spoke of having to hire staff on a temporary basis for a job in a certain part of the state just to lay them off when the job is done. Moving to a regular cycle and committing to following that cycle and providing the proper resources to ensure the success of regular reappraisal cycles, will encourage staff to call the assessment field their profession.

Another factor working against being in the assessment profession in Vermont is the limited opportunity for advancement. There are 251 assessment jurisdictions in the state, with very few staff per office. This allows little room to move up or grow as an assessor or lister.

PCSIAAO could not obtain a complete list detailing the number of listers and assessors currently working in the State. The Vermont League of Cities and Towns produced a report titled, "2023 Vermont Municipal Compensation and Benefits Report." This report had responses from 149 of 251 jurisdictions indicating if they had listers, an assessor or a vendor handling local responsibilities. Of the 149, 116 indicated that they have listers, 14 indicated that they have an assessor and 19 indicated that they have a vendor handling local responsibilities. Based on that data you get 78% of jurisdictions have listers, 9% use assessors and 13% use a vendor. Now if you assume that those percentages are reflective of all of Vermont you would get totals indicating 195 jurisdictions use listers, 23 jurisdictions use assessors and 33 jurisdictions use a vendor. If you further extrapolate those numbers and assume that the 195 jurisdictions using listers have 2.5 listers as some jurisdictions have 2 listers and some have 3, you come to a total of 487.5 listers. Assuming the assessors and vendors are just one person each you come to a total workforce of 543.5.

These 543.5 positions are mostly part time. To convert these part-time positions to Full Time Equivalent (FTE) we could look again to the Vermont League of Cities and Towns, "2023 Vermont Municipal Compensation and Benefits Report." This report showed that in 2023 the average lister pay was \$19.16 per hour with an annual salary of just \$6,159. \$6,159 divided by the hourly rate of \$19.16 per hour indicates that the average lister is working just 321 hours per year or an average of 6 hours per week. That same report looked at assessor pay and hours. Assessors on average were paid \$42.72 / hour with an average annual salary of \$49,416. \$49,416 divided by the hourly rate of \$42.72 / hour indicates the average assessor worked 1,157 hours per year or an average of 22 hours per week.

The chart below breaks out the estimated current FTE positions for all 251 jurisdictions in the state based on the assumptions made above. The assumption that vendors work the same number of hours per jurisdiction that assessors do is made below.

The math is as follows:

$$\text{Estimated Current Staff} \times \text{Average Hours Worked Annually} = \text{Total Hours Worked Annually}$$

$$\text{Total Hours Worked} / \text{Annual FTE Hours per Staff} = \text{Estimated FTE Positions}$$

TABLE 13.2 Current Estimated FTE Equivalent Positions in Vermont					
Title	Estimated Current Staff	Average Hours Worked Annually	Total Hours Worked Annually	Annual FTE Hours per Staff	Estimated FTE Positions
Lister	487.5	321	156,488	2,000	79
Assessor	23	1,157	26,611	2,000	14
Vendor	33	1,157	38,181	2,000	20
Total	543.5		221,280		113

The analysis above estimates that the lister / assessor roles are equal to 113 FTE staff.

Per IAAO's book on *Assessment Administration* page 134, "Staffing Patterns-Obviously, the size of the jurisdiction affects the size of the staff. However, the size and competence of staff determines the ability of an organization to function effectively and efficiently. Although individual offices will vary considerably because of parcel size, property type, degree of staff training, and the extent of computerization, there are benchmarks for staffing that can guide an assessor.

Smaller jurisdictions (those having fewer than 10,000 parcels) typically have one full-time equivalent (FTE) position for every 1,000 to 1,500 parcels. Those jurisdictions having 10,000 to 20,000 parcels typically have one FTE for every 2,500 parcels. Jurisdictions with more than 20,000 parcels typically have one FTE for every 3,000 to 3,500 parcels, and some large jurisdictions have a range that is even higher, such as one FTE for every 4,000 to 5,000 parcels.

Because staffing patterns can vary significantly from jurisdiction to jurisdiction, the most accurate way to determine the appropriate relationship is to conduct a detailed analysis of staffing needs using county data on workloads, production rates, and staff time allocations. The amount of work to be done and the time available to accomplish it must also be considered."

When reading the above statement, it is important to remember that many factors play into staffing needs including but not limited to legislative requirements such as jurisdiction size, reinspection cycle length, reappraisal cycle length, CAMA system capabilities, amount of new construction, if assessments are done in the assessor's office or by contractors, just to name a few.

IAAO's benchmarks for staffing shows very small jurisdictions could require as many as 1 FTE staff per 1,000 parcels and large jurisdictions could require as few as 1 FTE staff per 5,000 parcels. These numbers are based on the majority of the assessment functions being completed inhouse as opposed to Vermont's current model of sub-contracting the reappraisal function. These staffing estimates are rough approximations and any final production estimates will have to be completed based on information such as detailed work procedures and production numbers.

Based on *Table 13.2* above local assessment responsibilities are handled by an estimated 543.5 listers, assessor and vendors working on a part-time to full-time basis or an equivalent 113 FTE positions. The standards listed above in IAAO Assessment Administration book assume reappraisal functions happen in the local assessment office. These standards would also assume more frequent assessment cycles than every 6 years. So, to get an estimate of current FTE positions we need to add vendor positions to the 113 to get an apples-to-apples count. Based on information received from contractors PCSIAAO would estimate 50 vendor staff are involved in the reappraisal process. This indicates an estimated current total FTE staffing of 163 for all assessment functions aside from PVR.

Vermont currently has approximately 350,000 parcels. 350,000 parcels divided by 163 FTE positions equals 2,147 parcels per FTE.

It should be noted that vendors had indicated that they have been staffing up as part of the new 6-year cycle requirements and many projects are now being scheduled 5 years in advance due to a lack of staffing. This indicates that the current estimate of 50 contractors is likely rising.

The elected and appointed nature of the Vermont property assessment structure doesn't lend itself to the typical job market. Most professionals looking for a career expect to work 40 hours per week. Thinking from the standpoint of someone looking for a career, these positions aren't listed on Career Builder or Indeed. At the time this report was written the only open positions found on a job posting web page were for positions with PVR. The elected and appointed nature of the current assessment system is not typical in the job market, and neither is the extreme part-time nature of many of these positions. As stated above the average lister is estimated to work just 6 hours per week.

The considerable amount of education and training one needs to be an assessor is more costly per unit of work on a part-time basis as the training for part-time staff is the same as that of a full-time staff.

The time to orientate new listers and assessors that are part-time is the same time it takes to orientate a full-time lister or assessor.

Vermont will likely need one FTE assessment staff per 1,000 to 2,000 parcels depending on policy changes including reappraisal frequency, reinspection frequency, the requirements for interior or onsite reinspection's, property tax calendar changes, etc..

Based on the estimates listed above Vermont has approximately 163 FTE's involved in the assessment process at the local level with a lack of staffing per Vermont stakeholders. Based on estimates above Vermont has an estimated ratio of 1 FTE per 2,147 parcels. At 1,000 parcels per assessment staff Vermont would require 350 FTE assessment staff and at 2,000 parcels per staff Vermont would need 175 FTE assessment staff. Condensing assessment districts will decrease the number of needed listers or assessors.

Recommendations

The complexities of a modern assessment system and the amount of education and training required increases as time goes on and for that reason assessing on a part-time basis can be challenging. The consolidation of functions and or jurisdictions would allow for increased market-based pay and a full-time workload. Full-time staff will be more efficient than part-time staff due to the factors listed above.

Requiring regular reinspection and reappraisal cycles will allow the private and public sector to plan work and understand workload requirements. Inconsistent reappraisals create inconsistent workloads. A stable workload will encourage hiring of professional full-time staff. This will create a consistent work environment.

Assessment professionals also should be paid at a market competitive salary rate if expectations for a well-functioning assessment system are to be achieved.

Implementing modern CAMA requirements with consistent data standards statewide will help to increase the productivity of assessment staff.

Every part of an assessment system affects the whole assessment system, and so creating efficiencies will allow time and resources to be spent creating more efficiencies, and more equitable values. Staff will be encouraged as part of a well-run system that uses modern techniques versus working in a system that is inefficient and outdated.

In the short-term Vermont's reappraisal vendors will continue to hire staff to fill the States reappraisal needs. In the long run consolidating assessment functions will result in higher production numbers per staff as staff are able to specialize. Mass appraisal is most efficient when staff can specialize similar to in manufacturing. Streamlining the assessment process by addressing many of the issues addressed in this report will also help to increase staff efficiency and help stem the cost of assessments.

Evaluate Training and Career Advancement Opportunities for Those in the Assessment Industry

Vermont Stakeholders Survey Reponses

The following question was asked as part of a survey sent to listers, assessors, clerks, treasurers, selectboard members, city council members, village trustees, mayors, city councilors, village managers, town managers, town administrators, district appraisers, and state department of tax staff.

“Do you have adequate training opportunities? Please list improvements to training opportunities you would like to see implemented, if any.”

TABLE 14.1 Does Vermont have Adequate Training Opportunities?

Answer	Occurrences	Percentage
Yes	126	70.00%
No	54	30.00%
Total	180	100.00%

A summary of suggestions for improvements includes:

- Education offered at high schools, trade schools, CCV and other state colleges
- Have fall and spring training like before
- More in person education
- More training for select boards and other non-listers and non-assessors
- More training opportunities in general
- Alternate testing options for those with disabilities
- More training for listers
- More advanced level training
- More state assessment standards and then training on those standards
- Career center path to becoming an assessor
- More data collection courses
- Mentorship programs
- Need testing added to online courses
- Need computer based interactive training rather than listening to an instructor talk
- More hands-on training
- More regional training
- A course on the assessment process for new listers and assessors or non-listers and non-assessors
- Public education tool kit

“Do you feel there are adequate career advancement opportunities for those in the assessment industry? What improvements could be made, if any?”

TABLE 14.2 Are there Adequate Career Advancement Opportunities for Assessors in Vermont?

Answer	Occurrences	Percentage
Yes	84	55.26%
No	68	44.74%
Total	152	100.00%

A summary of suggestions for improvements includes:

- Create division of work
- Require a college degree
- More opportunities for women and minorities
- More awareness of the opportunities available
- Full-time positions with benefits
- A minimum wage for listers
- Larger assessment districts would allow for advancement opportunities
- Pay is too low
- Sharing assessors
- Standardized requirements
- Statutes that are updated to modern times and allow for cutting edge techniques
- Jurisdictions could do their own reappraisals
- Assessing at the county level would increase the opportunities for career advancement

Responses from Other States

The following questions were asked of property tax oversight agencies of all 50 states and the District of Columbia.

“What training and career advancement opportunities does the state offer to jurisdictional assessment staff?”

A summary of the most popular answers to this question includes:

- State paid education and travel for education
- Career ladder
- Different assessor designation levels

“What strategies or initiatives does your state offer to attract and retain skilled professionals to the assessment industry?”

A summary of suggestions includes:

- Remote work
- Competitive pay
- Good benefits
- Work verity
- Flexible work schedules

- Annual raises
- Career fairs
- Offer IAAO courses
- Annual bonuses for assessor designations
- Free classes

IAAO Standards

- IAAO's *Standard on Professional Development 2022* states:

- **"4.1 RECOMMENDED EDUCATION FOR ASSESSMENT PROFESSIONALS**

Persons entering the assessment profession must have a high school diploma (or the equivalent). A degree from an accredited college or university is desirable. For high-level administrative, managerial, or technical positions, a graduate degree or graduate-level coursework is highly desirable. Useful areas of study for assessing officers are mathematics, finance, accounting, communications, economics, business administration, engineering, urban or regional planning, project management, political science, real estate, public administration, computer science, statistics, mapping, and geography. Background, training, and experience demonstrating analytical skills, construction skills, as well as oral and written communication skills, should be sought. (See the Appendix.) Professional training in areas more specific to assessment, such as appraisal, financial auditing, personal property valuation, legal, construction, geographical information systems (GIS), cadastral mapping, and modeling for mass appraisal, can be achieved through organizations such as the IAAO, the Appraisal Institute, the Appraisal Institute of Canada, the Institute of Revenues Rating and Valuation, the Japan Real Estate Institute, and the Lincoln Institute of Land Policy; state, provincial, or local assessors' associations or chapters of appraisal societies; universities and colleges; and university-affiliated programs, such as institutes of government. The Appendix lists the education recommended for various positions in the assessment office."

- **"8. ADMINISTRATIVE AUTHORITY AND RESPONSIBILITIES**

The assessment profession has the ultimate responsibility for providing in-service training and continuing education. Assessing officers must be included in planning their professional education program. Funding to develop and conduct training programs may be obtained from various sources, and the funder often retains administrative authority. Local jurisdictions, state and provincial authorities, and assessors' associations should make adequate funding of programs a high priority and also provide for proper administration of the training program.

A good model for administering professional assessment education programs includes systems for:
Determining training needs.

- Delivering relevant instruction material that pertains to current and local trends in the jurisdiction.
- Providing adequate funding.
- Promoting the programs and encouraging participation.

Scheduling, obtaining, and evaluating courses, instructors, and facilities. Specifically, the following actions are required for proper administration of training and continuing education programs:

- Determining the scope of the entire curriculum and defining specific overall objectives.
- Defining the subject area and objectives of each part of the curriculum, such as courses, seminars, or workshops.
- Describing the content and structure of each part and the methods for evaluating its success.

- Developing instructor qualifications and a list of qualified instructors.
- Developing or using standardized course or seminar materials, including outlines, texts, case problems, quizzes, laboratory sessions, field demonstrations, visual aids, films and videotapes, and other technological tools such as courses via phone and the internet, appropriate to the field.
- Developing or using validated course examinations and methods for evaluating student performance. Examination questions should be continually reviewed and revised.
- Developing and maintaining a system for keeping records on each student and each course. Results should be reported to students.
- Developing and maintaining an efficient system to coordinate all aspects of the training program, including provision of acceptable facilities, registration of students, enforcement of prerequisites, evaluation of instructor performance, security of examinations, and evaluation of curriculum.
- Periodically evaluating programs and course materials. The curriculum should be periodically updated to reflect current appraisal and assessment methods and techniques. Localized materials should also be revised to incorporate changes in state or local statutes, guidelines, and assessment manuals.”
- **“RECOMMENDED COURSES AND EXPERIENCE BY POSITION**

The courses, workshops, knowledge, and experience recommended in this appendix are meant to be a guide for the background, preparation, and formal education necessary for assessment administrators, appraisers, and support personnel to achieve competency.

They are not all-inclusive, nor should they act as a barrier to the furthering of formal educational knowledge. Oftentimes, a person’s workplace responsibilities dictate further areas of recommended study.

- **APPRAISER—ENTRY LEVEL**

- **Education:** High school diploma (required) with a bachelor’s degree (preferred) or combination of college and experience equivalent to a degree.
- **Experience:** Real estate, building construction, GIS/mapping, or mass appraisal.
- **Skills and Knowledge:** Algebra, mathematical ability, computer literacy, and good written and oral communication skills.
- **Continuing Education Required**
 - Course 101. Fundamentals of Real Property Appraisal
 - Course 300. Fundamentals of Mass Appraisal
 - Course 500. Assessment of Personal Property*
 - Workshop 150. Mathematics for Assessing Officials
 - Workshop 151/191. Uniform Standards of Professional Practice (National)
 - Continuing Education Recommended
 - Course 102. Income Approach to Valuation
 - Course 112. Income Approach to Valuation II
 - Course 201. Appraisal of Land
 - Course 311. Real Property Modeling Concepts
 - Course 331. Mass Appraisal Practices and Procedures
 - Workshop 162. Marshall & Swift Cost Approach (Residential)

▪ **APPRAISER—SENIOR**

- **Education:** Bachelor’s degree in mathematics, communications, economics, statistics, accounting, finance, computer science, business administration, geography, or real estate or combination of college and experience equivalent to a degree.
- **Experience:** Real estate, building construction, GIS/mapping, or mass appraisal.
- **Skills and Knowledge:** Mastery of all three approaches to value, algebra, mathematical ability, computer literacy, and good written and oral communication skills.

▪ **Continuing Education Required**

- Course 101. Fundamentals of Real Property Appraisal
- Course 102. Income Approach to Valuation
- Course 112. Income Approach to Valuation II
- Course 201. Appraisal of Land
- Course 300. Fundamentals of Mass Appraisal
- Course 311. Real Property Modeling Concepts
- Course 400. Assessment Administration
- Course 500. Assessment of Personal Property*
- Workshop 150. Mathematics for Assessing Officials
- Workshop 151/191. Uniform Standards of Professional Practice (National)
- Workshop 157. The Appraisal Uses of Excel® Software
- Workshop 158. Highest and Best Use
- Workshop 162. Marshall & Swift Cost Approach (Residential)
- Workshop 163. Marshall & Swift Cost Approach (Commercial)
- Course 332: Modeling Concepts
- Course 333. Residential Model Building
- Course 334. Application of Mass Appraisal to Non-Residential Properties
- Course 402. Tax Policy

▪ **APPRAISER—SUPERVISOR**

- **Education:** Bachelor’s degree in mathematics, communications, accounting, finance, computer science, business administration, or real estate or combination of college and experience equivalent to a degree.
- **Experience:** Real estate, building construction, GIS/mapping, or mass appraisal.
- **Skills and Knowledge:** Mastery of all three approaches to value, algebra, mathematical ability, computer literacy, management, and good written and oral communication skills.

- **Desirable:** Master’s degree, professional designation, or IAAO Professional Member Status

▪ **Continuing Education Required**

- Course 101. Fundamentals of Real Property Appraisal
- Course 102. Income Approach to Valuation
- Course 112. Income Approach to Valuation II

- Course 201. Appraisal of Land
- Course 300. Fundamentals of Mass Appraisal
- Course 311. Real Property Modeling Concepts
- Course 400. Assessment Administration
- Course 402. Property Tax Policy
- Workshop 150. Mathematics for Assessing Officials
- Workshop 151/191. Uniform Standards of Professional Practice (National)
- Workshop 157. The Appraisal Uses of Excel® Software
- Workshop 158. Highest and Best Use
- Workshop 162. Marshall & Swift Cost Approach (Residential)
- Continuing Education Recommended
- Course 331. Mass Appraisal Practices and Procedures
- Course 332. Modeling Concepts
- Course 333. Residential Model Building
- Course 334. Application of Mass Appraisal to Non-Residential Properties
- Course 500. Assessment of Personal Property*
- Workshop 171. IAAO Standards of Practice and Professional Ethics Supplement
- Workshop 452. Fundamentals of Assessment Ratio Studies
- **CHIEF ASSESSMENT ADMINISTRATOR**
 - **Education:** Bachelor's degree in mathematics, communications, accounting, finance, computer science, business administration, or real estate or combination of college and experience equivalent to a degree.
 - **Experience:** Real estate, building construction, GIS/mapping, or mass appraisal.
 - **Skills and Knowledge:** Algebra, mathematical ability, computer literacy, complex problem-solving, management, administration, public relations, and good written and oral communication skills.
 - **Desirable:** Master's degree, professional designation, or IAAO Professional Member Status
 - **Continuing Education Required**
 - Course 101. Fundamentals of Real Property Appraisal
 - Course 102. Income Approach to Valuation
 - Course 112. Income Approach to Valuation II
 - Course 201. Appraisal of Land
 - Course 300. Fundamentals of Mass Appraisal
 - Course 311. Real Property Modeling Concepts
 - Course 400. Assessment Administration
 - Course 402. Property Tax Policy
 - Course 500. Assessment of Personal Property*
 - Workshop 150. Mathematics for Assessing Officials

- Workshop 151/191. Uniform Standards of Professional Practice (National)
- Workshop 162. Marshall & Swift Cost Approach (Residential)
- Course 332. Modeling Concepts
- Course 333. Residential Model Building
- Course 334. Application of Mass Appraisal to Non-Residential Properties
- Workshop 157. The Appraisal Uses of Excel® Software
- Workshop 171. IAAO Standards of Practice and Professional Ethics Supplement
- Workshop 403. Property Tax Policy Alternatives and Modules
- Workshop 452. Fundamentals of Assessment Ratio Studies

▪ **ASSESSMENT SUPPORT PERSONNEL**

Assessment support personnel can cover myriad disciplines, from the most technical to routine clerical support. All these disciplines have their own requirements and areas of specific expertise. Listing all the possibilities throughout the international community is beyond the scope of this document. For example, certain technical appraisal assignments such as utilities and mines may require additional specialized subject matter expertise.

- **Education:** Ranging from a high school diploma or equivalent to a bachelor's degree in mathematics, statistics, communications, accounting, finance, computer science, business administration, geography, or real estate or combination of college and experience equivalent to a degree.
- **Experience:** Real estate, building construction, GIS/mapping, mass appraisal, financial services, or specific areas of expertise relevant to the position.
- **Skills and Knowledge:** Algebra, mathematical ability, computer literacy, and good written and oral communication skills.
- **Continuing Education Required**
 - Course 101. Fundamentals of Real Property Appraisal
 - Course 500. Assessment of Personal Property*
 - Workshop 150. Mathematics for Assessing Officials
 - Workshop 171. IAAO Standards of Practice and Professional Ethics Supplement
 - Course 102. Income Approach to Valuation
 - Course 300. Fundamentals of Mass Appraisals
 - Course 400. Assessment Administration

* *In offices that assess personal property.*"

Analysis

Listers and assessors need to be educated in a wide range of disciplines including, appraisal theory, math, statistics, data analysis, economics, law, accounting, engineering, construction, architecture, planning, zoning, surveying, database management, software applications, mapping, customer service and public relations. In some cases, listers and assessors will bring a few of these skills with them from past experience and education, but many of these skills have to be learned.

The state of Vermont has a great education program that helps listers and assessors obtain the knowledge needed to fulfill the requirements of the position. Earning Vermont's Property Assessor Certifications is a great way to promote professionalism. Many states require passing a list of courses and a comprehensive exam to act as the assessor.

Below is a summary of Vermont's current program.

Program Overview

Required Courses: VPACP creates four levels of achievement. Each level has prerequisites and requirements, including levels of work experience and training. The following is an overview of the educational course work required for each level:

LEVEL 1: Vermont Property Assessor I (VPA I)

**Complete all course requirements for Level I:*

- IAAO 100 Real Estate Property Appraisal Workshop
- PVR/State-Sponsored Lister Training Workshop

LEVEL 2: Vermont Property Assessor II (VPA II)

Must have two years of experience as a VPA I or equivalent

**Complete all course requirements for Level II:*

- IAAO 101 Fundamentals of Real Property Appraisal
- IAAO 102 Fundamentals of the Income Approach to Valuation
- IAAO 171 Standards of Professional Practice & Ethics
- PVR/State-Sponsored Data Collection Course (four-day course)

LEVEL 3: Vermont Property Assessor III (VPA III)

Must have three years of experience as a VPA II or equivalent

**Complete all course requirements for Level III:*

- IAAO 300 Fundamentals of Mass Appraisal
- IAAO 155 Depreciation Workshop
- PVR/State-Sponsored Land Appraisal Workshop
- PVR/State-Sponsored Statutes and Rules in Property Assessment

LEVEL 4: Vermont Master Property Assessor (VMPA)

Must have three years of experience as a VPA III or equivalent

**Complete all course requirements for master level:*

- IAAO 112 The Income Approach to Valuation II
- IAAO 311 Residential Modeling

Recommendations

Professional equitable values can't exist without an educated workforce. Listers and assessors should be required to take and pass Vermont's Property Assessor Certificate program. Paying certificate holders an annual bonus would help to encourage needed education and has been found to be successful in other states.

Creating an assessment system that facilitates full-time positions through condensed assessment jurisdictions will facilitate recruitment, training, and job ladders.

Equity and Anti-Bias Measures: Investigate and Report Anti-Bias and Equity Measures in Other Jurisdictions' Property Tax Systems

Vermont Stakeholders Survey Responses

The following question was asked as part of a survey sent to listers, assessors, clerks, treasurers, selectboard members, city council members, village trustees, mayors, city councilors, village managers, town managers, town administrators, district appraisers, and state department of tax staff.

“What antibias or equity improvement measures do you think could be added to Vermont's property tax system to help ensure equity for all?”

The following is a summary of applicable answers given:

- Appeal assistance for low-income property owners
- Avoid language such as rich, poor, trailer park, etc...
- Techniques to ensure rural areas are treated the same as urban areas
- DEI
- Adequate education to value all property equitably
- Additional transparency
- Single CAMA system statewide
- Appraisers that don't know the property owners would help
- Require training and education
- Keep politics out of assessments
- Treat second homes the same as first homes
- Add PRD as a trigger for reassessments to guard against vertical inequity
- No interior inspections

Responses from Other States

The following question was asked of property tax oversight agencies of all 50 states and the District of Columbia.

“Please list any equity or antibias measures used to ensure equal treatment of property owners in your state.”

The following were the most popular answers given:

- Sale Ratio Analysis
- Coefficient of Dispersion (COD) Analysis
- Price Related Differential (PRD) Analysis
- Price Related Bias (PRB) Analysis
- Equalization Study
- Checking for Errors
- Adoption of IAAO Standard on Ratio Studies

IAAO Standards

- **“IAAO’s Mission Statement** — IAAO is a global community of diverse mass appraisal professionals advancing fair and equitable property appraisal, assessment administration, and property tax policy through professional development, research, standards, and technical assistance.”

Fair and equal treatment of all is at the core of everything IAAO stands for and as such all 15 IAAO standards contribute to more fair and equitable property values.

Analysis

Assessors and fee appraisers are often grouped together as the national public does not necessarily understand the difference. Fee appraisers that might do an appraisal for a loan have been accused of undervaluing property based on race or other factors while some assessors have been accused of overvaluing property based on race or other factors. It’s important to understand the difference between assessors and fee appraisers as the techniques used are quite different.

When a fee appraiser appraises a property, the appraiser generally meets with the property owner and then that same person values the property later that same week.

In assessment there is generally a division of labor where the person that inspected the property is a different person than the person setting the value. Assessors typically value thousands of properties each and these values typically come months or years after any inspections have been done by the appraiser setting the value. The chances of the same person that did the inspection valuing the property is low. Property assessments for tax purposes also generally go through layers of quality control designed to find outlier data and values to help the office work to correct the outliers and ensure fair and equitable treatment of all properties within the jurisdiction. In many assessment offices informal appeals are heard by one assessor and then later reviewed by a department manager to ensure valuation equity and parity in final valuation decisions.

Assessors are focused on providing fair and equal treatment of all property and property owners. Assessors do not track race but do track values and property characteristics. Racial equity is of course important, but when assessors speak of valuation equity or inequity, they are generally referring to the equal treatment of all property types, classes and value ranges.

To ensure valuation equity the state should complete quality control process including a review of CAMA data to ensure that properties are being valued in a fair and equitable manner. Many states have extensive quality control processes ensuring that state mandated processes are completed at state required intervals.

Some in Vermont indicated that BCA boards have been less than equitable in their decision-making process. For recommendations on this please see the section on appeal structure.

A multijurisdictional assessment system will require enforceable state standards to approach valuation equity across the state.

Jurisdictions that are very small could be inadvertently treated less equitably than larger jurisdictions, because of a lack of sales data to calculate a sales ratio, CLA, COD, PRD or PRB. The statistical accuracy of a sales ratio study with few transactions will be lower than the statistical accuracy of a sales ratio study done with a large number of transactions. For this reason, these small jurisdictions are also more susceptible to large shifts in their CLA adjustments.

Infrequent valuations are known to be regressive in nature causing lower valued properties to be taxed at a higher rate than higher valued properties. For this reason, it's important to keep values up to date by revaluing frequently, ideally on an annual basis.

Recommendations

The value of an educated assessment workforce cannot be overstated. Assessment training and education revolves around fair and equal treatment of properties and property owners. IAAO's recommended training standards should be adopted for assessors and listers in the state of Vermont. State level training is also vitally important to ensure equitable compliance with state legal and policy requirements. It's also recommended that Vermont Assessors, Listers, and reappraisal contractor staff are required to take the Uniformed Standards of Professional Appraisal Practice (USPAP) courses including all updates to ensure the highest standards in ethics are applied in the execution of the Vermont property tax system as recommended within IAAO's Professional Development Standards. All assessment staff, including contractors, should be required to follow the requirements of USPAP standards including anti-bias and equity requirements to ensure best practices are being followed and all property owners are being treated fairly under the law.

Data standardization could enable PVR to provide better oversight to ensure equity.

IAAO's technical standards should be followed whenever possible to help ensure best practices are followed and the most fair and equitable values are produced.

In general, the assessment process is driven by equity and following the other recommendations within this report will contribute to increased valuation equity.

Cost of Reappraisal and the Cost to Operate a Property Assessment System

Estimated Cost of Assessing in Vermont for 2024

PCSIAAO could not find a source indicating the total cost of Vermont's assessment system at the local level.

To estimate the total cost of assessment in Vermont at the local level we can look to the annual budgets for listing and assessing from a sample of ten municipalities on a per parcel basis and then multiply that number by the total number of parcels in the state. This example should not be relied on for decision making purposes as this example is solely based on the samples below and is not statistically dependable.

City / Town	2024 Assessment Budget	2022 Parcel Count	Annual Budget / Parcel
Shelburne	\$182,550	3,080	\$59.27
Bennington	\$183,610	5,529	\$33.20
Waitsfield	\$29,200	1,141	\$25.59
Drummerston	\$24,079	1,041	\$23.13
Waldon	\$9,240	746	\$12.34
Burlington	\$542,342	10,849	\$49.99
Battleboro	\$211,476	4,511	\$46.88
Montpelier	\$196,295	3,035	\$64.68
Dorset	\$76,750	1,552	\$49.45
Bristol	\$103,218	1,725	\$59.84
Minimum			\$12.34
Maximum			\$64.68
Mean			\$42.44
Median			\$48.17

The budget numbers above were found on each town or cities' web page.

To estimate the total local cost of assessments in Vermont we can take the total parcel count times the median budget per parcel. We know that Vermont has approximately 350,000 parcels. The median annual budget per parcel estimate was \$48.17. So, $350,000 \times \$48.17 = \$16,859,500$. This delivers an estimated total local assessment cost of \$16,859,500 for 2024.

Cost of Reassessing Annually in Other States

In an attempt to understand what potential cost could look like for assessment systems that closely align with IAAO standards we can look at Texas and Kansas. These states both assess on an annual basis. Texas reinspects every 3 years and Kansas reinspects every 6 years. PCSIAAO received information from the Texas Comptroller's Office that indicates the median cost per parcel for their 253 central appraisal districts in 2022 was \$27.27. Similar information was received from the Kansas Department of Revenue's Property Valuation Division for their 105 Counties that indicated a median cost per parcel of \$32.40 in 2024. It should be noted that both Texas and Kansas have much larger assessment jurisdiction and different assessment laws. Texas for instance has a median parcel count of 39,183 parcels per appraisal district. Kansas has a median parcel count of 8,021 per county. Vermont has a median parcel count per jurisdiction of just 1,394. Also, Texas and

Kansas do not have the same geography or mix of properties that Vermont has. It should also be noted that both Texas and Kansas have been running extremely lean assessment systems for decades. The very nature of Vermont's real estate would indicate a higher per parcel cost.

It should be noted that a property tax system such as Vermont's that have not been operating according to industry best practices will require additional funds in the initial phase to help get up to speed with more frequent reappraisal cycles. Also funding of state oversight should increase to account for the additional staff needs to oversee reappraisals. Once the assessment system is operating as a stabilized system costs should fall.

Trends Nationwide

- Most states assess property at the county level.
- The annual reappraisal cycle is the most common reappraisal cycle.
- Maryland and Montana are the only two states that manage all reappraisal functions at the state level.
- Most states use a different reinspection cycle than their reappraisal cycle. Reappraisals are done at a greater frequency than reinspections are done.
- Most states do not require interior reinspections.
- In recent years states have been moving to allow digital reinspections as an alternative to in-person reinspections as the use of ortho and oblique aerial imagery and tools have advanced.

Public Relations

The lack of consistency in assessment practices across the State makes it difficult for property owners to understand the assessment process. The more consistency that can be added to the assessment process, the more easily understood those processes will be statewide. This will also enable statewide public relations messages to be more applicable to all residents. Resources will need to be allocated to public outreach with any changes to the assessment system. See IAAO's Standard on Communication and Outreach 2023.

State Enforcement

If property is to continue to be assessed at the local level PCSIAAO recommends giving PVR the ability to enforce assessment standards to ensure a more fair and equitable property tax system. Statue would need to require jurisdictions to follow PVR directives and policies as well as the Director of PVR having the enforcement power to remove assessors from office or cause corrections to assessment jurisdictions that fail to meet minimum standards. Removal of listers and assessors should be appealable to a state board of assessment or tax appeals or courts.

IAAO's *Standard on Oversight Agency Responsibilities 2020* states:

"10.2 Procedural and Field Data Quality Audits

Procedural audits and field data quality audits constitute a review of operations intended to discover defective and inefficient practices. These audits should be performed to ensure that quality standards are being met. A few examples of areas that should be included in performance reviews are data collection procedures, valuation methods, and documentation of value overrides. Clear procedures should be developed so primary assessors understand what is tested and the requirements for passing, as well as

the consequences and impact of failure (see the IAAO Standard on Property Tax Policy [IAAO 2020a] and Standard on Data Quality [2020b]).”

These policies should include, but may not be limited to:

- Requiring compliance with a minimum sales ratio standards including median sales ratio, COD, PRD and PRB included in IAAO’s Standard on Ratio Studies.
- Requiring compliance with State statutes.
- Requiring compliance with PVR policies, directives, and guidelines.

Without a check on assessment office processes equity cannot exist.

If PVR is to complete more in the way of procedural and quality audits they will need increased resources to complete these tasks.

IV. SUMMARY OF RECOMMENDATIONS

1. Reappraisal Cycle Length

IAAO standards recommend annual reappraisal cycles to increase equity in values.

2. Reinspection Cycle Length

IAAO standards recommend reinspections of properties be performed on a minimum cycle of 4 to 6 years.

3. Off-Cycle Reappraisals

Since annual reappraisal are recommended best practice off-cycle reappraisals are not typically recommended. Off-cycle reappraisals are done when there is an equity issue typically triggered by an unacceptable sales ratio.

Staffing and budgeting are major obstacles to off-cycle reappraisal.

If a six-year cycle is maintained off-cycle reappraisals will likely need to remain to be an option.

4. Statistical Reappraisals

IAAO standards allow for statistical reappraisals between full reappraisals.

5. Move Valuation Date from April 1 to January 1

Create a committee or taskforce made up of listers, assessors, clerks, treasurers, vendors and PVR staff tasked with developing recommendations for changes to the property tax calendar in an effort to eliminate time constraints within the property tax calendar including but not limited to the short appeal timeframe. Changes to the calendar should allow increasing reappraisal frequency by alleviating the current time constraint between the valuation date and the completion of the grand list. These recommended changes should be provided to the legislature for their consideration and approval. PVR should then develop accompanying policy to compliment the changes in legislation with the help of this committee or taskforce.

A Gantt chart as is show below could be used to help plan a new assessment cycle.

Phase	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan
Final Valuation													
Valuation Quality Control Review - Office													
Value Notifications													
Informal Appeals													
Formal Appeals													
Sales Reviews - Field													
Permits - Field													
Quality Control Review - Field													
Data Entry - Office													
Data Analysis													
Land Valuation - Office													
Depreciation Analysis - Office													
Model Review & Calibration - Office													

6. Appeals

Allow for informal appeals with the reappraisal contractor, lister or assessor.

Replace the BCA appeal level with a regional assessment appeal board. This board could be made up of one BCA appointee from each of 5 adjacent towns or cities. The ideal candidate might have real estate experience or might be a lawyer. This person could be required to take and pass any associated tests for courses such as VLCT's Effective Property Tax Appeal Training, PVR's Statutes & Rules in Property Assessment Training, and IAAO's Fundamentals of Real Property Appraisal course. No requirement for onsite appeals.

The PVR level appeal should be replaced with a State Board of Assessment Appeals. This State Board of Assessment Appeals would be a paid position. This could be a board of 3 to 5 members with a pro tem member. These members should be required to be a certified appraiser or an attorney. Members should be required to take and pass PVR's Statutes & Rules in Property Assessment Training, IAAO's Fundamentals of Real Property Appraisal and IAAO's Income Approach to Valuation course.

7. Assessment Jurisdiction Size

Combining jurisdictions for the purpose of data maintenance, data collection, reinspection, reappraisal, appeals and career development all have benefits over the current municipal model.

8. Data Standardization

Create consistent data definitions and requirements to be used across the state. CAMA data and data fields should be standardized statewide. Standardized data will help in creating standardized valuation definitions and policies. Having standardized data will also facilitate state oversight in ensuring valuation equity.

9. Single CAMA System

The advantages of a single CAMA system outweigh the disadvantages. This would standardize training, creates efficiencies and promotes equity in values.

10. Aggregating Data

Aggregating data at the state level should be done to enhance data availability for appraisals and oversight. Data aggregation will enhance valuation equity.

11. GIS Services

VCGI should take a larger role in providing services to local jurisdictions at a lower cost. VCGI could contract to have the entire state flown for ortho and oblique aerial imagery. This imagery could be available through a single CAMA system helping to streamline assessment processes. VCGI could maintain parcel delineations at the state level helping to alleviate the cost at the local level. A statewide repository for deeds should be created to help ensure accurate parcel delineations. VCGI will need additional resources to cover these needs. Consolidating functions at the state level would help to reduce overall cost to taxpayers as VCGI could realize economies of scale and help ensure equal treatment of all properties.

8. Contiguous Parcels

Create a committee or taskforce made up of listers, assessors, vendors, Vermont Center for Geographic Information (VCGI) and PVR staff tasked with developing recommendations for changes to the contiguous parcels questions and issues that currently exist. This committee or task force should make recommendation to the legislature and PVR for legal and policy changes to create more consistent and supportable policy on data management and valuation of parcels.

9. Equity and Anti-Bias Training

All assessors, listers, reappraisal contractors and PVR staff should be required to take the Uniformed Standards of Professional Appraisal Practice (USPAP) course and updates. USPAP is recognized by appraisal professionals across the United States as a source for ethics in the appraisal field and has been adopted by Congress. IAAO offers USPAP as well as the update course. IAAO also offers a course named IAAO Standards of Professional Practice and Ethics. This course reinforces the importance of promoting and maintaining public trust in the appraisal process by representing the highest standards of professional ethics.

V. CONCLUSION

Fair and equal treatment of all taxpayers under the law should be the ultimate goal of any changes made to the State of Vermont's property assessment and tax system. Many of the ideas discussed within this report were brought up by stakeholders, other state oversight agencies, and are supported by IAAO standards. The proposed changes within the report, if incorporated, will place the State of Vermont in a better position to provide more fair and equal assessments to all property owners regardless of geography, class, or race. It will be important for the State's leadership to develop a strategic and systematic plan to execute these proposed changes in the correct order to ensure success. Throughout all the changes it will be important for decision makers to understand and keep in mind that the initial cost will be higher than the operating costs once the system has stabilized.

The Professional Consulting Services of IAAO, LLC would like to thank the citizens of Vermont, state stakeholders, and contractors for the opportunity to work with you in developing this report. We hope that the results include a more fair and equitable property tax system for all Vermonters.

GLOSSARY OF TERMS

From IAAO *Glossary for Property Appraisal and Assessment Third Edition*

Appraisal Level – The common or overall ratio of appraised values to market values. Three concepts are usually the level required by law, the true or actual level, and the computed level based on a ratio study. See *Ratio Study*.

Assessing Officer – Any property tax official with professional responsibilities.

Coefficient of Dispersion (COD) – Expresses as a percentage the average deviation of the ratios from the median. The COD is used throughout the property assessment field as a measure of appraisal uniformity.

Coefficient of Price-Related Bias (PRB) – Indicates the percentage by which assessment ratios change whenever values are doubled or halved. For example, a PRB of -0.03 means assessment levels decrease by 3 percent when value doubles. The PRB should range between -0.05 and $+0.05$. PRBs outside the range of -0.10 to $+0.10$ are considered unacceptable.

Common Level of Appraisal or (CLA) – An indirect valuation equalization process used by the State of Vermont to ensure equal distribution of property tax load for school funding. (Not defined in IAAO's Glossary)

Computer-Assisted Mass Appraisal (CAMA) – A software package used by governmental agencies and assessing offices to establish real and personal property valuations for property tax purposes. It is composed of several applications that systemically value property. Often includes statistical analysis such as multiple regression analysis to assist the appraiser in determining the value of property for property taxation purposes.

Condominium – A real property ownership concept in which one can own an undivided interest in a portion of the real property (typically called a unit) and own a shared interest with other unit owners in the public areas of the real property (the common elements).

Condominium Unit – The portion of real property owned individually in a condominium ownership concept (as opposed to the common elements in which ownership is shared with other unit owners).

Highest and Best Use or (H&BU) – The appraisal principle that requires evaluation of all physically possible, legally permissible, financially feasible, and maximally productive (most profitable) uses of a property to determine the use that provides the owner with the highest net return on investment in the property. Highest and best use is evaluated as if vacant land, and as improved.

Light Detection and Ranging (LiDAR) – An airborne collection system that uses a scanning infrared laser sensor comprising a transmitter and receiver, global positioning system (GPS) receiver and an inertial navigation system (INS) unit to obtain the geospatial x, y, and z coordinate value of ground surface points. This data can be used to develop very accurate digital elevation, surface, and terrain models. These models can form the base for ortho imagery and geospatial analysis.

Price-Related Differential (PRD) – A statistical measure of vertical property tax equity. The PRD is calculated by dividing the mean ratio by the weighted mean ratio in a ratio study. If the result exceeds 1.03, assessments are considered regressive. If the result is less than 0.98, assessments are considered progressive.

Progressive Tax – Assessment progressivity occurs when assessment levels or effective property tax rates on low-value properties are less than assessment levels or effective property tax rates on high-value properties.

Progressive Tax System - A method of taxation in which those with more resources pay a greater percentage of their resources than those with fewer resources. Income progressivity occurs in a tax system under which a taxpayer's average tax rate increases with income. This is often the case with income taxation based on multiple rates. Assessment progressivity occurs when effective property tax rates on high-value properties are greater than effective property tax rates on low-value properties.

Reappraisal - The mass appraisal of all property within an assessment jurisdiction accomplished within or at the beginning of a reappraisal cycle. A subsequent (and possibly periodic) mass appraisal of all property of a specified class or classes within an assessment jurisdiction. Factors considered may include changes in physical condition, use, or the market. Also called Reassessment or Revaluation.

Reappraisal Cycle - Time needed, taken, or permitted for a jurisdiction to reappraise all properties of a specified class or classes, as may be mandated by law or rule. See Reappraisal.

Regressive Tax System - Assessment regressivity occurs when assessment levels or effective property tax rates on low-value properties are greater than assessment levels or effective property tax rates on high-value properties.

Reinspection - A property inspection process that is completed to ensure data quality. Reinspection could include exterior inspections, interior inspections, inspections based on digital imagery or a variation or combination of the three. These typically happen on a cyclical basis and could be in conjunction with a reappraisal or on a different cycle. (Also known as data collection in Vermont.) (This could consist of listers, assessors or contractors inspecting properties.) (Not defined in IAAO's Glossary)

Residential Property - Generally includes any property that is used or designed for use by a one - to four-family dwelling in which one or more persons reside. Includes Single-Family residences, up to four multifamily units. This category includes each condominium unit in a multi-unit dwelling structure, plus each condominium owner's share of the common area. See Property, Residential.

Residential (Non-Farm) Single-Family - Includes each detached, semi-detached, or attached house, if separately assessed and not on a farm, that is a residence for one family only. For detached houses, this would include one-family rural properties or suburban estates not used primarily for farming, and mobile homes assessed as real property. This category includes each condominium unit in a multi-unit dwelling structure, plus each condominium's share of the common area, unless the common area is separately assessed.

Residential (Non-Farm) Multifamily - Includes each residential property that contains two or more living units, including duplexes, apartment houses, and cooperatives that are assessed as a single entity. The category encompasses street-level stores and doctors' offices in apartment buildings but excludes motels or hotels.

Revaluation - Sometimes used interchangeably with a reappraisal of property, a complete reappraisal of real property as of a specified date. See Reappraisal and Reappraisal Cycle.

Sales Ratio/Assessment Ratio - The ratio of an appraised (or assessed) value to the sale price or adjusted sale price of a property.

Statistical Reappraisal - a factor that can be applied to formally set market values to help better reflect current market value. This process can be used when jurisdictions fall outside a predetermined sales ratio range. Some states and jurisdictions will apply a factor to values to directly or indirectly adjust the values to the required sales ratio range or target. (Not defined in IAAO's Glossary)



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Appendix B: Vermont Center for Geographic Information (VCGI) Full Report

Act 68 (H,480) 2023: Report
Recommendations and Considerations for Distinguishing Between Different Types and
Characteristics of Property and Their Uses.

[Access VCGI Full Report Online.](#)



Act 68 (H.480) 2023: Report

Recommendations and Considerations for Distinguishing Between
Different Types and Characteristics of Property and Their Uses

December 15, 2024

Agency of Digital Services | Vermont Center for Geographic Information (VCGI)



Purpose

This document outlines all recommendations for parcel mapping and data maintenance as related to [Act 68 of 2023](#). It is authored by the Vermont Center for Geographic Information (VCGI), state stewards of the [Statewide Property Parcel Mapping Program](#) since 2020, established via [19 V.S.A. § 44](#). The recommendations aim to improve parcel data quality to support timely, fair, accurate, and modern property valuation and reappraisals as sought by Act 68, which asks the Tax Department to:

[create] recommendations and considerations for distinguishing between different types and characteristics of property and their uses, and how different property data could be used to make policy decisions.

Overview of All Recommendations

RECOMMENDATION	STATUTE CHANGE	INCENTIVE / FUNDING	TECHNICAL GUIDANCE	NEW TECHNOLOGY
1. Update Parcel Definition in Vermont Statute	X			
2. Support Digital Parcel Maintenance and Submittal to the State	X	X		
3. Implement Vermont CAMA Data Standard and Require Submittal to State	X		X	
4. Clarify Right-of-Way Mapping for Tax Purposes			X	
5. Clarify Grand List vs. GIS Acreage Guidance			X	
6. Acquire and Publish Annual High Resolution Imagery and Offer Buy-Up Imagery Contract			X	X
7. Pilot Remotely-Sensed Tools to Support Appraisals				X
8. Develop and Offer Updated Parcel Contract Guidance			X	X
9. Modernize Current Use Map Standards, Submittals, and Access				X
10. Consider Updating and Moving Parcel Program in VT Statute	X			
11. Coordinate With Concurrent Efforts to Digitize Land Records				X
12. Make Proposed Assessment Districts Consistent and Compatible with Existing Administrative Boundaries			X	

Additional Recommended Improvements

- Improve Submittal of Land Surveys to the Vermont Land Survey Library
- Support Survey of Municipal Boundaries and/or Corner Points

Recommendation 1: Update Parcel Definition in Vermont Statute

1.1 Summary

- While functional for tax administration, the current parcel definition has limitations for valuation, data management, complete documentation, and parcel-dependent analysis that informs policy
- Changing the current parcel definition from solely “contiguous” to one that also requires tracking of separate and sellable pieces of real estate should help overcome these issues
- This definition would replace the undefined practice of mapping and tracking “inactive” parcels and instead require mapping and tracking all separate parcels individually, regardless of common ownership
- “Contiguous” parcels aggregated by common ownership are still to be created for the purposes of tax administration
- Two parcel map layers will continue to be published via the Statewide Parcel Program: one for tax administration (formerly known as “active parcels”), and one for tracking all parcels separately (formerly known as “inactive parcels”)

1.2 Justification

Current Vermont Statute 32 V.S.A. § 4152 (a)(3) defines a parcel as:

- (3) A brief description of each parcel of taxable real estate in the town. “Parcel” means all contiguous land in the same ownership, together with all improvements thereon.

This is a “contiguous” parcel definition, depicted in Figure 1. Separate lots are grouped by ownership for administrative purposes, including the sending of a single tax bill per owner per “parcel”. Separate lots are sometimes managed as “inactive” parcels, but that term is not defined outside of the [parcel data standard](#) and maintenance varies by town. The marketability of individual lots for sale is not clear, nor is it clear how towns should map and track lots within a combined parcel. Aggregate parcel delineation further complicates assignment of highest and best use valuation as assessors may have to generalize across several different lot types. Data management, change tracking, and downstream analysis are also negatively impacted by a contiguous parcel definition.

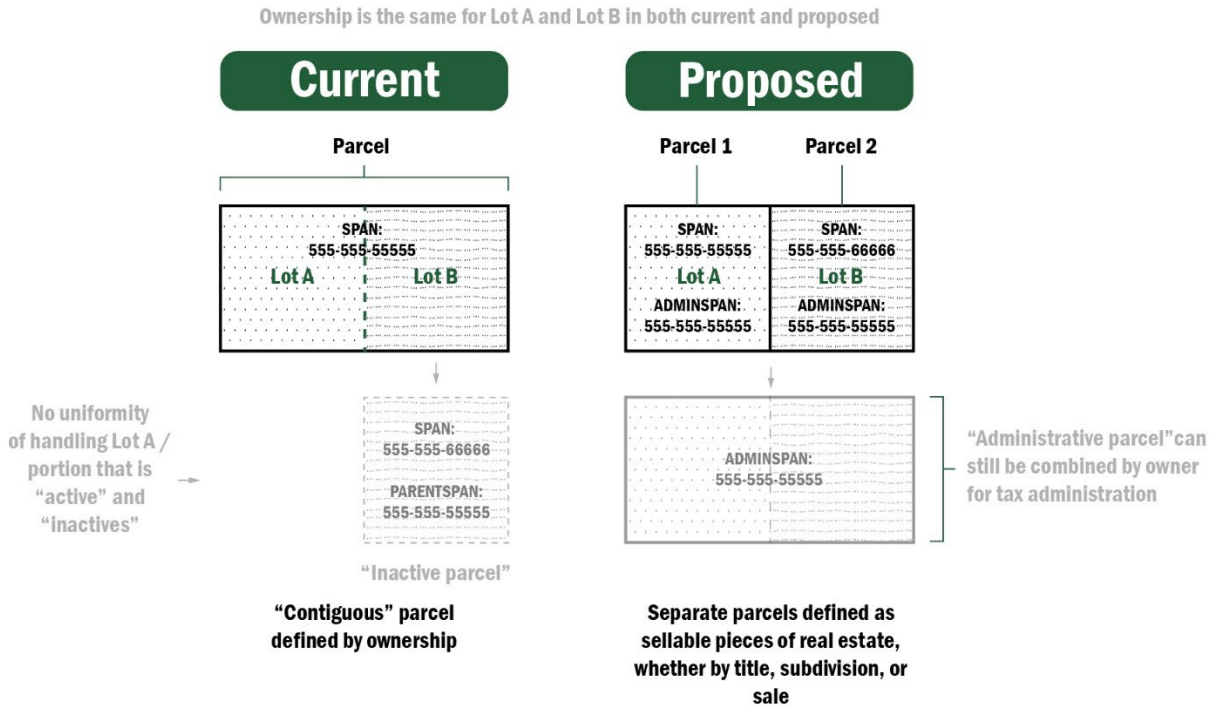


Figure 1: Current and Proposed Parcel Definition. *The proposed separate parcel definition removes the need for tracking “inactive” parcels, while ensuring all component parts of parcels are assigned a unique identifier.*

Defining parcel instead as a separate and sellable lot or piece of real property would bring parcel identification in line with their common understanding as “lots” as opposed to grouped areas. This definition would improve parcel documentation by ensuring that no parcel in full or in part goes unidentified; ease highest and best use valuation by reducing the need to generalize across different parcels; improve data maintenance, long-term record keeping, and analysis; and continue to allow aggregation by owner for tax administration. In addition, the definition of a parcel has implications for any potential fee or payment related to a municipality’s parcel count (see [Recommendation 2](#)).

An updated parcel definition could allow a legal document (deed or title), subdivision plats, or sale to help define the bounds of the separate mapped and tracked area. Existing “inactive” parcels, where they exist and are maintained, should be tracked and mapped with their unique SPAN and attribution. These parcel would ultimately be incorporated with the current “active” parcel layer to create a map layer of the smallest, documented, bounded sellable areas. A separate parcel layer combining parcels on ownership should persist for tax administration (such as current use enrollment). Two statewide parcel map layers would result, one that reflects documented, bounded, sellable pieces of real estate, and the other that represents contiguous parcels combined on ownership. Both layers would continue to be published and made publicly available by the Statewide Property Parcel Program.

These changes in parcel definition and mapping practices would increase the current count of parcels statewide from roughly 340,000 to an estimated 380,000. This figure is estimated since only 70% of towns (178 total) currently submit their inactive parcels digitally

to VCGI. It remains unknown how many of the remaining 30% of towns map inactive parcels digitally. This definition change could be designed to require no changes to current use and other programs dependent on acreage thresholds that may only be met by aggregating lands in common ownership (see [Recommendation 9](#)).

1.3 Example Statute Update

32 V.S.A. § 4152 (a)(3) A brief description of each parcel of taxable real estate in the town. “Parcel” means a separate and sellable lot or piece of real estate. Parcels are to be combined to represent all contiguous land in the same ownership, together with all improvements thereon for tax administration.

1.4 Related Statutes

See [Appendix A1.5 Parcel Definitions and Interpretations in Existing State Statute](#).

1.5 Implementation

Vermont municipalities would be expected to continue to aggregate parcels by common ownership and account for them as they do currently. An aggregate, “contiguous” map layer reflecting this accounting would still be submitted to the Statewide Property Parcel Program overseen by VCGI, and remain adherent to an updated VT GIS Parcel Data Standard. The layer will be renamed from “active” parcels to “administrative” parcels by VCGI. SPANs for administrative parcels would be maintained in a field called ADMINSPAN, and match the source ADMINSPAN of abutting lots under the same ownership (see [Figure 1](#) and [Appendix 1.4](#)). When a parcel has only one bounded area in common ownership, its ADMINSPAN would be the same value as its SPAN. CAMA providers would be engaged to reflect these changes in their accounting systems.

Municipalities would also be expected to account for what are currently called “inactive” parcels. These parcels would reflect the updated parcel definition and depict separately sellable pieces of real estate given their best available documentation, and regardless of common ownership. This practice is compatible with at least one parcel map vendor’s current practices in Vermont (see [Appendix 1.2: Comments on Maintaining Inactive Parcels at the Municipal Level](#)). Representative spatial data are to remain adherent to an updated VT GIS Parcel Data Standard, albeit “inactive” parcels are to be renamed to simply “parcels”. This layer will be submitted to the State Property Parcel Program overseen by VCGI, who will rename the current “inactive” parcels layer as “parcels”.

VCGI will send advance notice of these changes to the VT GIS community, municipalities, and their mapping vendors. It is expected that mapping and tracking of parcels that reflect an updated parcel definition will take time and improve with continued maintenance.

A full description of proposed changes is in [Appendix 1.4: Proposed Parcel Layers and VT GIS Data Standard Schema, per Updated Parcel Definition](#).



Figure 2: Example of Current Practices for Mapping Inactive Parcels. *Inactive parcels are tracked differently depending on municipality. Woodstock and Hartford, for example, currently manage inactive parcels and provide them to VCGI while Hartland, Pomfret, and Bridgewater do not. For the latter towns it is unknown whether inactive parcels are only managed internally or not at all.*

Recommendation 2: Support Digital Parcel Maintenance and Submittal to the State of Vermont

2.1 Summary

- The current model of town-based parcel maintenance with voluntary submittal to the state has reached its limits in data quality and currentness
- If municipalities are to remain responsible for reappraisals, grand list maintenance, and tax mapping, any additional per-parcel funding should be contingent on the submittal of standardized GIS parcel data to the state
- Any change in the jurisdiction responsible for tax assessments/reappraisals should be accompanied by corresponding adjustments to the processes, responsibilities, and resources for tax mapping to ensure statewide consistency and accuracy

2.2 Justification

Vermont has 256 municipalities: 237 towns, 10 cities, 5 unincorporated towns, and 4 gores. In Vermont individual municipalities are responsible for parcel mapping of taxable lands in their jurisdiction, unlike other states with county governments that often oversee the task. Most towns budget to hire a GIS vendor to maintain their digital parcel data and reflect any changes to parcel geometry since the town's last update. Frequency of geometry updates varies depending on the needs and resources of the town, with some updates performed annually and others completed every two to three years or more. Some towns do not update

their digital parcel geometry. Town oversight of parcel mapping is typically the responsibility of listers or assessors. Accuracy of taxation and identification of land-based and parcel-related trends suffer without a tight relationship between grand list and map maintenance.

The [Statewide Property Parcel Program](#) publishes municipal parcel map data joined to the annual statewide grand list in a uniform, digital format (see [Glossary: VT GIS Parcel Data Standard](#)). The Program relies on towns voluntarily sharing updated parcel geometry with VCGI, typically via their vendor (see [Appendix 2](#)). VCGI reviews submissions, performs any edits required for standard compliance, and makes the data publicly available with [enhanced functionality](#). The data drive applications such as the [Vermont Parcel Viewer](#), which draws more than 500,000 unique views a year, and are also provided as raw spatial data which sees over 1 million unique views a year. Parcel data are one of the state's most-used spatial datasets.

This voluntary method of sourcing parcel data has supported state, regional, and local efforts in emergency management, natural resources policy and planning, permitting and compliance, and transportation. Parcel data also support efforts to address pressing issues such as flood response, resilience planning, and housing. All municipalities may use these data and applications to display their parcels digitally and free of charge. Some towns pay vendors for additional map services such as custom web applications and print map production. The overarching incentive for municipal parcel data maintenance is for towns to ensure the most accurate, consistent, and timely data exist across all representations of land ownership and location, be that in grand list tables or on maps that see high use.

While relatively successful, improvements are needed in the current town-sourced model of parcel data maintenance and publishing. About 60% of municipalities have submitted updated parcel geometry to VCGI within the last year. In contrast, about 16% of municipalities have not submitted updated parcel geometry to VCGI in over three years, indicating a divide in participation in the Parcel Program and limitations to its voluntary model. Inaccurate, stale data impacts downstream uses that are now dependent on this information.

2.2.1 Submittal Status

VCGI tracks municipal parcel data maintenance and voluntary submittals in the [Parcel Program's Town Mapping Status application](#), which is updated weekly. These statistics represent five years (2020 - 2024) of oversight of the Statewide Property Parcel Program. They highlight the need for improvements to the current data maintenance model.

As of October 24, 2024:

- **90%** of towns are edited/updated by vendors or the town. 10% do not maintain their data and receive limited edits/updates by VCGI
- **24%** of submissions are fully compliant with the current parcel data standard
- **76%** of submissions are not compliant with the data standard. Of these, 26% become compliant with minor edits, 37% become compliant with major edits, and 13% are unusable (see [Appendix 2.3: Submittal Quality Criteria](#))
- **11%** of towns maintain digital parcel data but have not submitted an update since the original Parcel Project data (prior to 2020)

- 12% of submissions are/have been reviewed by towns prior to submittal; 64% have not, and 24% are unknown

2.3 Implementation

The implementation of recommendations to support parcel data submissions is significantly influenced by the jurisdiction responsible for tax assessments. Any modifications to the current responsibilities should be accompanied by corresponding adjustments to the existing tax mapping practices within the state. It is crucial to continue the aggregation of parcels into a single standardized statewide layer as it has become critical information relied on by many policies, programs, and practices. These data are expected by most to remain available and useful as a fundamental public resource.

2.3.1 Scenario A: Continued Municipal Assessment Jurisdiction

The size and capacity of some small Vermont municipalities make it difficult to mandate maintenance and submittal of standardized parcel data to the state without providing resources to help cover costs. Still, it is important to note that 90% of towns in Vermont currently maintain parcel data, either independently or through vendors.

Municipalities that do maintain parcel data should be required to adhere to the State's basic standard and submit their data to the state. This approach would mirror the adoption of Municipal Plans in Vermont, where towns are not mandated to adopt plans, but if they do, they must include provisions specified in [24 V.S.A. § 4382](#).

At the same time, adding new requirements for municipalities without new incentives may not significantly increase the number of towns maintaining and submitting standardized data. Therefore, it is recommended that this be done in tandem with the approach outlined in Act 68 Section 4. (3) (G):

Incentivizing municipalities to submit grand list parcel map data to the Vermont Center for Geographic Information, including conditioning payment of higher per grand list parcel fees on the submission of data.

Increasing the per-parcel payment to municipalities, even marginally, could meaningfully increase the number of municipalities sharing quality data with the state. Creating incentives to improve data maintenance and sharing was also a recommendation in the [2015 Vermont Statewide Digital Parcel Lifecycle & Maintenance Plan](#):

As implementation shifts into a maintenance stage, Vermont will want to pay close attention to challenges to compliance. While some impediments may be more attitudinal than logistical or economic, the state may want to consider creating incentives to comply.

New contract guidance could also be developed to ensure municipalities maintain quality data that are eligible for a per parcel payment (see [Recommendation 8: Develop and Offer Updated Parcel Contract Guidance](#)).

While such requirements and incentives are likely effective for most municipalities, they may not be significant enough for small municipalities that do not maintain parcel data. In such

cases, those updates should be managed by VCGI's Parcel Program staff given available time and resources such as the [Vermont Land Survey Library](#).

Further considerations regarding per parcel payments are in [Appendix 2](#).

2.3.2 Scenario B: New Regional/State Assessment Jurisdiction

This scenario assumes the creation of regional assessment districts as discussed in part 1 of this report, representing a change from the current assessment jurisdiction of the municipality. An assessment jurisdiction is typically responsible for all of the components of assessing property for tax purposes; therefore, the responsibility for tax mapping should also shift to that jurisdiction.

In Vermont, this could mean that all towns within the regional assessment jurisdiction are mapped under one contract, and likely by the same vendor. There may be advantages to this approach as the details and costs of the mapping contract could be met with contributions from all towns, while potentially enabling modern mapping to cover all towns statewide. Should this change occur, and assuming that the assessment jurisdiction is in some way related to the State's Tax Department, standardized parcel submittal to the state should become mandatory. The cumulative advantage from a mapping perspective is that all towns would be covered with uniform, up-to-date parcel data, which supports many other uses beyond tax assessment.

Additional per parcel payments in this scenario would likely not exist as an additional payment to towns. Instead, parcel counts for the entire assessment jurisdiction could be used to tailor adequate funding to support the parcel mapping function of the district. Funding for these services may be comprised of a combination of state funds and those from towns in the district, with the relative amounts of each to be considered both within and across districts. Further considerations regarding funding are in [Appendix 2](#).

There are likely advantages to the use of a single CAMA system for each district which would also ease mapping and data maintenance. The management of land records in this scenario would need serious consideration. It is not clear how major inefficiencies could be avoided without progress in digital land records statewide (see [Recommendation 11](#)).

Recommendation 3: Implement Vermont CAMA Data Standard and Require Submittal to State

3.1 Summary

- Create Computer Assisted Mass Appraisal (CAMA) data standard based on fields from current CAMA software providers and input from the Tax Department, with applicability to current and future CAMA providers operating in Vermont
- Normalize 'priority fields' in initial standardization, expanding to additional fields in future phases
- Use stacked polygons to represent and account for unlanded structures and common interest parcels

- Improve attribution of unlanded structures and common interest parcels via prefix codes
- Provide read-only source of CAMA data, or require monthly submittal, adherent to the VT CAMA data standard to the State of Vermont
- Make submitted CAMA data publicly available and relatable with parcel map data

3.2 Justification

These recommendations are intended to provide useful property description information to aid timely and accurate reappraisals, while also supporting key public policy concerns (e.g., housing) best served by CAMA data. The recommendations are also intended to improve access to and use of public information for data analysis and visualization. Linking select standardized CAMA information with existing GIS data such as parcels and spatialized property transfers will further enhance data analysis and parcel-dependent policy decisions.

3.3 Components

3.3.1 Design and Implement VT CAMA Data Standard

Four CAMA software providers operate in Vermont as of October 2024:

- MicroSolve (NEMRC)
- ProVal (Aumentum)
- Vision Government Solutions CAMA
- AssessPro (Catalis, Formerly Patriot)

Based on sample data and documentation, all providers differ in how they collect, format, and organize CAMA data. VCGI recommends developing a standardized template and schema, including domains for applicable fields, with input and agreement from all vendors. In most cases, vendors should be able to extract fields they are already collecting with little or no modification (or, ideally, provide VCGI with a read-only API).

Following discussion with the VT Department of Tax, a phased approach for standardizing fields is the most feasible and realistic. The following fields comprise the first phase of standardization. All fields except 'SPAN' would allow Null values.

Type	Field	Alias	Description	Field Type	Length	Example
Identification	SPAN	SPAN	Unique identifier for record, with dashes	String	13	001-002-12345
History	YearBuilt	Actual Year Built	Actual year built	Integer	4	1950
History	YearReno	Year Renovated	Year of most recent renovation	Integer	4	2003

Type	Field	Alias	Description	Field Type	Length	Example
Building	TotFinSqFt	Total Finished Square Feet	Total finished square footage of structure	Decimal	10	4500
Building	Heat1ID	Primary Heat/Cool Source	Primary heat/cool source, corresponding with following field	String (domain)	30	Heat Pump
Building	Heat1Pct	Primary Heat/Cool Source Percent	Percentage of usage of primary source for heating/cooling the structure	Percent (integer)	3	75
Building	Heat2ID	Secondary Heat/Cool Source	Secondary heat/cool source, corresponding with following field	String (domain)	30	Forced Air
Building	Heat2Pct	Secondary Heat/Cool Source Percent	Percentage of usage of secondary source for heating/cooling the structure	Percent (integer)	3	25
Building	TotRooms	Total Rooms	Total count of rooms	Integer	5	10
Building	Bdrms	Bedrooms	Total count of bedrooms	Integer	5	3
Building	FullBths	Full Baths	Total count of full bathrooms	Integer	5	1
Building	ThrQtBths	Three Quarter Baths	Total count of three quarter bathrooms	Integer	5	0
Building	HalfBths	Half Baths	Total count of half bathrooms	Integer	5	1
Building	Ktchns	Kitchens	Total count of kitchens	Integer	5	1

Type	Field	Alias	Description	Field Type	Length	Example
Building	PctCmplt	Percent Complete	Percent of structure that is complete	Integer	3	100
Building	UnitCnt	Unit Count	Count of inhabitable units within structure	Integer	5	1
Building	StoryCnt	Story Count	Total count of stories within structure	Integer	3	2
Building	UnIndCode	Unlanded Code	Prefix for unlanded structure type if applicable	String (domain)	2	Null

Table 1: Proposed CAMA Data Schema. *CAMA data schema for initial phase of data standardization. Following agreement with CAMA vendors, these fields should be made available to VCGI for inclusion in a statewide CAMA dataset.*

Proposed heat source domains: Forced Air, Air Oil, Space Heater, Electric Radiator, Electric Baseboard, Hot Water Baseboard, WrmCool, Heat Pump, Exp Cool, Air Exchange, Gravity Furnace, Individual Unit, Hot Water Radiator.

Unlanded code domains: CO (condominium), CA (camp), MH (landed or unlanded mobile home), SA (ground mount solar array), WT (wind turbine)

All or most of these fields are present in the sample data/schema provided by three of the four CAMA vendors.

057 1 047 000
 Sheet Lot Unit# Bldg#
PROPERTY LOCATION
 32-36 CENTRAL AVE
 BURLINGTON, VT 05401
OWNERSHIP
 RENAUDETTE STEVEN
 RENAUDETTE CATHERINE
 625 CLAY POINT ROAD
 COLCHESTER, VT 05446-0000
 Occ: [S] Type:
PREVIOUS OWNER
 RENAUDETTE STEVEN
 -0000

057-1-047-000 34 CENTRAL AVE BURLINGTON, VT
 Parcel ID Building Location

Card: 1 of 1 Total Card Total Parcel
 APPRAISED 517,600 / 517,600
 USE + IMP 517,600 / 517,600
 USE LAND 0 / 0
 ASSESSED 517,600 / 517,600

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Val	Yard Items	Land Size	Land Val	Total Val
R4	209,600	0	4,000.00	308,000	517,600
Building Total	209,600	0	4,000.00	308,000	517,600
Parcel Total	209,600	0	4,000.00	308,000	517,600
Source	2 - Inc (appr)		149.12	Tot Val SF/Prcl	149.12

LEGAL DESCRIPTION

Lot Size	Total Land	Land Unit	Tvne	SF
	4,000.00			



Patriot PROPERTIES INC.
 User Account: 16545
 GIS Coord 1: 311742
 GIS Coord 1: 715198
 Insp Date:

PREVIOUS ASSESSMENTS

Tx Yr	Cat	Use	Bld Value	Yard Items	Land Size	Land Val	Total Appr	Assessed	Notes	Date
2022	FV	R4	209,600	0	4,000	308,000	517,600	517,600	2022/LDS 08/25/22 10	08/25/2022
2021	FV	R4	209,600	0	4,000	308,000	517,600	517,600		05/03/2022
2020	FV	R4	249,300	0	4,000	140,800	390,100	390,100	post BOA	06/23/2020
2019	FV	R4	249,300	0	4,000	140,800	390,100	390,100	9.23.2019	09/23/2019

SALES INFORMATION

Grantor	Legal Ref	Type	Date	Sale Price	TSF	Verif.	NAL	Notes
RENAUDETTE STEVEN	518-118	WD	11/23/1994	172,000	No			From MS ACCESS DB table SalesData

BUILDING PERMITS

Date	Number	Desc	Amount	Closed	Status	Fed ID	Notes	Last Visit	Date	Result	By
10/15/2020	2020 292747	Mechanical	5,500		A		Install for Unit #3		05/03/2022	COR	
08/22/2016	2016 232658	Building	5,000		A		Repair/replace p		06/24/2021	BOA	
05/04/2015	2015 208545	Plumbing	1,300	12/21/2015	CLRC		Install 40 Gal Ge				
05/04/2015	2015 208546	Electrical	250	12/21/2015	CLRC		Wiring for new h				
10/19/2010	2010 126289	Electrical	500	12/21/2015	CLNR		Install new wiring				

ACTIVITIES

Date	Result	By
05/03/2022	COR	
06/24/2021	BOA	

NARRATIVE DESCRIPTION
 This parcel contains 4000.00000 SF of land mainly classified as 4 Family it has 1 building(s) first built in 1900 with a total of 3,471 square feet. There are 4 living unit(s), 4 Baths, 16 Rooms, and 7 Bdrms.

PROPERTY FACTORS

Item	Code	%
Dis 1 B		100
Dis 2 035		100
Dis 3 04		100
Zone 1 RLW		100
Zone 2		
Zone 3		
Util 1		
Util 2		
Util 3		
Census		
F. Hz2		
Topo		
Street		
Traffic		
Exmot		

INCOME APPROACH

Item	Code	%	Bld Alt Type - Desc	L Area / # Units	Rent/Unit	Gross Inc	Vacancy	%	Expenses	Type	%	Reserves	NOI	Aft Net	C. Rate	C. Adj	GRM/Inc Val
Dis 1 B		100	1 APT3 - APT 2015	4	6,260.00	75,120	2,254	3	16,031		22	2,186	54,649		8.75		624,560
Building Totals				4		75,120	2,254		16,031			2,186	54,649				624,560
Othr Inc		0	Rate Adj	Vac Ad	0.03	Exp Adj	0.21	Surpl	0	Deduc	107,000	C/ Ratio	2,186	54,649	1.16	Val/SF	149.12
Parcel Totals				4		75,120	2,254		16,031			2,186	54,649				624,560
Othr Inc		0	Rate Adj	Vac Ad	0.03	Exp Adj	0.21	Surpl	0	Deduc	107,000	C/ Ratio	2,186	54,649	1.16	Val/SF	149.12

LAND SECTION

LUC	LUC Desc	Ft	# Units	Depth	U_Type	L_Type	Ft	Base V	Unit Prc	Adj Prc	NBC	Ft	Mod.	Inf 1	%	Inf 2	%	Inf 3	%	Appr	Alt LUC	%	Spec L/V	Juris	L Ft	Assessed	Notes	
R4	4 Family	1	4,000		SF	SITE	1		35		77	590	1							308,000			0	1	1	308,000		
Total AC/HA			0.09																		308,000			0			308,000	

Disclaimer: This information is believed to be correct but is subject to change and is not guaranteed. Property: 0545 | Bld: 0980 | Seq: 1 | Year: 2023 | Data As Of Date: 05/01/2023 | User: sa | DB: Assess50Burlington

3.3.4 Normalize Attribution and Mapping of Unlanded Structures and Common Interest Parcels

The **stacked polygons method** is the current and continuing recommendation for representing unlanded structures and common interest parcels, per the Vermont GIS Parcel Data Standard. Alternative methods are described in [Appendix 3.3](#).

To improve the functionality of using stacked polygons to represent unlanded structures and common interest parcels, the following recommendations should be considered:

1. The Vermont GIS Parcel Data Standard defines an unlanded structure as a “condominium unit, mobile home, camp, or other building that is a unit of real estate which is separate from the underlying land surface.” Condominiums represent the vast majority of unlanded structures reflected in statewide parcel data, but a comprehensive list of different types of unlanded structures and common interest parcels should be developed for uniform attribution in CAMA and Grand List records.
2. The list below can be used to differentiate between unlanded structures and common interest parcels in the parcel polygons layer, and if uniformly applied in CAMA and Grand List attribution, can be filtered for each record. Each unlanded structure or common interest parcel can be represented as a prefix of two letters:

PREFIX CODE	APPLIES TO
CO	Condominiums
CA	Camps
MH	Mobile Homes
SA	Ground-Mount Solar Arrays
WT	Wind Turbines

Table 2: Unlanded Structure and Common Interest Parcels Prefix Codes. *Prefix codes should be used to signify parcel type where stacked parcel geometry exists in the parcel polygons dataset.*

3. Prefix codes can be used to create GIS SPANs in the Intersection Table based on the type of unlanded structure or common interest parcel. The same two-letter system described above can be implemented followed by the town code (first three digits of the town SPAN) and a four-digit sequential numeric count (e.g., CO-003-0001, MH-003-0002, CO-003-0003, CO-003-0004, etc.).
4. While not the intended purpose, the SOURCENAME field in the parcel polygon layer can also be used to track prefix codes without the need to revise the schema. This is most applicable for mapping vendors who have already established workflows including conforming to the Vermont GIS Parcel Data Standard.
5. Tax Department guidance on attribution of unlanded structures should be updated and made uniform to reflect the prefix codes and mapping practices (e.g., in the [Lister and Assessor Handbook](#)).

3.4 Submittal Requirement

CAMA data are the best source of information for detailed and current property descriptions statewide. Standardizing these data and requiring their submittal to the State of Vermont for regular and uniform publication, particularly when combined with existing parcel data, will improve the pace and accuracy of appraisals, facilitate data visualization and trend analysis, and increase data accessibility. Without a submittal requirement for CAMA data it is likely the dataset will become fragmented, incomplete, or stale over time. The voluntary nature of the Parcel Program, for example, has resulted in data ranging from less than six months to over six years old, despite the widespread visibility, utility, and value of the program.

Ideally, CAMA vendors will provide VCGI with access to a read-only, credentialed API service endpoint for the transfer and extraction of CAMA data. VCGI will work with CAMA vendors to ensure compatibility with the data standard and schema. In the absence of a service endpoint, vendors should submit standardized CAMA directly to VCGI. In either case, updated data should be made available and/or submitted on a monthly basis for the dataset to remain complete and current.

Following receipt of the updated CAMA data each month, VCGI will work to incorporate the fields listed in Section 3.2.1 in the Parcel Viewer and Geodata Portal. In the Parcel Viewer, users will be able to access CAMA data easily and in relation to existing parcel, Grand List, and Property Transfer data. The comprehensive, tabular CAMA dataset will also be available publicly for download through the Geodata Portal.

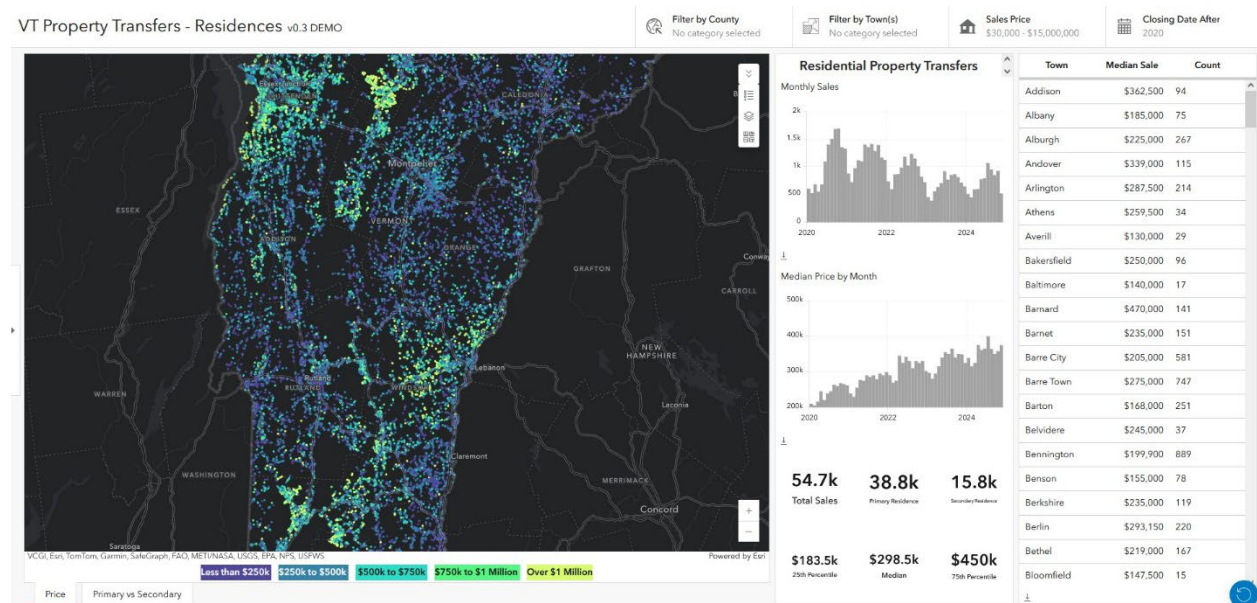


Figure 4: Dashboard Displaying Property Transfer Data. *Parcels are the primary unit allowing for the spatial display of property transfer data, either via SPAN or property address. Viewing transfer data on a map reveals spatial patterns and allows convenient filtering and querying. The inclusion of CAMA data using a similar method will expand the completeness and capabilities of statewide property data and subsequent analyses.*

Residential Property Transfers

Map and statistics reflect property transfer data from the Vermont Department of Taxes. Transfers are filtered to those 1) closing date after Jan 1, 2020, 2) buyer reported use of primary or secondary residence, 3) not between family, 4) interest conveyed is 'fee simple', 5) value paid is greater than \$30k.

Draft created for demo purposes.

Last updated: 11/20/2024

Primary and Secondary Homes sales

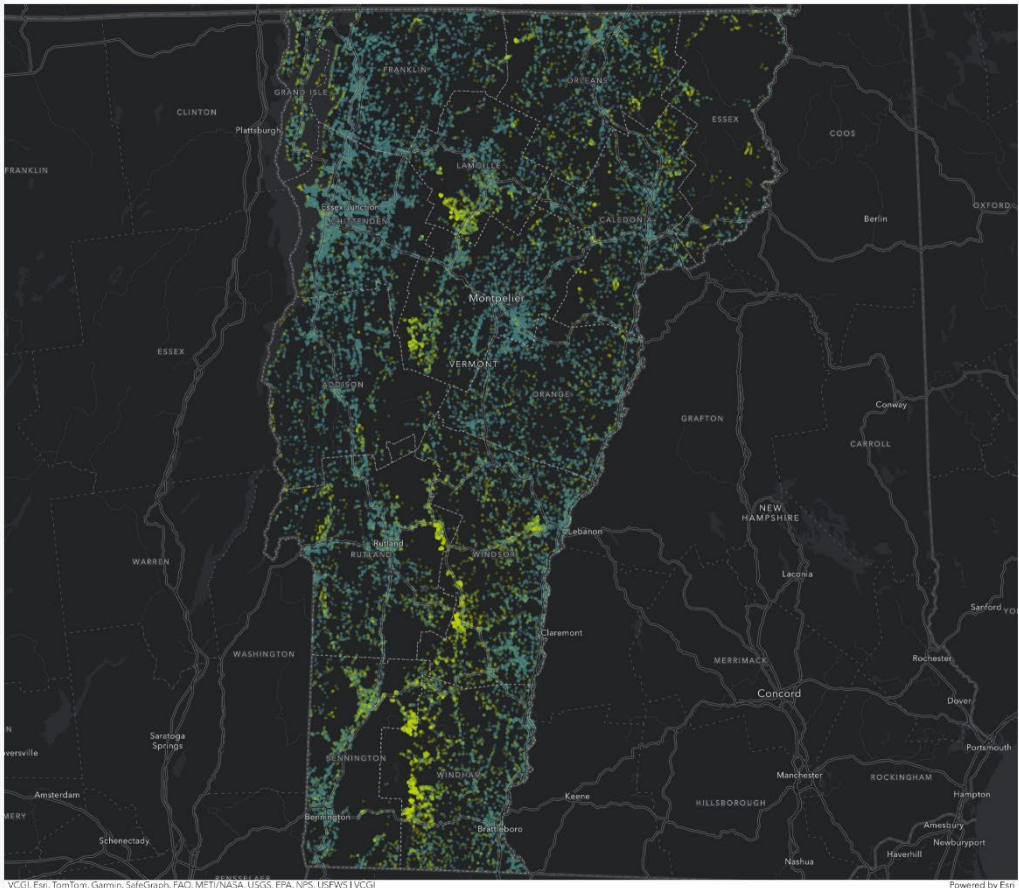


Figure 5: Property Transfers of Primary and Secondary Homes. Patterns of ownership and building use are revealed when filtering property transfer data on price and primary or secondary homes. The availability of CAMA fields such as year built, unit count, or other building qualities would provide further insight into these data.

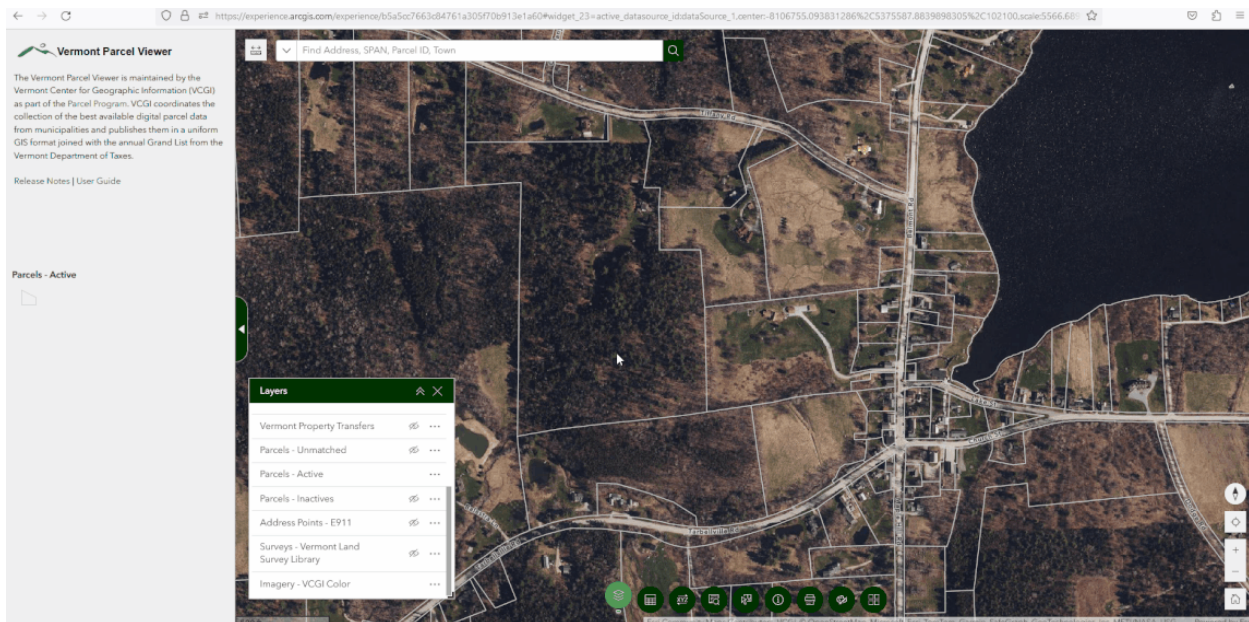


Figure 6: Survey Data Available within the Parcel Viewer. Surveys listed in the *Vermont Land Survey Library* are included in the Parcel Viewer and linked to their relevant parcel for quick access. Parcels again are the primary unit linking multiple data sources and displaying information collectively.

3.5 Example Statute Update

32 V.S.A. § 5404(b) (b) Annually, on or before August 15, the clerk of a municipality, or the supervisor of an unorganized town or gore, shall transmit to the Director in an electronic or other format as prescribed by the Director: education and municipal grand list data, including exemption information and grand list abstracts; tax rates; an extract of the assessor database also referred to as a Computer Aided Mass Appraisal (CAMA) system or Computer Aided Mass Appraisal database, and the total amount of taxes assessed in the town or unorganized town or gore...

3.6 Implementation

In coordination with the Department of Tax, VCGI will work with the current CAMA data vendors to establish work flows for providing and publishing the agreed-upon schema. CAMA vendors will be responsible for supplying the requested fields meeting standardized specifications (field length, content, data type, etc.) each month as either a read-only API, or as an extract of their data sent directly to VCGI. VCGI will be responsible for compiling data from all four vendors into a single database and performing any transformations needed to ensure data are standardized in format and content. VCGI will also make the dataset publicly through incorporation in the Parcel Viewer and for download via the Vermont Geodata Portal.

As CAMA data become more publicly accessible, it will be important to be explicit about specific and intended uses. Namely, CAMA data should not be used for non-assessment purposes including financing. VCGI and the Department of Tax recommend the following disclaimer accompany CAMA data wherever it becomes available:

“the data on this cost sheet/CAMA data reference are based on the last inspection by the listers/assessor for the town. This information should not be used for financing, permitting, or any other non-assessment related purposes. Data observed by the listers/assessors will not be adjusted to serve any financing or other purpose.”

Timing between an update to a property’s CAMA data and availability in statewide geospatial datasets would be approximately six to eight weeks, depending on data collection by listers/assessors, recording in CAMA software, monthly transfer to VCGI, and final data compilation, transformation, and publish. A similar workflow currently exists for [Vermont Property Transfers](#), which include a weekly extract of [property transfer data as provided publicly](#) by the Department of Tax. Under this model, 70% of property transfers appear in geospatial datasets within four to five weeks of their closing date.

Recommendation 4: Clarify Right-of-Way Mapping for Tax Purposes

4.1 Summary

- Create guidance for treatment of the area between road centerline and edge of right-of-way for taxation purposes
- Promote mapping guidance specifying that parcels should be mapped to the edge of the right-of-way, not the road centerline

4.2 Justification

A quote from a GIS map vendor practicing in Vermont speaks to this recommendation:

With the more widespread use of the GIS parcel data, more and more Towns are using it to calculate taxable acreage. Without any clear legal direction of whether to include area within the public right-of-way for the calculation for taxable acreage, it will lead to further issues.

In Vermont there is no formally defined practice or requirement for the handling of public rights-of-way from a taxation perspective and its relation with parcel mapping. Public rights-of-way such as roads and highways are areas not to be obstructed by abutting private property owners, whether they are owned in fee or easements. State highways, for example, often involve the State purchasing lands between the road centerline and abutting parcel, whereas towns may or may not do the same for local roads. These differences can contribute to a lack of clarity when accounting for the area within a right-of-way and between an abutting private parcel and road centerline. Occasionally this discrepancy has led to differences in spatial representations and resulting acreage calculations. The Tax Department, with aid of partners, should develop guidance for considering these areas with regard to taxation and related parcel acreage calculations.

[Other states have attempted](#) to clarify treatment of rights-of-way in statute, which may also be an option for Vermont. However, these examples are arguably not clear for all conditions, and may be legally and administratively burdensome to enact and enforce. Given the relatively low frequency of ROWs that are out of compliance with the state data standard (see [Appendix 4](#) and [Section 4.2.1](#)), these issues could likely be addressed through a review

of listed vs. mapped acreage of ROW-abutting parcels (see [Recommendation 5](#)), clear guidance within the Tax Department’s Lister and Assessor Handbook, and VCGI’s reporting of parcel data submittals that are out of compliance with the state data standard.

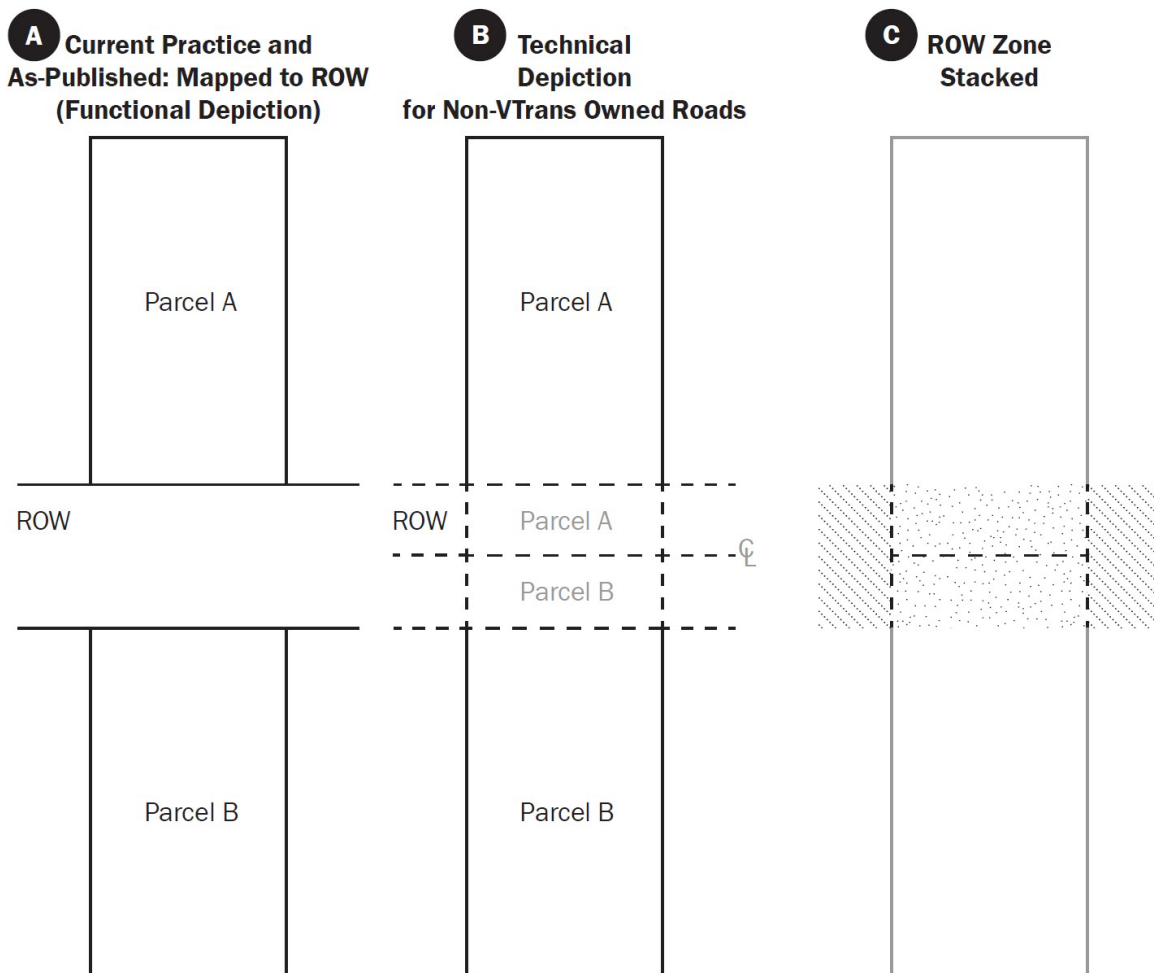


Figure 7: Methods for Mapping Rights-of-Way. Mapping of ROWs may vary depending on road type. Recommended guidance is that all parcels be mapped to the edge of the ROW regardless of road type or ownership (diagram A).

4.2.1 Acreage in Right-of-Way

Correct mapping of Rights-of-Way has important implications for taxation purposes. Based on the parcel data, over 133,000 acres in Vermont are classified as a Right-of-Way. [Explore ROW acreage by town here](#) and in the images below. Acreage is based on the sum of parcels by town where the Property Type is classified as “ROW_ROAD”, “ROW_RAIL”, or “ROW_TRAIL”. The second image provides an example of each ROW.

While the majority (96%) of municipalities include ROWs, a small number do not. Parcels in these towns are generally mapped to centerlines where ROWs are missing. These municipalities include:

- Averill (only main roads)
- Bloomfield (only main roads)
- Eden (few road fragments)
- Johnson (only in town center)
- Norton (only main roads)

In addition, ROWs for the following municipalities are typically missing or incorrectly attributed when updated data are sent to VCGI: Canaan, Royalton, Saint Albans Town, West Windsor, and Wolcott. ROWs for these municipalities can often be restored, however, using the existing data.

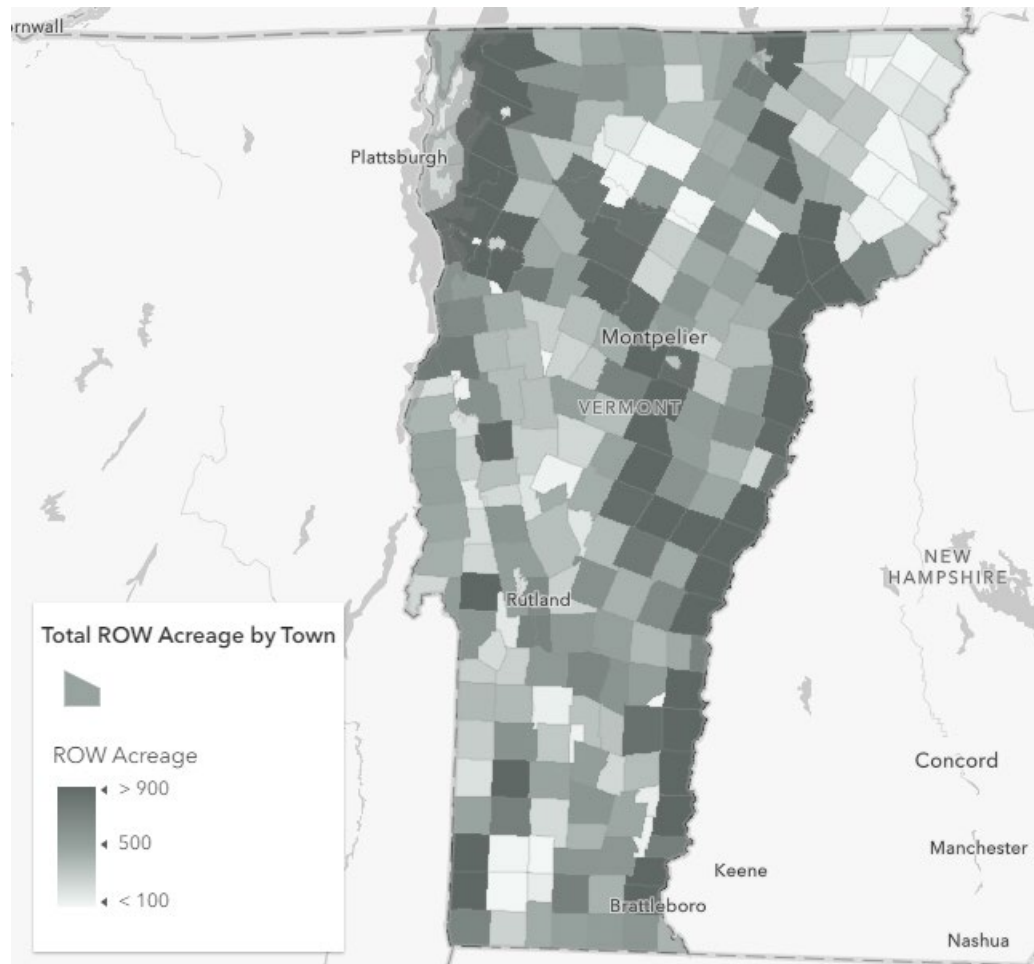


Figure 8: Total Right-of-Way Acreage by Town. ROW acreage, as summed by town for all parcels with a Property Type of ROW_Road, ROW_Rail, or ROW_Trail. Total statewide ROW acreage is 133,150 acres, average per town is 522 acres, maximum is 1,883 acres (Randolph), and minimum is 16 acres (Avery's Gore).



Figure 9: Rights-of-Way Types. Example of parcels with Property Type of ROW_Road (grey), ROW_Rail (red), and ROW_Trail (green) in Ferrisburgh.

4.3 Implementation

Implementation of this recommendation is partially contingent on which jurisdiction or institution is ultimately responsible for maintaining parcel map data (see [Recommendation 2](#)). If municipalities are to remain responsible for mapping, the listed vs. mapped acreage review, Tax guidance, and GIS data standard-compliance reporting above, combined with existing education and professional development work via Tax's District Advisors and the Vermont Assessors and Listers Association (VALA) could be effective to bring all towns to uniformly map and calculate taxable acreage to edge of the ROW.

If either regional assessment districts or the State assume ultimate responsibility for mapping, efforts they complete or oversee would need to follow state GIS parcel data standard and map to the edge of right of way. Education via the District Advisors, VALA, and potentially via regional assessment district would still be needed to ensure consistency practices when calculating taxable acreage to the edge of ROW.

4.4 Related Statutes

19 V.S.A. § 32 Assumed width of right-of-way

19 V.S.A. § 1111 Permitted use of the right-of-way relocation or adjustment orders
 19 V.S.A. § 717 Highways / Laying Out, Discontinuing, and Reclassifying Highways

Recommendation 5: Clarify Grand List vs. GIS Acreage Guidance

5.1 Summary

- Develop criteria for when review of underlying legal property descriptions is needed given differences in listed and map acreage for the same parcel
- Specify actions to be taken in the Listers and Assessors handbook on best available documentation for acreage discrepancies

5.2 Justification

In addition to acreage and resulting taxation associated with areas of property in road rights-of-way, acreage discrepancies between listed and mapped values are common. It is currently technically possible to easily display and compare differences between listed and mapped acreage.

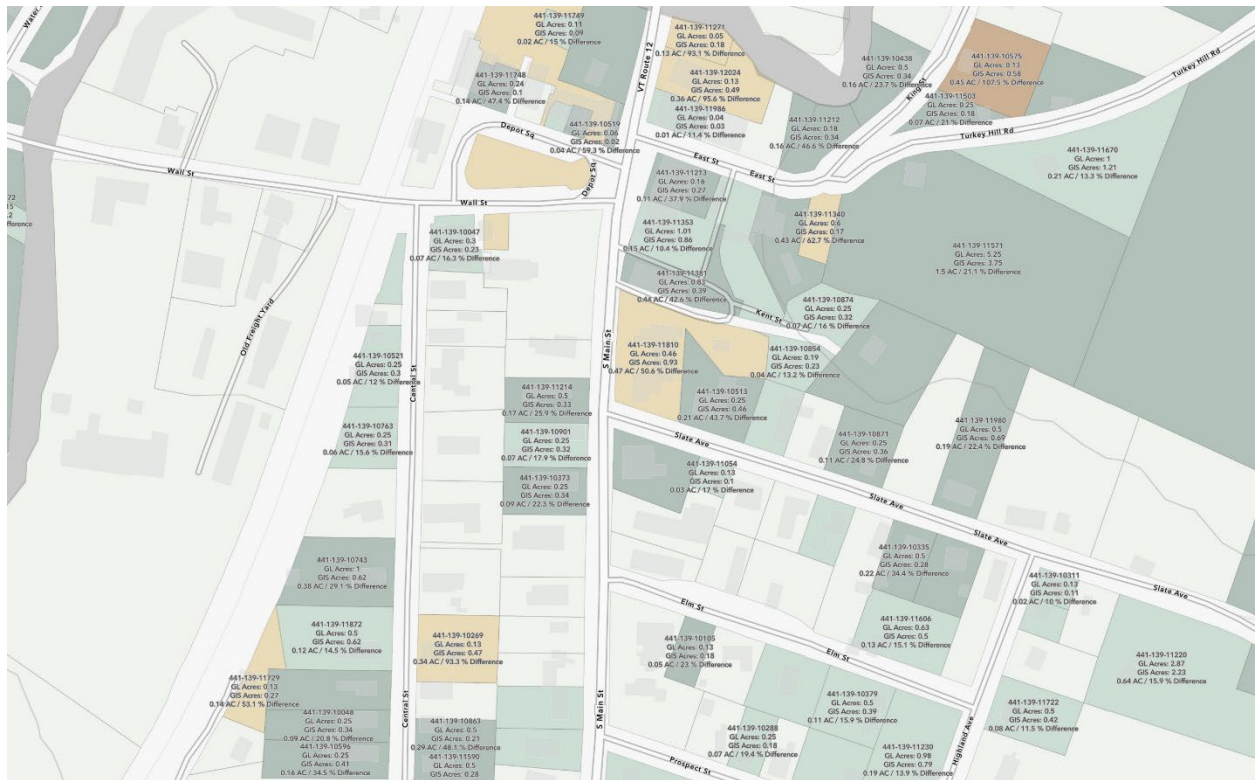


Figure 10: Percent Difference Between Grand List Acreage and GIS Acreage. Visualized differences in listed acreage and GIS (drawn) acreage in Northfield, VT. The amount of percent difference in listed acreage and GIS (drawn) acreage is shown in five ranges and colors, as well as described in text on each parcel. See an interactive map of these differences.

5.2.1 Discrepancies in Listed and Mapped Acreage

	TOTAL ACREAGE
Listed Acreage (2023 Grand List)	5,609,102 ac
Mapped Acreage (statewide parcel dataset)	5,786,273 ac
	177,171 ac difference

Table 3: Statewide Discrepancy in Listed and Mapped Acreage. *While some disagreement is expected, differences in listed and mapped acreage may warrant further investigation of Grand List recordings and/or mapping.*

- 42,162 grand list records had no listed acreage
- Mapped acreage was calculated for parcels only based on property type (PROPTYPE) field
- A small subset of grand list records represent railroad rights-of-way based on property description (DESCPROP) field

5.3 Implementation

The Tax Department, in collaboration with partners, should develop guidance for handling of these acreage discrepancies. This may include specifying when the difference is large enough to trigger review of the parcel(s) underlying recorded legal descriptions, and when updating the listed and/or as-drawn acreage should result. These recommendations may be included in an updated Listers and Assessors handbook and ensuing training/guidance for municipalities. VCGI should continue to make web applications that display acreage discrepancies on a per parcel basis statewide.

Recommendation 6: Acquire and Publish Annual High Resolution Imagery and Offer Buy-Up Imagery Contract

6.1 Summary

- Increase the frequency of aerial imagery collection to statewide annually
- Make higher resolution (at least 15cm/6 inch), leaf-off, imagery available across entire state every other year
- Include buy-up options for oblique imagery and higher resolution (7.5cm/3 inch) imagery

6.2 Justification

Aerial imagery provides a comprehensive view of a property and its surroundings, which is invaluable for evaluating land use, property boundaries, and changes over time. Benefits of using aerial imagery in the assessments include the following:

6.2.1 Improved Property Valuation Accuracy and Transparency

Annual access to aerial imagery provides up-to-date, high-resolution visuals of properties, allowing assessors to work with the most current information on structures, additions, and improvements, reducing reliance on outdated records.

Increased Equity: By using accurate and consistent data, assessors ensure that taxpayers are charged fairly, with property values reflecting true market conditions, which builds trust in the process.

Enhanced Identification: Imagery allows assessors to identify unreported property changes, such as new constructions or additions, ensuring all taxable improvements are included.

Transparency: Access to updated imagery fosters public trust, as taxpayers can see the same data used for their assessments, demonstrating the fairness and objectivity of the process.

6.2.2 Cost Efficiency

Reduced Field Visits: High-quality aerial images allow assessors to conduct some of their work remotely, minimizing the need for costly and time-consuming on-site visits.

Time Savings: Detailed imagery enables faster and more efficient property analysis, increasing productivity and allowing assessors to cover more properties in less time.

Standardized Process: Using consistent statewide imagery reduces reliance on multiple data sources, streamlining workflows, minimizing errors, and lowering overall costs.



Figure 11: High Resolution Imagery to Capture Development. *High resolution imagery could improve the efficiency with which assessments are performed while providing up-to-date information.*

6.3.3 Resolution, Frequency, and Types that Speed the Process

Resolution: Higher resolution (15cm) leaf-off imagery acquisition in the state has primarily been collected in targeted areas, such as Chittenden County, where additional funds have been contributed by municipalities. Imagery at this resolution should be made available statewide at least every two years, consistent with the recommendations of the International Association of Assessing Officers (IAAO) and with the needs identified in user surveys in Vermont and elsewhere. Lower resolution (30cm) imagery should be made available on alternating years to support change detection. Statewide collections benefit from economies of scale and promote equity across the state.

Frequency: Annual collections enable the discovery of undocumented structures and unreported real property helps ensure fair and equitable taxation across the state. An example highlighting this outside of Vermont is a case study of a county in Arizona that recently used imagery in their assessing process to identify 9000 porches, 1200 garages, 1100 pools and 1200 additions missing from existing assessments, adding over \$95 million in market value. Vermont's grand list totals over \$100 billion dollars, if imagery was used to find 0.1% in unaccounted for value it would result in \$100 million in currently untaxed property added to the grand list.

Buy-Ups: The state should make oblique imagery options available as part of the statewide imagery program to achieve economies of scale and limit duplicative efforts. Some municipalities have individually contracted to collect or access oblique imagery for assessment and planning purposes, likely incurring higher costs due to the lack of coordinated procurement. While collecting statewide oblique imagery should be considered in the future, the acquisition costs are significantly greater than current orthoimagery collections and the state should ensure that tools, infrastructure, and training, is in place to maximize the value of oblique imagery prior to making a major investment. By offering oblique imagery as an optional "buy-up" under the program, the state can address varying needs and capabilities while fostering collaboration and cost-sharing opportunities among municipalities. The utilization of oblique imagery by some municipalities also presents the opportunity to pilot the use new remote sensing methods before committing to a larger investment (see recommendation 7).

Oblique Imagery: Oblique imagery is aerial photographs taken at an angle, typically between 30 to 60 degrees from vertical. Unlike traditional ortho (or nadir) imagery, which captures a top-down view of the terrain and structures, oblique imagery provides a perspective that includes the sides of buildings, terrain contours, and other vertical features. Some parts of the country have used high-quality oblique imagery to replace physical inspections.

Key characteristics of oblique imagery include:

- **Multi-Angle Views:** Often captured from four cardinal directions (north, south, east, west), oblique imagery offers comprehensive visual coverage.
- **Three-Dimensional Perspective:** The angled view reveals details about the height, depth, and structure of objects.
- **Rich Detail:** It captures features not visible from directly above, such as facades, overhangs, or property boundaries hidden by tree cover in nadir imagery.



Figure 12: Oblique Imagery. Screenshots from a viewer show oblique imagery with possible measurements and identifiable features for properties in Kentucky. The imagery is publicly available [here](#) (Color_6052_19796, Right_6053_24171, Fwd_6052_19790, Left_6050_12120, and Bwd_6052_19804).

6.3 Implementation

The Vermont Mapping Program (VMP), was established in 1968 under the Department of Taxes to collect aerial imagery to support tax equity and operational efficiency. Over the years, the program evolved to transition to digital photography in the 1990s, color in the 2000s, as well as a move toward higher resolution and frequency. The program is now

managed by the Vermont Center for Geographic Information, a part of the Agency of Digital Services (10 V.S.A. § 123), and Vermont's aerial imagery is accessed in web applications by hundreds of thousands of individuals every year.

The change to annual statewide collections and 15cm leaf-off imagery every two years is likely to be implemented by the state's existing imagery program, managed by ADS, beginning in the Spring of 2026. A 2023 survey of users expressed a strong need and the interagency imagery advisory group has recommended these specifications. In terms of leaf-off imagery, the change would represent a four-fold increase in resolution and double the collection frequency. The cost of the resolution and frequency upgrade is estimated to be approximately double the existing base program budget, which has remained the same for over two decades at \$125k a year.

Recommendation 7: Pilot Remotely-Sensed Tools to Support Appraisals

7.1 Summary

- Pilot the use of ortho and oblique imagery along with automated feature extraction and artificial intelligence to support appraisals for an area of the state
- Assess and document results and viability for broader use, along with considerations for such use

7.2 Justification

The integration of ortho/oblique imagery and artificial intelligence (AI) in property appraisals represents a transformative approach to modernizing assessment practices. These tools have potential to accuracy, efficiency, and fairness while addressing limitations of traditional methods.

Recent advancements in technology have enabled:

Automated Change Detection: AI algorithms can analyze imagery to identify changes in properties over time, such as new constructions, demolitions, or renovations, ensuring assessments remain current.

Property Classification: Machine learning models can automatically and reliably classify property types, assess conditions, and detect features like pools, decks, or accessory buildings, improving valuation accuracy.

Scalability: AI processes large datasets quickly, allowing jurisdictions to scale appraisal efforts to assist existing staff that may not have the capacity to meet existing demands.

Error Reduction: Automated systems minimize human error and bias, ensuring consistent application of appraisal standards across properties.

Automated Detection at Scale

Blue = new Construction Green = Existing construction Red = Existing, with changes

May 2023

January 2024



Figure 13: Automated Change Detection. AI algorithms can assess imagery to detect new construction and existing construction both with and without changes over time.

Similarly, we can detect any of the 40+ attributes available. Like Solar panels. Here is 2109 Arthur St, McKinney, TX 75071

May 2023

January 2024

```
"roof-characteristics.shape.value": "hip",  
"roof-objects.solar.value": false,  
"roof-objects.solar.score": null,  
"roof-objects.ac-unit.count": 0,
```

```
"roof-characteristics.shape.value": "hip",  
"roof-objects.solar.value": true,  
"roof-objects.solar.score": null,  
"roof-objects.ac-unit.count": 0,
```

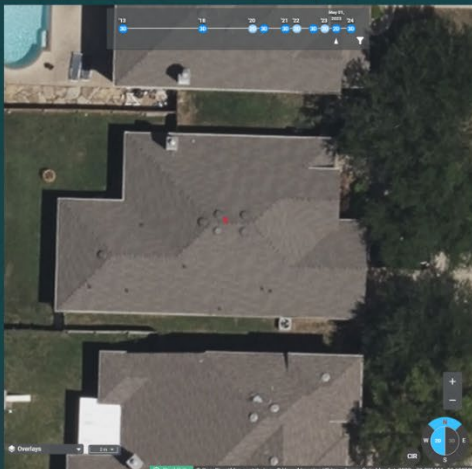


Figure 14: Detection of Specified Attributes. Using machine learning, models can detect the presence of solar panels on a roof in Texas. The ability to detect certain features will enhance valuation accuracy.



Figure 15: Summarized Building Attributes. *In examples from Arizona and Florida, the presence or absence of property features and measurements are quickly assessed and provided.*

7.3 Implementation

The Tax Department should partner with willing jurisdictions to test and evaluate the use of these methods and tools. The partnership should leverage the imagery program managed by ADS to access ‘buy-up’ products (see recommendation 6), such as oblique imagery, that could be utilized for various purposes by departments for uses beyond assessments.

Recommendation 8: Develop and Offer Updated Parcel Contract Guidance

8.1 Summary

- Updated mapping contract guidance that reflects current best practices may improve quality and currentness of parcel data
- Separation of standardized parcel data maintenance from town-specific derivatives (such as print maps and custom web applications) in contracts may ease uniform administration and reduce costs
- Updated contract guidance is contingent on the assessment jurisdiction extent

8.2 Justification

Per VCGI's records, about 90% of Vermont municipalities currently maintain parcel data. The vast majority of these towns do so via a GIS, allowing maintenance of map data with SPANs assigned to each parcel. SPAN assignment meets basic compliance with the state data standard and permits joining with the annual grand list. A small number of towns continue to hire vendors using Computer-Aided Design (CAD) software to maintain parcels, but these are not capable of data integration like a GIS. CAD data are thus unusable for joining with the grand list, CAMA, and other related information. A small remainder of towns do not maintain parcel data in any way. In all cases, the town is the jurisdiction currently responsible for drafting and overseeing a contract for parcel data maintenance meeting their specific wants and needs.

Contracts commonly include print media products, often in the form of large format plots of keyed tax map sheets with parcel identifiers and owner names. Such static maps are generated from digital parcel data, which are able to rapidly and continuously reflect changes in geometry or attribution. As such, print parcel maps may be outdated and inaccurate shortly after they are made. Still, because parcel data maintenance and the creation of print maps both require GIS skills, the same vendor is typically paid for both services in the same contract. The creation of print map products represent a sizable portion of total funds for contracts that specify them. Ideally, print map products would not be covered by any per parcel payments. This specification could potentially reduce the overall cost of maintaining quality, current parcel data.

Towns are not limited to print products to provide access to current, accurate tax map information. Many towns also contract for custom web applications that display digital parcel data in a web map along with CAMA card integration for all properties. These web map applications provide citizens access to current information via underlying dynamic data sources. The [Vermont Parcel Viewer](#) provides access to best-available parcel data statewide and [offers much of the same functionality](#) for towns that do not individually contract for custom map applications.



Figure 16: Municipal Parcel Web Map Application. Some towns contract for additional services such as web maps that display CAMA data for all properties.

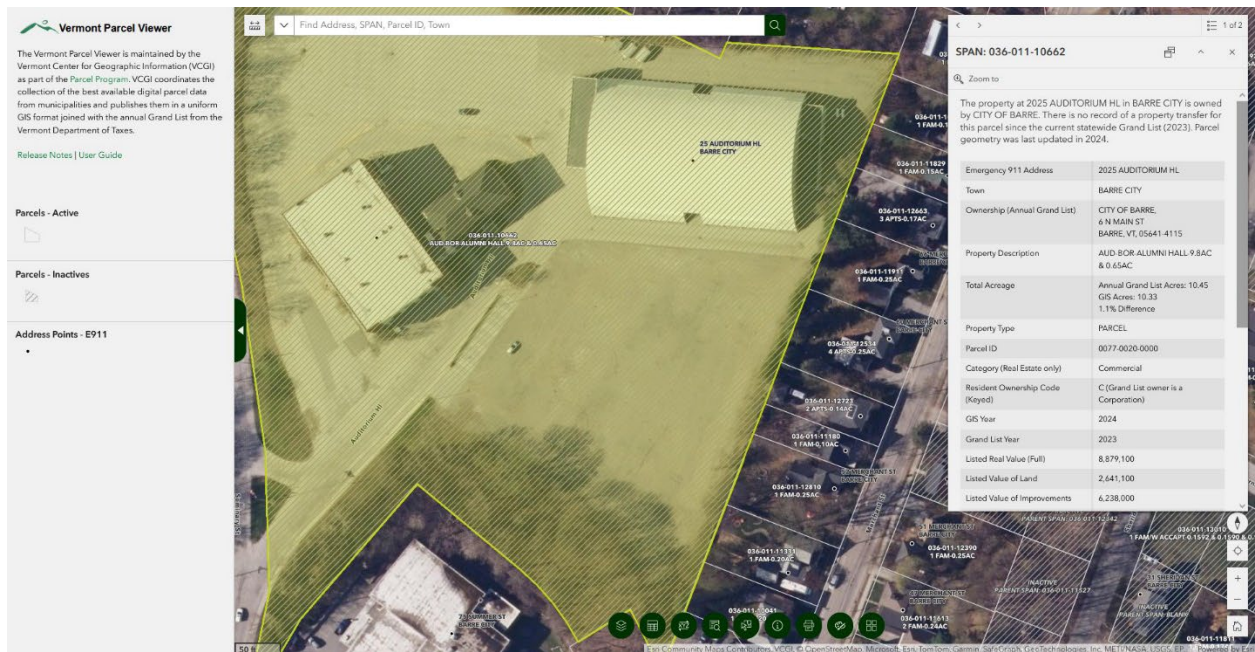


Figure 17: Statewide Parcel Viewer Web Map Application. All towns have access to best-available parcel data via the Vermont Parcel Viewer web map application. As of 2024 the viewer presents property transfers and submitted land surveys along with grand list information for all parcels. Future integration with CAMA data is possible should it become available per Recommendation 3.

8.3 Implementation

Since 2017, VCGI has made [parcel mapping guidelines](#) available that include contract templates and considerations. These may be updated to reflect current best practices and increase accessibility. However, tailoring updated contract guidance reflective of the above and more will depend on the jurisdiction ultimately responsible for tax assessments (see [section 2.3: Implementation](#)). If towns are to remain the assessment jurisdiction, clarification of the importance and means of using current GIS as well as separation of parcel data maintenance from paying for print maps would be in focus. Updated guidance would ideally be combined with a requirement that any changes in per parcel payments associated with mapping would be limited to use for parcel data maintenance and not payment for derived products. Those print products or custom map applications may be purchased separately by towns should they continue to wish to do so.

It is assumed that one mapping contract per regional assessment district would be used if there is a change in assessment jurisdiction. From a mapping perspective, reducing 250+ separate contracts to approximately 14 would have advantages in ensuring that quality and timely data are maintained statewide. In this scenario, contract guidance could be designed to require standardized parcel data maintenance while permitting towns the option to “buy-up” additional services on their own should they wish to do so.

Recommendation 9: Modernize Current Use Map Standards, Submittals, and Access

9.1 Summary

- There is no way to currently visualize the specific extents of all current use areas enrolled statewide, which are increasingly requested to support other mapping uses
- Recent changes in grand list maintenance via the Vermont Property Information Exchange (VTPIE) have improved internal data organization and access to current use information
- Web mapping tools can help modernize the mapping components of current use applications and visualizing specific enrolled areas
- Historical, analog map documents associated with enrolled lands could benefit from digitization efforts of other records

9.2 Justification

Vermont’s [current use](#) program has been a cornerstone of the state’s tax policy for several decades. As the program depends on the bounded extents of either forested or agricultural lands and associated acreage thresholds, mapping has been central to the program since its inception. Improved mapping accessibility and accuracy through digital tools and techniques has surpassed what was once sufficient in meeting the program’s mapping requirements. As a result, the quality of the underlying maps supporting enrolled parcels varies widely.

Map storage needs range from to housing years of print-only documents with no digital equivalent to receiving modern GIS work submitted by qualified map preparers like county

foresters. Forested parcels are much further along in their digitization with the Agency of Natural Resources (ANR) maintaining a statewide GIS dataset of those records. These parcels are simply joined to full parcel geometry rather than depicting specific enrolled extents. There is no digitally mapped equivalent for agricultural parcels, which represent 4,700+ records covering more than 320,000 acres.

The calculation of various current use statistics is made possible through the recent modernization of the state's grand list maintenance software, the Vermont Property Information Exchange (VTPIE). VTPIE has improved internal access to enrolled parcels statewide, at least as tabular data. This access is important as several other mapping requirements aim to depict current and complete current use lands statewide. For example, Act No. 181 (H.687) of 2024 tasks Regional Planning Commissions (RPC's) to update regional plans and future land use maps to support an Act 250 tier system. RPC's understandably want to reflect current use lands within.

9.2.1 Lands in Current Use

In 2023 over 19,000 parcels were enrolled in current use, totaling over 2.5 million acres statewide. [Explore parcels enrolled in Current Use.](#)

A meaningful detail and caveat to the map linked above is that current use parcels may only have a percentage of their acreage enrolled. The statewide average enrollment is 92.5%, with 75% of parcels between 92-100%.

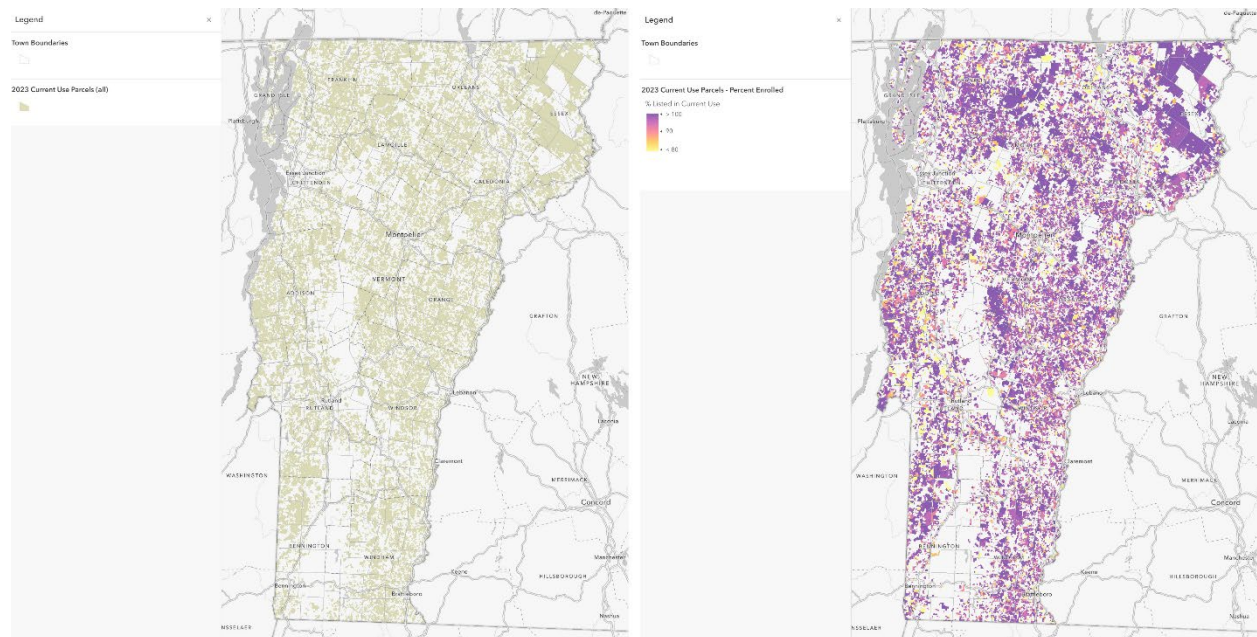


Figure 18: Parcels Enrolled in Current Use. Shaded parcels are enrolled in the current use program as of 2023 (left). A parcel may be fully or partially enrolled (right).

9.3 Implementation

A near term improvement would be for VCGI, with the authorization of the Tax Department, to publish a publicly-accessible annual statewide layer of all enrolled current use lands

joined with statewide parcel data. This process could be largely automated and meet many mapping needs, in addition to increasing transparency about the program and lands within.

A medium term improvement could involve developing a modern, public-facing map submittal tool to enable those without access to GIS to enter recent and accurate areas to be considered for enrollment. This map would be GIS-compatible at the source. Associated current use map standards, which were last updated in 2009 and still refer to outdated print-based mapping methods, could be updated at the same time.

A long term improvement would be to leverage any concurrent records digitization efforts or resources to consider digitizing print-only maps of enrolled areas. This would likely be a substantial effort but would ultimately lead to the most useful information. Automated digitization technology continues to evolve at a surprisingly quick pace and may also be applicable sooner than one may expect.

Recommendation 10: Consider Updating and Moving Parcel Program in VT Statute

10.1 Summary

- Current statute is not reflective of actual oversight and operation of statewide parcel program
- Updating existing statute to reflect current and future practice could be completed with little to no impact on operations
- The current Parcel Advisory Board, developed in 2016, should be retired and rebuilt to better serve present and future program operations

10.2 Justification

In 2016 the Vermont Legislature passed a Transportation Bill which was led by the Vermont Agency of Transportation (VTrans) and the Agency of Commerce and Community Development. This bill contained language creating the Parcel Program, which was the product of a work group including multiple state agencies, regional planning commissions, nonprofits, and professional organizations. The initial phase, the Statewide Parcel Mapping Project, involved federal and state funding and occurred over a three year period from 2017-2019. Since January 2020, parcel mapping maintenance has transitioned to the Parcel Program, which is the ongoing effort to maintain, publish, and improve existing statewide data.

Statutorily, the Parcel Program continues to reside under the supervision of VTrans. Practically, the program is entirely managed and staffed within VCGI (Agency of Digital Services). Transitioning the specified responsibilities and maintenance of the program to the appropriate stewards in statute will improve accuracy and clarity about work being performed and the duties of both agencies.

Relatedly, **19 V.S.A. § 44** specifies a Parcel Advisory Board to monitor the program and make recommendations for improvements. The Advisory Board was originally and remains comprised of the following, or assigned designees:

- Secretary of Transportation (chair)
- Secretary of Natural Resources
- Secretary of Commerce and Community Development
- Commissioner of Taxes
- Representative of the Vermont Association of Planning and Development Agencies
- Representative of the Vermont League of Cities and Towns
- Land Surveyor licensed under [26 V.S.A. § 45](#)

While the Parcel Advisory Board [met regularly](#) from 2016-2019, the needs and priorities of ongoing parcel maintenance have shifted since the transition to the Parcel Program. Since then, meetings have been infrequent and have primarily focused on updating the Board on the current Program status rather than identifying and enacting improvements.

In addition, statute wording specifies VTrans as the agency receiving Board recommendations. Given the evolution of operations the need exists to update statute language and location, and to modernize the objective, role, and composition of the Advisory Board to better align with the future of the Program.

10.3 Implementation

Transferring ownership of the Parcel Program in statute should be relatively seamless and could happen without significant impact to current operations. One option is for it to be moved to [10 V.S.A. § 123](#), powers and duties of VCGI, as that most accurately reflects program operation.

Given successful completion of the Parcel Project, the current Parcel Advisory Board should be retired and a new oversight body of similar composition could be established to guide the Parcel Program moving forward. The Tax Department should have a leading role in this new advisory group as parcel data and Tax's work, as these reports convey, are now closely related. This body could continue to provide insight and recommendations based on experience from a variety of users and stakeholders. The new advisory board should meet with VCGI on a pre-determined schedule once or twice a year at minimum. This schedule would allow the Parcel Program to remain responsive and attentive to issues and needed improvements, particularly in light of the proposed operational changes.

10.4 Related Statutes

[19 V.S.A. § 10 Highways - State Highway Law; General Transportation Divisions](#)

19 V.S.A. § 10 (17) Administer the Statewide Property Parcel Mapping Program.

[19 V.S.A. § 44 Statewide Property Parcel Mapping Program](#)

[10 V.S.A. § 123 Geographic Information - Powers and Duties](#)

Recommendation 11: Coordinate With Concurrent Efforts to Digitize Land Records

11.1 Summary

- If changes are made to assessment jurisdiction, digital land records become additionally important to minimize inefficiencies between tax administration and maintenance of authoritative land records
- Digital land records statewide would offer numerous benefits including integration with parcel data to increase transparency and ease access to key documents, and are worth serious consideration regardless of assessment jurisdiction
- Integration with parcel data could potentially reduce the need for duplicative mapping needed by other state initiatives

11.2 Justification

Digital land records are the electronic means by which authoritative land-related documents are stored, maintained, and distributed. In a New England state as old as Vermont, it is understandable that land records currently maintained by municipalities are primarily analog, reflecting documents that may be more than a century old. Yet as the recent pandemic and its limited physical access or extreme storms and floods that have placed stored print documents at risk have clarified, having redundant, non-local, digital storage and access to these records may be becoming a necessity of modern life.

Current responsibility to digitize authoritative land records lies with individual municipalities. The Vermont Municipal Clerks and Treasurer's Association's (VMCTA) [Vermont Land Records Online](#) is perhaps the most accessible tally of current status. As of December 2024, 174 towns have begun some form of land records digitization using a handful of private vendors. To our knowledge, each one of these systems is a closed entity, not seeking to integrate either across towns or statewide.

There are however current efforts to explore the benefits of such integration. [Act 171 of 2022](#) is focused on land records modernization through the Vermont State Archives and Records Administration office (VSARA) under the Secretary of State. VSARA was tasked with consulting the Joint Fiscal Office, Vermont League of Cities and Towns, Vermont Municipal Clerks' and Treasurers' Association, representatives from banking, bar, title insurance, and real industry industry, and other interested parties to assess the fiscal, governance, and operational sustainability of modernization. A [report](#) was produced suggesting the benefits of an enterprise-wide systems approach to modernization, including consistency and uniformity. Digital land records offer many benefits similar to those above related to standardized statewide CAMA (see [Appendix C](#), for example); efforts to make all of this information publicly available in a consistent format statewide would have far reaching applicability and long-term cost savings.

From a mapping perspective, a parcel is an ideal container by which land records could be joined and displayed, enabling easy, map-based access to associated land records documents. Other places have pursued map-based ways of displaying this information with great success.

As an example of the utility and need in Vermont, the Protected Lands database could be enhanced through the inclusion of authoritative, digital land records indicating ownership and easements linked to parcel geometry. Mapping of these conserved lands—which are often a tricky combination of easements and encumbrances—is now a statutory requirement of the Vermont Housing and Conservation Board and ANR every two years under Act 59 of 2023.

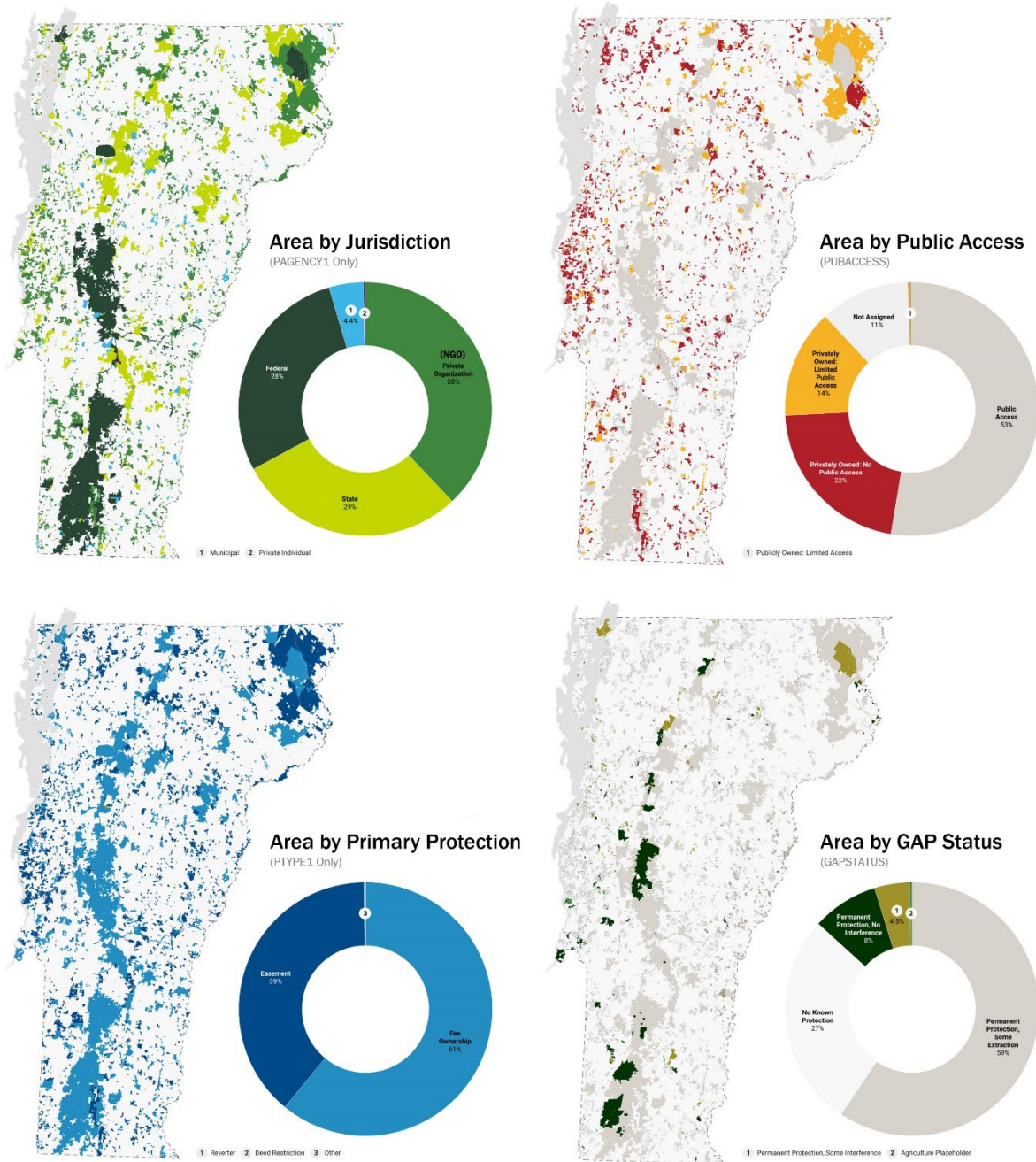


Figure 19: Protected Lands. Protected lands in Vermont, classified by Jurisdiction (top left), Public Access (top right), Primary Protection type (lower left), and GAP Status (lower right).

Inclusion of digital land records could provide additional information for classification, including which parcels contain easements or the history of ownership.

11.3 Implementation

Existing efforts to promote and/or integrate digital land records access—ideally statewide—should continue to be supported. They would be of particular importance should a change to the assessment jurisdiction occur, especially considering potential inefficiencies associated with aggregating assessment practices at a larger geography while current records exist within municipalities.

11.4 Related Statutes and Bills

H.512 (Act 171) of 2022 - An act relating to modernizing land records and notarial acts law

Recommendation 12: Make Proposed Assessment Districts Consistent and Compatible with Existing Administrative Boundaries

12.1 Summary

- Proposed assessment districts should leverage and match existing administrative boundaries rather than developing new areas

12.2 Justification

Vermont maintains spatial data, including established codes, names, and standards, for numerous levels of administrative geographies. Scaling up from the municipality level, counties are the most logical grouping to use as a basis for regional assessment districts. Regional Planning Commissions offer a similar size boundary. Both layers already exist in the Vermont Geodata Portal and adhere to existing town boundaries along their edges.

The development of entirely new geographies introduces complexity in terms of development, relevance, and relatability to existing metrics, reporting, and resource management. Using existing geographies will streamline the process of establishing proposed districts and provide a more usable foundation for policies and analyses.

12.3 Implementation

Following careful review of the objectives and role of regional assessment districts, the Department of Tax and other stakeholders should determine whether county boundaries or RPC boundaries are most suitable for a regional assessment geography. Towns within the specified geography can then be compiled to help inform cost estimates, available resources, and other operational components.

Additional Recommended Improvements

Improve Submittal of Land Surveys to Vermont Land Survey Library

The Vermont Land Survey Library is a repository for digital copies of land surveys maintained by VCGI as part of the Parcel Program but is maintained separately from parcel data. The library consists of a web map that displays the general location of a land survey with its related information.

The library was developed in accordance with the amendment of 27 V.S.A. § 341 by the passing of Act 38 in 2019 requiring a land survey for a property line change, including a boundary line adjustment or a subdivision, effective January 1, 2020. In addition to this mandatory practice for all Vermont municipalities, which includes those without development regulations, sections 27 V.S.A. §1401 and 27 V.S.A. §1403 require a digital copy of a land survey to be submitted to the library by a licensed land surveyor or a municipal official. While there is no legal requirement that applies to them, land surveys predating January 1, 2020 can also be submitted to the library by a licensed land surveyor or a municipal official. Others working in the public sector may submit a land survey to the library as well (e.g., the Vermont Agency of Transportation).

As of December 10, 2024:

- 3,121 land surveys have been published to the library, representing 215 towns (out of 256 total Vermont municipalities). About 55% of land surveys were submitted in accordance with the amendment (dated on or after January 1, 2020)
- 41 towns have no land surveys published in the library
- 143 towns have 10 or fewer land surveys published. Only 2 towns have more than 100 land surveys published

Mapping vendors typically receive the land surveys they need to complete a parcel data update directly from the town. Vendors have confirmed that the library does not currently reflect the total number of land surveys they receive. However, the two towns with over 100 land surveys published to the library demonstrate the potential value of the library. Now that the library is also integrated into the Vermont Parcel Viewer, increased participation the library may supplement preliminary research as part of a title search. From a town in Windham County:

This is a great resource once surveys are scanned, allowing towns to index their surveys and host them for free. I have been using this resource, realtors and title searchers know they can expect to see this information on this site.

Other uses include:

- Assist land surveyors with research prior to conducting field work
- Identify and address discrepancies at town boundaries
- Create a digital copy to preserve historic land surveys

There is currently no enforcement around the survey submittal requirement, and additional measures could be used to encourage participation before considering more severe penalties for non-compliance. Any future work in land records digitization or realignment of assessment jurisdictions should consider leveraging this existing resource. The professional surveying, appraisal, and real estate communities, along with municipal officials who oversee local bylaws and development regulations, could be further engaged for improvements.

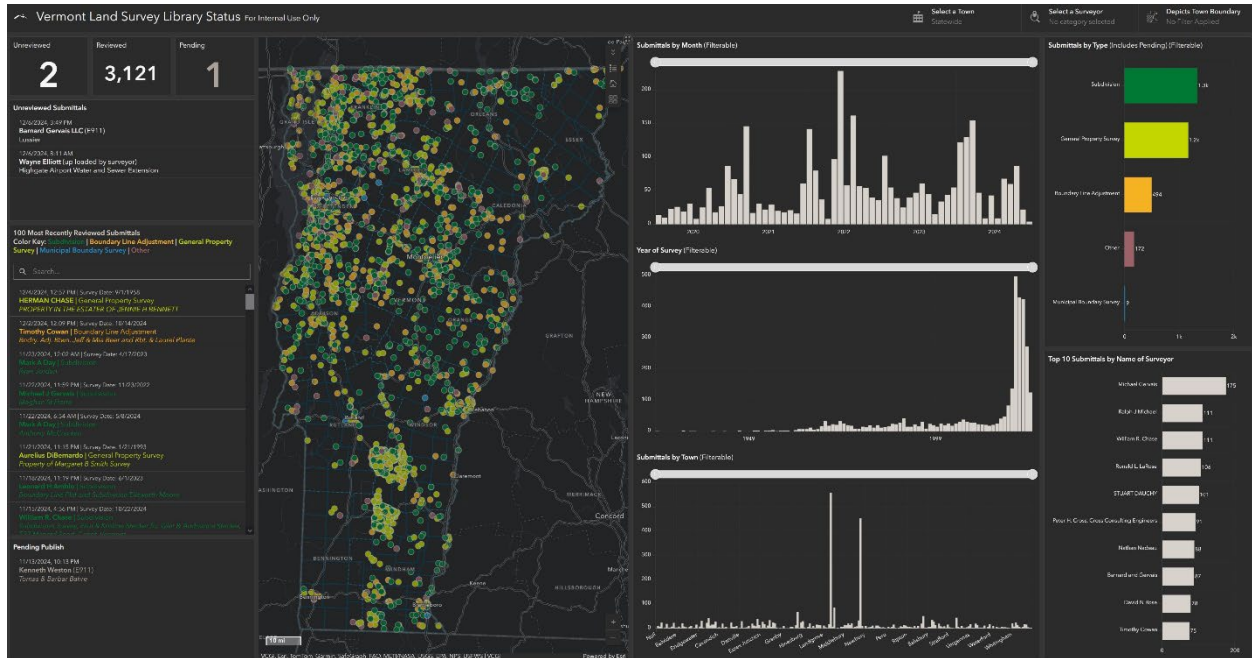


Figure 20: Statistics from the Vermont Land Survey Library. Land surveyors are responsible for submitted new surveys to the Land Survey Library. Information about surveys including type, submittal date, survey year, town, and surveyor are tracked. These data can help assess patterns and completeness when compared to property transfers and new Grand List records, as well as between geographical areas.

Support Survey of Municipal Boundaries and/or Corner Points

Town boundaries form the basis of numerous administrative decisions, governance, and demographic analyses in Vermont. While most states are primarily organized and governed at the county level, Vermont continues to operate heavily at the town level. Even so, many boundaries between towns have not been officially surveyed. Charters often reference obscure landmarks or features that may have changed or disappeared over time, creating challenges and discrepancies in modern day mapping. It is common for data from VCGI, VTrans, E911, and other state agencies to differ on the exact location of various town boundaries. Where surveys do exist, they often only include one neighboring town or a portion of the town line. VCGI's current recommendation for resolving town boundaries is for towns to work with neighboring municipalities to establish agreed-upon lines and ideally have them surveyed. These surveys would then inform charter changes that then are reflected in boundary layers. Unsurprisingly, this is a cumbersome and often challenging effort for towns to undertake without additional support.

Massachusetts began officially surveying corner points of municipalities in the 1890s, and continues to update surveyed points and town boundaries statewide with any boundary changes approved by the state's legislature. Formally surveying all of Vermont's municipal boundaries and/or corner points would be a significant undertaking but ultimately help confirm and establish reliable, consistent, and permanent boundary designations that would improve all dependent mapping and policies.

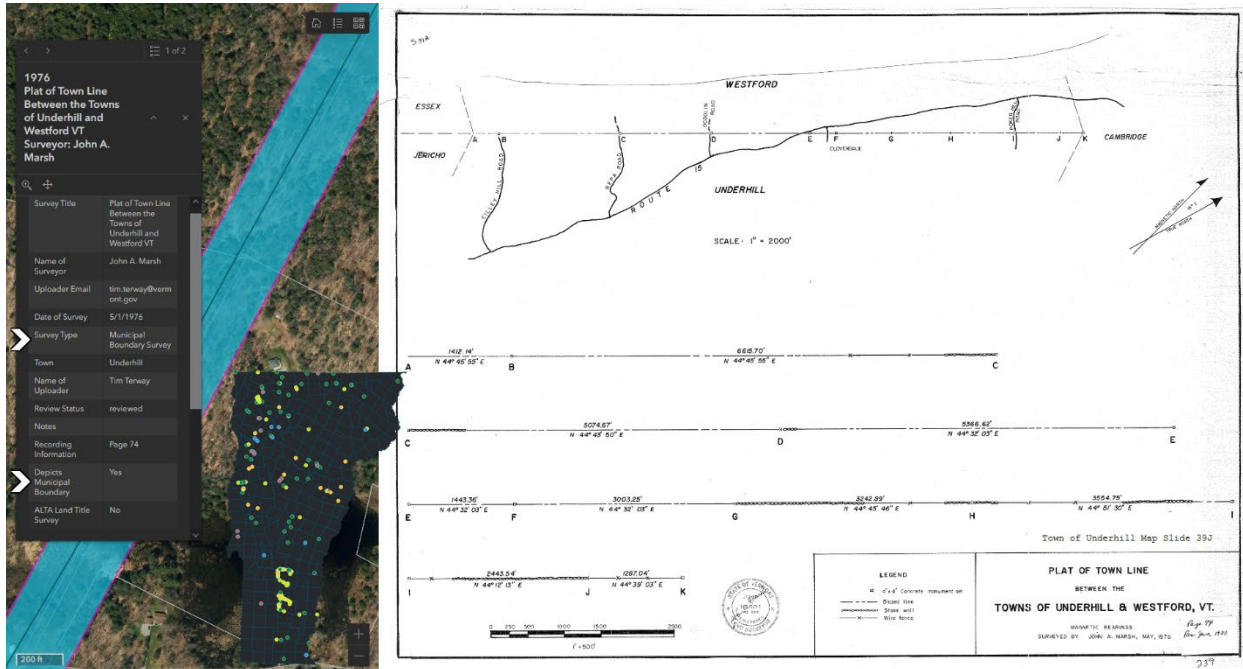


Figure 21: Survey of Town Line Between Underhill and Westford. Town boundaries are not officially surveyed in many parts of the state. The Land Survey Library includes a specific designation for surveyors to indicate whether the survey is a municipal boundary. Ideally all town boundaries will be officially surveyed and formally documented in time.

Acreage Not Counted (Gaps) and Double Counted (Overlaps)

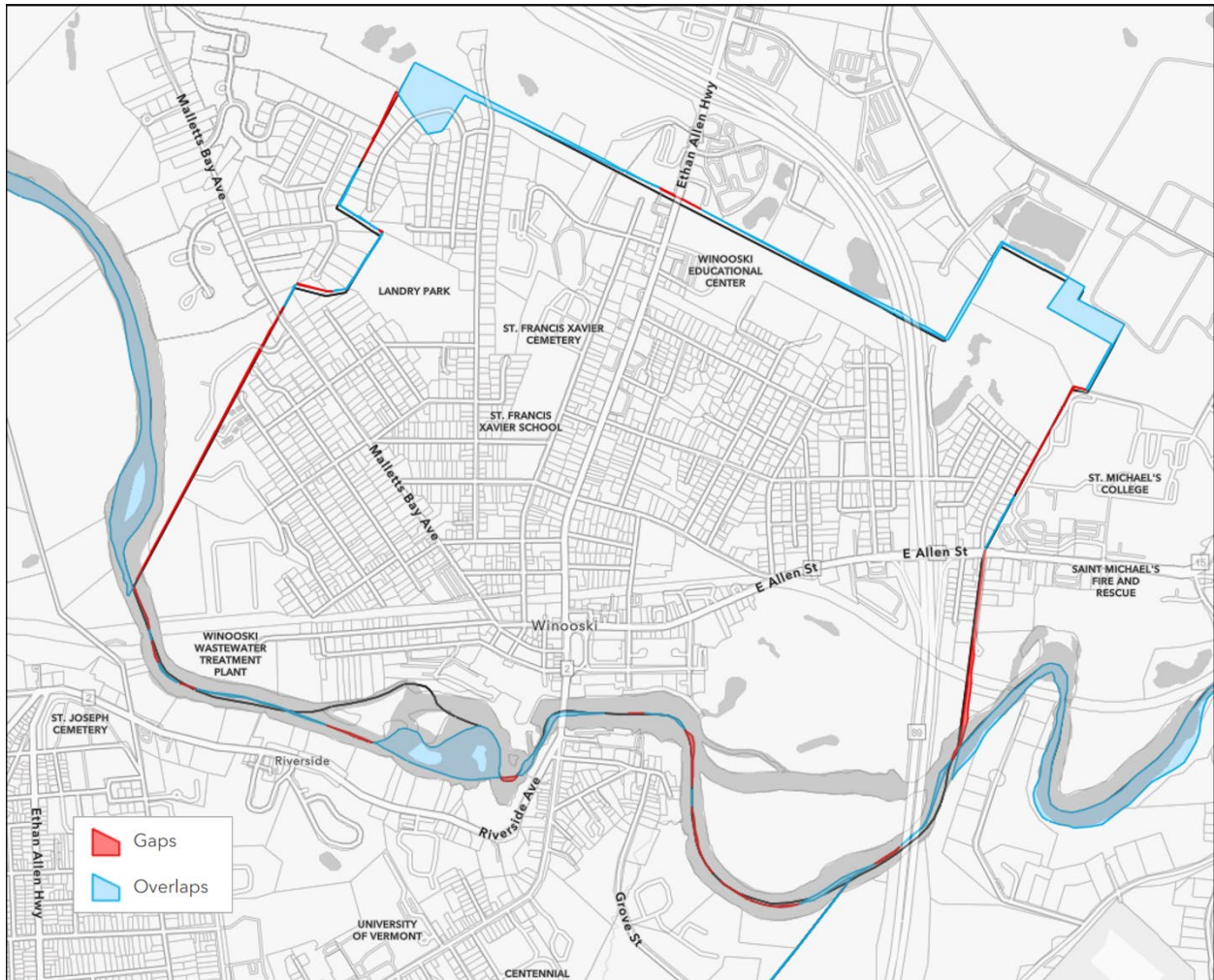


Figure 22: Gaps and Overlaps Between Municipal Boundaries. Example of gaps (red) and overlaps (blue) in parcel geometry at municipal boundaries between Winooski and bordering South Burlington, Burlington, and Colchester. Black lines represent town boundaries as reflected in the town boundary dataset maintained by VCGI. Explore gaps and overlaps in parcel data along town boundaries.

Glossary

Abutting

Sharing a contiguous border or boundary.

Active Parcel

In cases where two or more abutting parcels have the same owner, parcel to which a single tax bill is associated with all the abutting parcels under the same ownership.

Administrative Parcel

A parcel defined in boundaries and/or function by its tax or other administrative uses, not necessarily its legally documented boundaries. Often used in contrast to legal parcel.

API (Application Programming Interface)

Digital tools and protocols that allow different software applications or systems to communicate and share information with each other.

Assessment Jurisdiction

The bounded area in which a government or authorized entity has the authority to assess property for taxation. Typically also responsible for conducting appraisals, maintaining the grand list and associated property records, overseeing mapping of property within the area, and addressing appeals or disputes about property assessments. In Vermont, the current assessment jurisdiction is the municipality. In other states it is often the county.

Attributes

Information associated with a map shape, found in fields, organized in a table.

Calculated Acreage

The estimated acreage of a mapped parcel derived by using GIS. May or may not differ from listed acreage.

CAMA (Computer Assisted Mass Appraisal)

Computer software that helps maintain property information. In Vermont, CAMA software platforms are currently handled on a town-by-town basis. These systems may be a source of some of, but ultimately are not the same as data provided by the statewide parcel dataset.

Centerline

Applied to a street, road, right-of-way, or other strip of land of uniform width, defines the line midway between the side lines of said strip.

Contiguous

Next to or close to one another; adjacent, having a common boundary, sharing an edge.

Data Standard

A uniform way to manage digital information of a particular kind.

Digital Land Records

Electronic storage, management, and distribution of land-related information. Includes details about properties, their ownership, boundaries, land uses, encumbrances, transactions, and other legal and administrative data. Used to refer to authoritative land records, in contrast with analog or paper-based land records.

Domain

Rules that determine available values in fields. Keeps things tidy.

Feature

A map shape that is a representation of a real-world object.

Field

Like “column headers” in an excel table. Information organizers.

Geometry

A GIS representation of spatial data using points, lines, and polygons.

GIS (Geographic Information Systems)

Computer-based tools used to create, modify, store, visualize, and analyze spatial data.

Inactive Parcel

In cases where two or more abutting parcels have the same owner, parcel(s) that does not receive a tax bill. May be represented as multiple parcels within a larger boundary with a single SPAN and owner, for example.

Legal Parcel

A parcel defined in boundaries by deed, survey, or other official legal document. Often used in contrast to administrative parcel.

Listed Acreage

The estimated acreage of a mapped parcel as presented within a Grand List. Often based on deeds within land records for a given property.

Multi-Part Parcel

A non-contiguous geometry object (multi-part polygon) modeling one Grand List record as one record in the GIS data. For example, a single parcel split into two pieces by a water body or road but with a single SPAN and Grand List record.

Parcel

A map representation of a bounded area of the Earth's surface. Often used to represent ownership of said area.

Parcel Data

Parcel data consists of property ownership information (Grand List) joined with mapped property boundaries. Digital parcel data are easily distributed, are searchable and can be analyzed and applied for other uses. Not a survey but rather a map index of property ownership.

Private Right-of-Way (ROW) (or Ingress-Egress Easement):

Arranged for access to locations by traversing one or more parcels. Ingress-egress easements that overlay underlying parcels are not considered to be public rights-of-way and are not considered to be parcels.

Public Right-of-Way (ROW):

An area that is legally dedicated to public right-of-way (access) purposes. Public rights-of-way areas do not have SPAN numbers, but are a type of parcel (bounded area).

Schema

Format and rules of the content of spatial data. Uniformity here keeps decision-support tools running smoothly.

SPAN (School Property Account Number)

Unique, statewide eleven-digit identification number assigned by a municipality to a property, per the Director of PVR via 32 V.S.A. § 5404.

Spatial Data

Information that can be mapped and describes the location, shape, and/or relationships of objects or phenomena on the Earth's surface.

Subdivision

Division of a lot, tract, or parcel of land into two or more lots, plats, sites, or other divisions of land for immediate or future sale or building development.

Survey

The process and resulting document of recording observations, making measurements, and marking the boundaries of tracts of land.

Unlanded Structures

A condominium unit, mobile home, camp, or other structure that is a unit of real estate which is separate from the underlying land surface. In some cases, the underlying land is rented.

Vermont GIS Parcel Data Standard

The current Vermont GIS Parcel Data Standard ensures that all mapped properties statewide are linkable to their unique grand list record. This link between table record and its mapped area is enabled by the unique School Property Account Number (SPAN) assigned for every parcel. Parcel data adherent to the standard enables visualization of a statewide parcel data layer along with their respective grand list information for every property in the state. Standardized parcel data also enable other information to be related with properties on a map, such as weekly property transfers.

VTPIE (Vermont Property Information Exchange)

An integrated system overseen by the Tax Department to collect Vermont's statewide education grand list and to manage the statewide education property tax system, to be used by every municipality in the state. Integrates with parcel data served by the Vermont Parcel Program.

Appendices

Appendix 1: Update Parcel Definition in Vermont Statute Considerations

A1.1 Current State of Mapped Inactive Parcels

Status of submitted parcel geometry, including counts of inactives and submittals by town, are published weekly at the [Town Parcel Status dashboard](#) maintained by VCGI. See the tab at the bottom titled “Inactives” to view current status. Inactives can also be found within the [Vermont Parcel Viewer](#) and as GIS data at the [Vermont Open Geodata Portal](#). Those data are also updated weekly.

Inactive parcels are not managed consistently across towns; currently 178 towns (70%) submit inactive parcels. In addition, attribution of the parcel status field (active/inactive) is not complete or consistent for all submitting towns. As of November 2024, only 138 towns (54%) have submitted inactives with a populated and presumably accurate “STATUS” field. This means the parent parcel has an “ACTIVE” status and all associated “INACTIVE” status parcels have a PARENTSPAN matching the “ACTIVE” status SPAN.

STATUS	PARENTSPAN	SPAN	MAPID
ACTIVE	<Null>	771-245-11520	04-00-03.000
INACTIVE	771-245-11520	<Null>	04-00-13.000
INACTIVE	771-245-11520	<Null>	04-00-19.300
INACTIVE	771-245-11520	<Null>	04-00-08.200
INACTIVE	771-245-11520	<Null>	04-00-09.100

Table 4: Example of correct attribution in the inactive parcel layer. *The parcel with an “ACTIVE” status has a SPAN entry, followed by the associated “INACTIVE” status parcels with PARENTSPAN entries linking them to the “ACTIVE” parcel. In the Active Parcels layer, these five parcels would be merged to a single parcel. In some cases, “INACTIVE” status parcels may also include a unique SPAN entry. Typically these are placeholders used by town officials.*

A1.2 Comments on Maintaining Inactive Parcels at the Municipal Level

From a municipality in Windham County:

As part of [the municipality’s] reappraisal, we will review parcels previously classified as “inactive” to determine their contributory value. We believe that our [records] (similar to every town across the state) contain inactive parcels not represented in the Grand List or [in the parcel data]. Our goal is to identify and recreate these parcels through a thorough review of deeds, surveys, and historical grand lists.

From a mapping vendor working with Vermont municipalities:

A property owner has to go through a subdivision process and approval with the town. Once approved, each lot becomes its own legal entity. That is the point at

which the inactive lots legally exist and should be shown in the **parcel** data and entered in the inactive grand list. A 100 acre lot is a totally different situation than ten 10-acre lots. This info needs to be known.

The mapping vendor notes that when an individual purchases an abutting piece of land, listers will often make the new piece an inactive parcel. But if an individual were to create a subdivision while maintaining ownership, listers may not represent this in the parcel data at all.

The fallout from all this is that pieces of land get lost, revenue gets lost, and the picture of all the pieces of land is not accurate. We maintain one data layer of all parcels. Each parcel has a parcel number, and what we call a link number. The link number is simply the parcel number of the active lot (if the parcel is active, the numbers are the same).

This last quote suggests that at least one parcel map vendor working in Vermont is already maintaining parcels in a way that is compatible with the proposed changes in this report.

A1.3 Parcel Definition Alternatives

A1.3.1 Aggregate Mapped Unit Defined by Ownership (Contiguous)

Current Vermont Statute 32 V.S.A. § 4152 (a)(3) defines a parcel. This is a “contiguous” parcel definition. Separate parcels are grouped together by ownership for administrative purposes.

Depicted visually, a contiguous parcel definition means that the two abutting parcels below, which have the same owner and are shown split with a dotted green line, are drawn as the single outer rectangle. This results as one “parcel” in the spatial data layer.

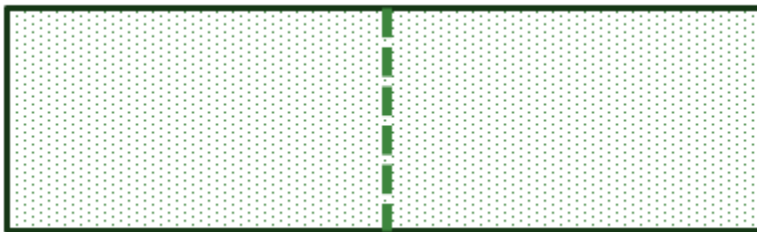


Figure 23: Contiguous Parcel Schematic. *In the current parcel dataset, abutting parcels with the same ownership are considered to be a single parcel.*

One of the individual parts is to be considered an “inactive” parcel, but this is not uniformly tracked across towns. The other part is to be considered “active”, but its status is also not tracked uniformly across towns. These inconsistencies result in data incompleteness that impact analyses as well as long-term change tracking.

A1.3.2 Separate Mapped Unit, Defined by Practice

Example:

A separately assessed lot or piece of real property - *New York State Property tax and assessment administration definitions / guidance*

A1.3.3 Separate Mapped Unit, Defined by Unique Identifier

“Parcel” means a separate plot of land as identified by the municipality tax map and lot number. - *New Hampshire Admin. Code § Cub 301.15*

A1.3.4 Separate Mapped Unit, Defined by Legal Document

“Legal parcel” means any parcel of real property that may be separately sold in compliance with the Subdivision Map Act (Division 2 (commencing with Section 66410) of Title 7 of the Government Code). - *California, Sierra County. In Compliance with State Subdivision Law.*

This example is notable in that any **one** of the following must be met to define a legal parcel, per commentary by *CA Real Estate Law Firm*:

- A lot shown on a Final Map. (Major Subdivision Map)
- A lot or parcel shown on a Record of Survey approved by the Board of Supervisors or Planning Commission.
- A parcel shown on a Parcel Map or Certificate of Compliance recorded in lieu of a Parcel Map.
- A recorded Certificate of Compliance.
- A parcel shown on an approved Division of Land Plat.
- A parcel shown on a Lot legalization Plat used as evidence of legal parcel prior to a Certificate of Compliance.
- A parcel shown on an approved Boundary Adjustment Plat.
- A parcel described in a Grant Deed or other bona fide conveyance document recorded prior to February 1, 1972. The deed/document does not have to be in the name of the present owner. However, it must describe the perimeter boundaries only of the subject property and no other contiguous property. The legal description and County Recorder’s information must be legible to County staff. The Deed need not be an original or certified copy.

There is no statewide subdivision requirement in Vermont, and not all municipalities require subdivisions. Thus, several instruments may be relied upon to help define a parcel (deed, subdivision plat where required by municipality, or property transfer or sale).

A1.3.5 Separate Mapped Unit, Defined by Combination

Any combination of the examples above.

A1.4 Proposed Parcel Layers and VT GIS Data Standard Schema Per Updated Parcel Definition

VCGI currently publishes and maintains two statewide parcel layers: Active Parcels and Inactive Parcels (as available). Following a change to the parcel definition, VCGI will continue to publish and maintain two layers, but with slightly modified purpose, content, and schema. The following describes the existing and proposed statewide parcel data layers:

1. From Active Parcels To Administrative Parcels

CRITERIA	EXISTING	PROPOSED
Name	Active Parcels	Administrative Parcels
Purpose	Primary statewide parcel layer. Groups contiguous separate lots by common ownership to single parcel polygon, conforming to current parcel definition. Included for all municipalities.	Secondary statewide parcel layer. Continues to group separate lots by common ownership to facilitate tax administration, but does not represent new parcel definition of separate and sellable lots. Included for all municipalities.
Schema	<ul style="list-style-type: none"> - SPAN - MAPID - PROPTYPE - YEAR - TOWN - SOURCENAME - SOURCETYPE - SOURCEDATE - EDITMETHOD - EDITOR - EDITDATE - MATCHSTAT - EDITNOTE - SHAPE_Length - SHAPE_Area 	<ul style="list-style-type: none"> - ADMINSPAN - MAPID - PROPTYPE - YEAR - TOWN - SOURCENAME - SOURCETYPE - SOURCEDATE - EDITMETHOD - EDITOR - EDITDATE - MATCHSTAT - EDITNOTE - SHAPE_Length - SHAPE_Area

Table 5: Transition from Active Parcels to Administrative Parcels. *The schema change for the Administrative Parcels layer is renaming “SPAN” to “ADMINSPAN”. The ADMINSPAN is the common identifier for all contiguous lots with the same ownership. SPANs for other individual lots within an Administrative Parcel are not included in this layer.*

2. From Inactive Parcels To Parcels

CRITERIA	EXISTING	PROPOSED
Name	Inactive Parcels	Parcels
Purpose	Secondary statewide parcel layer. Splits contiguous active parcels with common ownership into individual lots where applicable. Included for approximately two-thirds of municipalities.	Primary statewide parcel layer. Depicts parcels as separate and sellable lots or pieces of real property, regardless of contiguous ownership. Conforms to proposed new parcel definition. Included for all municipalities.
Schema	<ul style="list-style-type: none"> - STATUS - PARENTSPAN - SPAN 	<ul style="list-style-type: none"> - ADMINSPAN - SPAN - MAPID

- MAPID
- PROPTYPE
- YEAR
- TOWN
- SOURCENAME
- SOURCTYPE
- SOURCEDATE
- EDITMETHOD
- EDITOR
- EDITDATE
- MATCHSTAT
- EDITNOTE
- SHAPE_Length
- SHAPE_Area

Table 6: Transition from Inactive Parcels to Parcels. The schema changes for the Parcels layer are removing the “STATUS” field and renaming “PARENTSPAN” to “ADMINSPAN”. The ADMINSPAN is the common identifier for all contiguous parcels under the same ownership; this field can contain duplicates and can be used to aggregate parcels to the Administrative Parcel layer. The SPAN is the unique identifier for each separate and sellable lot (i.e., a parcel under the proposed new definition); this field should not contain duplicates. In many cases, and all instances where a parcel has no neighbors with the same owner/tax bill, the ADMINSPAN and SPAN fields will be the same.

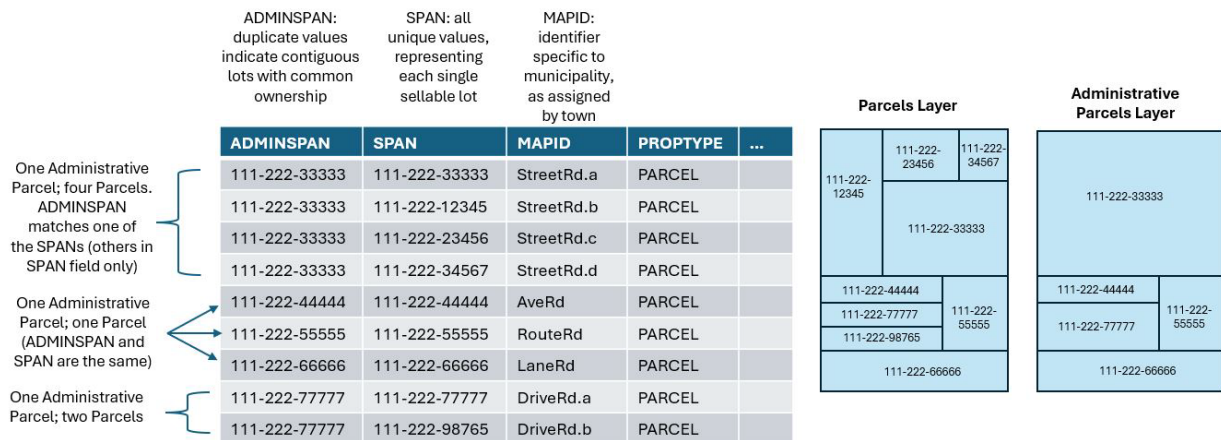


Figure 24: Tabular and Spatial Representation of Proposed Parcel Layers. Under the new parcel definition, the Parcels layer will represent parcels as single sellable units, each with a unique SPAN. The ADMINSPAN field will include duplicates for any abutting parcels with common ownership. The Administrative Parcels layer will combine any parcels with the same ADMINSPAN entries to a single geometry.

A1.5 Parcel Definitions and Interpretations in Existing Vermont Statute

This section lists existing Vermont statutes that define or interpret a definition of a parcel and/or have eligibility requirements dependent on such definition. It does not list those

statutes that use the term “parcel” as an identifier to clarify an idea or specify the location or applicability of what is being discussed without area requirements, unless otherwise noted.

6 V.S.A. Agriculture

6 V.S.A. § 564 - Agriculture / Hemp

§ 564. State hemp program; registration; application; administration. (i) the location and acreage of all parcels where hemp will be grown;

6 V.S.A. § 4871 - Agriculture / Agriculture Water Quality / Small Farm Certification

§ 4871. Small farm certification. (a) Small farm definition. As used in this section, “small farm” means a parcel or parcels of land: (1) on which 10 or more acres are used for farming;

9 V.S.A. Uniform Commercial Code

9A V.S.A. § 2A-103 - Uniform Commercial Code / Leases

§ 2A—103. Definitions and index of definitions. (1) In this article unless the context otherwise requires:...(s) (s) “Lot” means a parcel or a single article that is the subject matter of a separate lease or delivery, whether or not it is sufficient to perform the lease contract.

10 V.S.A. Conservation and Development

10 V.S.A. § 1442 - Conservation and Development / Lake Shoreland Protection Standards

§ 1442. Definitions. (13) “Parcel” means a portion of land or a tract of land with defined boundaries created by dividing the land by sale, gift, lease, mortgage foreclosure, court-ordered partition or decree, or filing of a plat, plan, or deed in the records of the municipality where the act of division occurred.

10 V.S.A. § 6201 - Conservation and Development / Mobile Home Parks

§ 6201. Definitions. (2) “Mobile home park” means any parcel of land under single or common ownership or control that contains, or is designed, laid out, or adapted to accommodate, more than two mobile homes.

11 V.S.A. Corporations, Partnerships and Associations

11 V.S.A. § 1610 - Corporations, Partnerships and Associations / Cooperative Housing Ownership Act

§ 1610. Separate taxation; mobile home cooperatives. Each unit in a mobile home limited equity cooperative under proprietary lease, together with any improvements thereon and together with the proprietary lessee’s cooperative interest in the common areas and facilities owned by the cooperative, shall be considered to be a parcel, and shall be subject to separate assessment and taxation as real property

by each assessing unit and special district for all types of taxes authorized by law, including special ad valorem levies and special assessments.

24 V.S.A. Municipal and County Government

24 V.S.A. § 4303 - Municipal and County Government / Municipal and Regional Planning and Development

§ 4303. Definitions. (10) “Land development” means the division of a parcel into two or more parcels, the construction, reconstruction, conversion, structural alteration, relocation, or enlargement of any building or other structure, or of any mining, excavation, or landfill, and any change in the use of any building or other structure, or land, or extension of use of land.

27 V.S.A. Property

27 V.S.A. § 341 - Property / Conveyance of Real Estate / Execution and Acknowledgment

§ 341. Requirements generally; recording. (b)(2) If the conveyance of land results in the subdivision of a parcel or a change in the boundaries of a parcel after January 1, 2020, the deed shall: (A) be accompanied by a survey plat that depicts the new parcel boundaries; or (B) cite the volume and page in the land records that indicates where the new parcel boundaries have previously been recorded.

27 V.S.A. § 1322 - Property / Condominium Ownership Act / Condominium Ownership

§ 1322. Separate taxation. Each apartment or site and its percentage of undivided interest in the common areas and facilities shall be considered to be a parcel and shall be subject to separate assessment and taxation by each assessing unit and special district for all types of taxes authorized by law, including special ad valorem levies and special assessments, except that parcels held in identical ownership may be combined and treated as one parcel for purposes of assessment and taxation at the discretion of the listers. Neither the building, the property, nor any of the common areas and facilities shall be deemed to be a parcel.

27 V.S.A. § 1401 - Property / Filing of Land Plats

§ 1401. Acceptance of survey plats; definition. (b) As used in this chapter: (1) “Survey plat” means a map or plan drawn to scale of one or more parcels, tracts, or subdivisions of land, showing, but not limited to, boundaries, corners, markers, monuments, easements, and other rights. (2) “Center” means the Vermont Center for Geographic Information. (c)(1) Whenever a survey plat that maps the subdivision of a parcel or a change in a parcel boundary is filed for record with a town clerk, the surveyor who created the survey plat shall submit a digital copy of the plat to the Center. The Center shall maintain digital copies of survey plats in a statewide digital repository and make them available to the public.

27A V.S.A. § 1-105 - Uniform Common Interest Ownership Act (1994) / General Provisions

§ 1-105. Separate titles and taxation. (a) In a condominium or planned community: (1) if there is any unit owner other than a declarant, each unit that has been

created, together with its interest in the common elements, constitutes for all purposes a separate parcel of real estate; and (2) if there is any unit owner other than a declarant, each unit shall be separately taxed and assessed, and no separate tax or assessment may be rendered against any common elements for which a declarant has reserved no development rights; provided, however, that if a portion of the common elements is located in a town other than the town in which the unit is located, the town in which the common elements are located may designate that portion of the common elements within its boundaries as a parcel for property tax assessment purposes and may tax each unit owner at an appraisal value pursuant to 32 V.S.A. § 3481.

32 V.S.A. Taxation and Finance

Use Value Appraisal Program

32 V.S.A. § 3752 - Taxation and Finance / Agricultural Lands and Forestlands / Agricultural Land and Managed Forestland Use Value Appraisal Program

§ 3752. Definitions. (1) “Agricultural land” means any land, exclusive of any housesite, in active use to grow hay or cultivated crops, pasture livestock, cultivate trees bearing edible fruit, or produce an annual maple product, and that is 25 acres or more in size, except as provided in this subdivision (1).

(C) it has produced an annual gross income from the sale of farm crops in one of two, or three of the five, calendar years preceding of at least: (i) \$2,000.00 for parcels of up to 25 acres; and (ii) \$75.00 per acre for each acre over 25, with the total income required not to exceed \$5,000.00.

(5)(B) “Development” also means the subdivision of a parcel of land into two or more parcels, regardless of whether a change in use actually occurs, where one or more of the resulting parcels contains less than 25 acres each; but if subdivision is solely the result of a transfer to one or more of a spouse, ex-spouse in a divorce settlement, parent, grandparent, child, grandchild, niece, nephew, or sibling of the transferor, or to the surviving spouse of any of the foregoing, then “development” shall not apply to any portion of the newly created parcel or parcels that qualify for enrollment and for which, within 30 days following the transfer, each transferee or transferor applies for reenrollment in the Use Value Appraisal Program.

(17) “Reserve forestland” means land that is managed for the purpose of attaining old forest values and functions in accordance with minimum acceptable standards for forest management and as approved by the Commissioner of Forests, Parks and Recreation. On parcels of up to 100 acres, 50 percent or more of the enrolled parcel acres shall be composed of significant and sensitive conditions in accordance with the minimum acceptable standards established by the Commissioner. On parcels of 100 acres or more, 30 percent of the enrolled parcel acres shall be composed of significant and sensitive conditions in accordance with the minimum acceptable standards established by the Commissioner.

32 V.S.A. § 3755 - Taxation and Finance / Agricultural Land and Managed Forestland Use Value Appraisal Program

§ 3755. Eligibility for use value appraisals.

See references to parcel defined by common ownership.

32 V.S.A. § 3756 - Taxation and Finance / Agricultural Land and Managed Forestland Use Value Appraisal Program

§ 3756. Qualification for use value appraisal.

See references to parcel defined by common ownership.

32 V.S.A. § 3757 - Taxation and Finance / Agricultural Land and Managed Forestland Use Value Appraisal Program

§ 3757. Land use change tax.

See references to parcel defined by common ownership.

32 V.S.A. § 3760a - Taxation and Finance / Agricultural Land and Managed Forestland Use Value Appraisal Program

§ 3760a. Valuation audits.

See references to parcel defined by common ownership.

Grand Tax Lists

32 V.S.A. § 4041a - Taxation and Finance / Grand Tax Lists / Appraisals

§ 4041a. Reappraisal. (a) A municipality shall be paid \$8.50 per grand list parcel per year from the Education Fund to be used only for reappraisal and costs related to reappraisal of its grand list properties and for maintenance of the grand list.

32 V.S.A. § 4152 - Taxation and Finance / Grand Tax Lists / Grand List of Town

§ 4152. Contents. (a) When completed, the grand list of a town shall be in such form as the Director prescribes and shall contain such information as the Director prescribes, including:... (3) A brief description of each parcel of taxable real estate in the town. "Parcel" means all contiguous land in the same ownership, together with all improvements thereon.

Chapter 135: Education Property Tax

32 V.S.A. § 5401 - Taxation and Finance / Education Property Tax

§ 5401. Definitions. (7) "Homestead": (A) "Homestead" means the principal dwelling and parcel of land surrounding the dwelling, owned and occupied by a resident individual as the individual's domicile or owned and fully leased on April 1, provided the property is not leased for more than 182 days out of the calendar year or, for purposes of the renter credit under subsection 6066(b) of this title, is rented and occupied by a resident individual as the individual's domicile.

(B) The parcel of land surrounding the dwelling shall be determined without regard to any road that intersects the land. If the parcel of land surrounding the dwelling is

owned by a cooperative housing corporation incorporated under 11 V.S.A. chapter 14 or owned by a nonprofit land conservation corporation or community land trust with exempt status under 26 U.S.C § 501(c)(3), the homestead includes a pro rata part of the land upon which the dwelling is built, as determined by the cooperative corporation, nonprofit corporation, or land trust.

32 V.S.A. § 5404 - Taxation and Finance / Education Property Tax

§ 5404. Determination of education property tax grand list. (a)...f a homestead is located on a parcel of greater than two acres, the entire parcel shall be appraised at fair market value; the housesite shall then be appraised as if it were situated on a separate parcel, and the value of the housesite shall be subtracted from the value of the total parcel to determine the value of the remainder of the parcel.

(b)...The data transmitted shall identify each parcel by a parcel identification number assigned under a numbering system prescribed by the Director. Municipalities may continue to use existing numbering systems in addition to, but not in substitution for, the parcel identification system prescribed by the Director.

(d) Municipalities shall include, on all property tax bills, the parcel identification number prescribed in subsection (b) of this section.

32 V.S.A. § 5404a - Taxation and Finance / Education Property Tax

§ 5404a. Tax stabilization agreements; tax increment financing districts. (6) An exemption of a portion of the value of a qualified rental unit parcel. An owner of a qualified rental unit parcel shall be entitled to an exemption on the education property tax grand list of 10 percent of the grand list value of the parcel, multiplied by the ratio of square footage of improvements used for or related to residential rental purposes to total square footage of all improvements, multiplied by the ratio of qualified rental units to total residential rental units on the parcel. “Qualified rental units” means residential rental units that are subject to rent restriction under provisions of State or federal law but excluding units subject to rent restrictions under only one of the following programs: Section 8 moderate rehabilitation, Section 8 housing choice vouchers, or Section 236 or Section 515 rural development rental housing.

32 V.S.A. § 5405 - Taxation and Finance / Education Property Tax

§ 5405. Determination of equalized education property tax grand list and coefficient of dispersion. (f) Within the limits of the resources available for that purpose, the Commissioner may employ such individuals, whether on a permanent, temporary, or contractual basis, as shall be necessary, in the judgment of the Commissioner, to aid in the performance of duties under this section. The Commissioner shall pay each municipality the sum of \$1.00 per grand list parcel in the municipality for services provided to the Commissioner in connection with the performance of duties under this section. Each municipality shall deposit payments received under this subsection into a special fund that shall be used to support the preparation of the education property tax grand list.

32 V.S.A. § 5412 - Taxation and Finance / Education Property Tax

§ 5412. Reduction of listed value and recalculation of education tax liability. (A) The reduction in valuation is the result of an appeal under chapter 131 of this title to the Director of Property Valuation and Review or to a court, with no further appeal available with regard to that valuation, or any judicial decision with no further right of appeal, or a settlement of either an appeal or court action if the Director determines that the settlement value is the fair market value of the parcel.

Chapter 154: Homestead Property Tax Credit and Renter Credit

32 V.S.A. § 6061 - Taxation and Finance / Homestead Property Tax Credit and Renter Credit

§ 6061. Definitions. As used in this chapter unless the context requires otherwise:...(11) “Housesite” means that portion of a homestead, as defined under subdivision 5401(7) of this title but not under subdivision 5401(7)(G) of this title, that includes as much of the land owned by the claimant surrounding the dwelling as is reasonably necessary for use of the dwelling as a home, but in no event more than two acres per dwelling unit, and, in the case of multiple dwelling units, not more than two acres per dwelling unit up to a maximum of 10 acres per parcel.

(15) “Adjusted property tax” means the amount of education and municipal property taxes on the homestead parcel after reduction for any property tax credit under section 6066a of this chapter.

(16) “Unadjusted property tax” means the amount of education and municipal property taxes on the homestead parcel before any reduction for a property tax credit under section 6066a of this chapter.

32 V.S.A. § 6066 - Taxation and Finance / Homestead Property Tax Credit and Renter Credit

§ 6066. Computation of property tax credit and renter credit. (g) Notwithstanding subsection (d) of this section, if the land surrounding a homestead is owned by a nonprofit corporation or community land trust with tax exempt status under 26 U.S.C. § 501(c)(3), the homeowner may include an allocated amount as property tax paid on the land with the amount of property taxes paid by the homeowner on the home for the purposes of computation of the credit under this section. The allocated amount shall be determined by the nonprofit corporation or community land trust on a proportional basis. The nonprofit corporation or community land trust shall provide to that homeowner, by January 31, a certificate specifying the allocated amount. The certificate shall indicate the proportion of total property tax on the parcel that was assessed for municipal property tax and for statewide property tax.

32 V.S.A. § 6066a - Taxation and Finance / Homestead Property Tax Credit and Renter Credit

§ 6066a. Determination of property tax credit. (3) The property tax credit amount determined for the taxpayer shall be allocated first to current year property tax on the homestead parcel, next to current-year homestead parcel penalties and interest, next to any prior year homestead parcel penalties and interest, and last to any prior year property tax on the homestead parcel. No credit shall be allocated to

a property tax liability for any year after the year for which the claim or refund allocation was filed. No municipal tax-reduction incentive for early payment of taxes shall apply to any amount allocated to the property tax bill under this chapter.

32 V.S.A. § 6069 - Taxation and Finance / Homestead Property Tax Credit and Renter Credit

§ 6069. Landlord certificate. (a) On or before January 31 of each year, the owner of land rented as a portion of a homestead in the prior calendar year shall furnish a certificate of rent to the Department of Taxes and to each claimant who owned a portion of the homestead and rented that land as a portion of a homestead in the prior calendar year. The certificate shall indicate the proportion of total property tax on that parcel that was assessed for municipal property tax and for statewide property tax.

Chapter 236: Tax on Gains from the Sale or Exchange of Land

32 V.S.A. § 10002 - Taxation and Finance / Tax on Gains from the Sale or Exchange of Land

§ 10002. Land and residences (a) “Land” means all land, whether or not improved, that has been purchased and subdivided by the transferor within the six years prior to the sale or exchange of the land, but does not include land not exceeding 10 acres, necessary for the use of a dwelling used by the seller of such land as his or her principal residence. Buildings or other structures are not included in this definition of “land.” “Land” also means timber or rights to timber when that timber or those timber rights are sold within six years of their purchase, provided the underlying land is also sold within six years. “Underlying land” means the land from which timber or timber rights have been separated, whether subdivided or not. As used in this subsection, the term “subdivision” means a tract or tracts of land, owned or controlled by a person, that the person has partitioned or divided for the purpose of sale or transfer. Subdivision shall be deemed to have occurred on the conveyance of the first lot or the filing of a plat, plan, or deed in the town records, whichever first occurs. A subdivision shall not include a boundary adjustment between adjacent parcels.

- (f) Also excluded from the definition of “land” is any land up to 10 acres, with the modification permitted by subsection (c) of this section, acquired by a person who will build on that land a house that, by the next succeeding sale, will be the principal residence of the occupant when the person purchases from the person who built the house. The person acquiring such land must certify to the Commissioner of Taxes that the person will begin building within one year of date of purchase, complete the building within two years from the date of purchase, and sell it within three years from date of purchase to a person who qualifies under subsection (b) of this section. If the land is sold as more than one parcel by the builder who acquired it, only those parcels on which a dwelling has been completed in accordance with the requirements of this subsection shall be excluded from the definition of “land.” The deed for the property shall recite the fact that there is running with the land a lien equal to the amount of

land gains tax exempted by this subsection until the time as all conditions of this subsection have been met.

- (g) Also excluded from the definition of “land” is a parcel of land 25 acres or less, purchased by a farmer, as defined in section 3752 of this title, for active and direct use by that farmer, and that, upon transfer, but for the acreage, meets the definition of “agricultural land” or “managed forestland” in section 3752 of this title, and continues to meet that definition for at least six years after the transfer.

Appendix 2: Support Digital Parcel Maintenance and Submittal to the State of Vermont Considerations

A2.1 Current Shared Responsibility Model (Town Maintenance)

The success of the Parcel Program as a voluntary-based initiative is due to the collaboration between municipalities, state government, and mapping vendors in the private sector. This “Shared Responsibility” model relies on all parties contributing resources to maintain statewide parcel data.

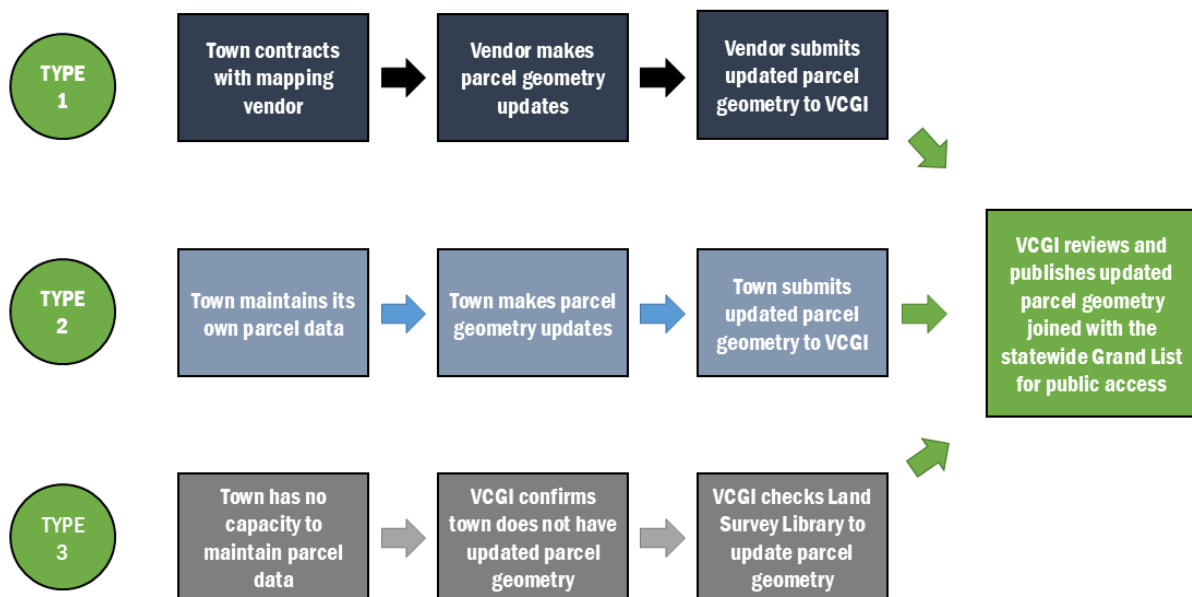


Figure 25: Current Parcel Data Maintenance Practices. Depending on the needs and resources of a municipality, several types of parcel data maintenance practices exist.

The Shared Responsibility model identifies a municipality’s ability to perform parcel geometry updates by contracting with a mapping vendor or completing updates internally. Municipalities unable to perform parcel geometry maintenance are updated by VCGI using any new land surveys available in the [Vermont Land Survey Library](#). This method does not typically capture all geometry changes due to the incomplete nature of the Land Survey Library, and updates do not happen on a regular schedule. While generally successful, the limitations of the Shared Responsibility model have emerged after five years of operation (2020-2024).

A2.2 Funding During the Parcel Project (2017-2019)

The Statewide Property Parcel Mapping Project leveraged both state and federal funds with 80% coming from the Federal Highway Administration and the remaining 20% from several state agencies and departments. The Vermont Agency of Transportation contracted with several mapping vendor to update or create digital parcel data for each Vermont municipality over a three-year period. Each municipality was assigned mapping vendor through a competitive bid process.

The average cost per parcel during the Parcel Project was \$8.45 compared to the national average of \$5.20 reported 10 years prior by the National Research Council in *National Land Parcel Data: A Vision for the Future* (2007). The cost per parcel during the Parcel Project ranged from \$0.42 to \$166.67 with 185 municipalities falling at or below the average cost per parcel (74%). Based on our records, one municipality did not contract with a mapping vendor during the Parcel Project opting to standardize its parcel data internally (the total cost and cost per parcel for this municipality is listed as \$0.00). The total cost as well as the cost per parcel for each municipality during the Parcel Project can be viewed in this [table](#).

A2.3 Submittal Quality Criteria

Upon review by VCGI, new parcel submissions are published and assessed for how closely they meet the Parcel Data Standard. Data quality for a town's most recent data submission is available in the [Town Mapping Status](#) application ("Submittal Quality" tab).

Fully Compliant

- Includes all towns that have not been updated since the Parcel Project (i.e., prior to 2020)
- Valid topology; no gaps or overlaps among parcels
- ROWs included and mapped correctly
- Unmatched parcels only comprised of land expected to have no SPAN (common land, town/state/federally-owned land, etc.)
- Multi-SPAN parcels (e.g., condos) are attributed correctly through the intersection table, if applicable

Summary: submission meets format and content requirements of the Parcel Data Standard. Includes valid topology, SPANs, and ROWs that are mapped correctly; does not require edits that were made in the previous submission; any unmatched parcels are expected to be unmatched given their status as common land, government-owned land, etc.; any multi-SPAN parcels are accounted for correctly in the intersection table. Includes towns that are working with a vendor to maintain parcels but have not submitted updates to VCGI since January 1, 2020.

Compliant with Minor Edits

- Unmatched parcels (as received) are < 2%
- ROWs included and mapped correctly
- No/minimal repeated edits from prior submission during VCGI review
- No/minimal (<10) edits to intersection table to account for multi-SPAN parcels
- No topology errors

Summary: submission meets format and content requirements of the Parcel Data Standard. Includes valid topology, SPANs, and ROWs that are mapped correctly. Requires minor editing to address unmatched parcels (<2% of town's total parcels) that should have SPANs and a match in the annual Grand List. May include <10 edits that were made in the prior submission and/or to account for multi-SPAN parcels in the intersection table.

Compliant with Major Edits

- Unmatched parcels (as received) are > 2%
- Topology errors resulting in gaps/overlaps among parcels
- Incorrect or missing attribution of condos/multi-SPAN parcels in the intersection table
- ROWs are missing or incomplete (e.g., parcels are mapped to road centerlines)
- Repeated edits from prior submission during VCGI review

Summary: submission meets format and content requirements of the Parcel Data Standard to the extent that it can be incorporated into the statewide parcel dataset following revisions. May require significant edits to address topology errors, missing or invalid SPANs, missing or incomplete ROWs, and/or missing or incomplete multi-SPAN parcel representation in the intersection table. Requires editing to address unmatched parcels (>2% of town's total parcels) that should have SPANs and a match in the annual Grand List. May include >10 edits that were made in the prior submission and/or to account for multi-SPAN parcels in the intersection table.

Not Compliant

- Includes all towns that are updated by VCGI/have no vendor or capacity to submit their own updates
- Submission does not include SPANs or Parcel/Map IDs that can be linked to the Grand List
- Submission is in an unusable format (e.g., CAD) that cannot be converted to a geodatabase
- Usable format (i.e., GIS files) but missing or invalid fields that do not allow conversion to usable schema/dataset, or require significant effort to update using existing data and external sources/map viewers (e.g., loading existing attribution into new geometry; using E911, AxisGIS, or other to validate/verify SPANs; merging/splitting active and inactive parcels, etc.)

Summary: submission does not meet format and/or content allowing for inclusion in the statewide parcel dataset. Data format may be unusable/unable to convert to GIS, and/or attribution does not include valid SPANs or Parcel/Map IDs for linking to Grand List. May sometimes include a workable data format that requires significant geometry (e.g., active and inactive parcels) and/or attribute manipulation using internal and external data sources (e.g., AxisGIS sites, surveys, E911 data, etc.) to create dataset with valid schema and attribution. Also includes towns that do not have a vendor or the capacity to make their own edits and are updated by VCGI using data available in the VT Land Survey Library.

A2.4 Funding Estimates

In November 2024, VCGI organized a focus group of 12 municipalities selected based on parcel count, location, and mapping vendor. A municipal official (lister, assessor, or clerk) from each municipality was contacted by email and asked how much the municipality currently spends on parcel mapping. While sample size is a limiting factor, based on the information provided by the seven municipalities that responded the cost of ongoing parcel data maintenance is less than the initial cost during the Parcel Project. This is true even for municipalities that are no longer contracting with their Parcel Project mapping vendor. The current cost per parcel averaged \$2.66 compared to \$5.87 during the Parcel Project (55% cost reduction).

MUNICIPALITY	2023 GRAND LIST PARCEL COUNT	ACTIVE POLYGONS	INACTIVE POLYGONS	CURRENT VENDOR	PARCEL PROJECT VENDOR
Bakersfield	739	778	0	CTI	CTI
Belvidere	290	317	0	Chris Chamberlain	CAI
Ferrisburgh	1625	1719	0	Chris Chamberlain	VHB
Grand Isle	1345	1374	154	CAI	Russell Graphics
Huntington	944	983	0	Chris Chamberlain	Atlas Geographic
Landgrove	226	249	5	CAI	CAI
Londonderry	1575	1528	277	CAI	CAI
Maidstone	376	384	53	CAI	CAI
Montpelier	3280	3065	46	CAI	Russell Graphics
Pownal	1764	1772	162	CTI	CTI
Randolph	2154	2219	65	CAI	CAI
Stratton	1621	1630	325	CTI	CTI

Table 7: Municipalities contacted for current parcel data maintenance cost information. *Bold text denotes towns that responded with current maintenance costs.*

If not organized by town, funding could be allocated by the proposed assessment districts which could help account for any geographic variance between municipalities with respect to parcel mapping. VCGI would still continue to receive parcel data updates from municipalities. Using counties as an example, there is a significant range between cost per parcel during the Parcel Project:

COUNTY	2024 GRAND LIST PARCEL COUNT (PRELIMINARY)	PARCEL PROJECT COST	PARCEL PROJECT COST PER PARCEL
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Addison	18,733	\$116,084	\$6.20
Bennington	22,178	\$117,199	\$5.28
Caledonia	17,901	\$89,378	\$4.99
Chittenden	61,096	\$117,333	\$1.92
Essex	6,431	\$67,634	\$10.52
Franklin	24,657	\$109,960	\$4.46
Grand Isle	6,446	\$38,191	\$5.92
Lamoille	15,107	\$65,354	\$4.33
Orange	17,297	\$92,272	\$5.33
Orleans	18,832	\$109,721	\$5.83
Rutland	35,781	\$212,839	\$5.95
Washington	31,613	\$137,526	\$4.35
Windham	31,727	\$119,424	\$3.76
Windsor	36,289	\$148,672	\$4.10

Table 8: Preliminary 2024 Parcel Count and Per Parcel Cost by County. *Parcels counts from the preliminary 2024 Grand List are grouped and compared to county-based Parcel Project total and per-parcel costs.*

At the county-level, the average cost per parcel during the Parcel Project was \$5.21 which is slightly below the average cost per parcel of the focus group during the Parcel Project. If the estimated 55% cost reduction was applied to the cost per parcel for each county during the Parcel Project, **funding for a proposed financial incentive would need to be about \$700,000 annually for the state:**

COUNTY	ESTIMATED COST REDUCTION PER PARCEL	ESTIMATED FUNDING
Addison	\$2.79	\$52,238
Bennington	\$2.38	\$52,740
Caledonia	\$2.25	\$40,220
Chittenden	\$0.86	\$52,800
Essex	\$4.73	\$30,435
Franklin	\$2.01	\$49,482
Grand Isle	\$2.67	\$17,186
Lamoille	\$1.95	\$29,409
Orange	\$2.40	\$41,552
Orleans	\$2.62	\$49,374
Rutland	\$2.68	\$95,778
Washington	\$1.96	\$61,887
Windham	\$1.69	\$53,741
Windsor	\$1.84	\$66,902

Total	\$693,714
Average	\$5.21

Table 9: Estimated Statewide Financial Incentive Cost. *Estimated funding needed to support a financial incentive is calculated by county, along with the estimated cost reduction compared to the cost of the Parcel Project.*

AVERAGE COST PER PARCEL	
Focus Group	\$2.66
County-level	\$2.34

Table 10: A summary of the average costs per parcel. *The average cost per parcel for the seven towns that participated in the focus group is \$2.66 which is 55% less than the cost per parcel during the Parcel Project. At the county-level, the average cost per parcel during the Parcel Project was \$5.21. If the same 55% cost reduction was applied at the county-level, it can be estimated that the average cost per parcel would currently be around \$2.34.*

Each county could be assigned its own per parcel fee, or a single per parcel fee could be established for the state with some counties receiving an additional percentage above the per parcel fee based on financial capacity. While there are multiple ways to determine financial capacity, two methods using the Real Listed Value field from the 2023 Grand List are shown below. For both methods, counties that are **below** the average value are shown as receiving an adjusted per parcel fee. The remaining counties are shown as receiving the standard per parcel fee.

Real Listed Value per Capita

COUNTY	2020 CENSUS POPULATION	TOTAL REAL LISTED VALUE	REAL LISTED VALUE PER CAPITA	PERCENT DIFFERENCE	PER PARCEL MULTIPLIER
Addison	37,363	\$5,988,167,654	\$160,270	7%	1.07
Bennington	37,347	\$6,826,419,057	\$182,784		
Caledonia	30,233	\$3,890,741,398	\$128,692	29%	1.29
Chittenden	168,323	\$29,382,064,381	\$174,558		
Essex	5,920	\$1,053,422,600	\$177,943		
Franklin	49,946	\$6,618,293,728	\$132,509	26%	1.26
Grand Isle	7,293	\$1,836,562,678	\$251,825		
Lamoille	25,945	\$5,794,509,702	\$223,338		
Orange	29,277	\$4,074,229,888	\$139,161	21%	1.21
Orleans	27,393	\$3,906,839,150	\$142,622	19%	1.19
Rutland	60,572	\$8,280,781,106	\$136,710	23%	1.23
Washington	59,807	\$9,733,853,072	\$162,754	6%	1.06

Windham	45,905	\$9,476,204,580	\$206,431
Windsor	57,753	\$10,979,699,045	\$190,115
Average			\$172,122

Table 11: Per Parcel Multiplier Using Real Listed Value per Capita. County-based adjustments are calculated based on county population. Counties below the average real listed value per capita would receive an adjusted payment based on the percent difference, while those at or above the average would receive the standard payment.

Real Listed Value per Acre

COUNTY	TOTAL ACRES (PARCELS ONLY)	TOTAL REAL LISTED VALUE	REAL LISTED VALUE PER ACRE	PERCENT DIFFERENCE	PER PARCEL MULTIPLIER
Addison	485,308	\$5,988,167,654	\$12,339	52%	1.52
Bennington	423,954	\$6,826,419,057	\$16,102	26%	1.26
Caledonia	405,042	\$3,890,741,398	\$9,606	74%	1.74
Chittenden	333,079	\$29,382,064,381	\$88,214		
Essex	421,257	\$1,053,422,600	\$2,501	157%	2.57
Franklin	396,210	\$6,618,293,728	\$16,704	23%	1.23
Grand Isle	51,370	\$1,836,562,678	\$35,752		
Lamoille	291,881	\$5,794,509,702	\$19,852	6%	1.06
Orange	428,914	\$4,074,229,888	\$9,499	75%	1.75
Orleans	435,479	\$3,906,839,150	\$8,971	80%	1.80
Rutland	585,673	\$8,280,781,106	\$14,139	39%	1.39
Washington	430,387	\$9,733,853,072	\$22,617		
Windham	493,362	\$9,476,204,580	\$19,207	9%	1.09
Windsor	604,359	\$10,979,699,045	\$18,168	14%	1.14
Average			\$20,976		

Table 12: Per Parcel Multiplier Using Real Listed Value per Acre. County-based adjustments are calculated based on county acreage. Counties below the average real listed value per acre would receive an adjusted payment based on the percent difference, while those at or above the average would receive the standard payment.

A2.5 Eligibility for Per Parcel Payment

- VCGI will continue to accept and review parcel geometry updates on a rolling basis. A municipal official (or a contact from a municipality’s mapping vendor) must send a standard-compliant parcel geometry update to VCGI by October 1st of a calendar year to be eligible to receive a financial incentive the following year
- No more than one standard-compliant parcel geometry update per municipality will be accepted each calendar year

- Parcel geometry updates will continued to be submitted to VCGI using the [Share Map Data](#) form
- VCGI should be notified if a municipality has no changes to report. A municipality that reports no changes will not be eligible to receive a financial incentive
- Some municipalities may choose to “opt-out,” forgoing their eligibility in exchange for VCGI assisting in their parcel geometry update Municipalities that may be good candidates to opt-out include:
 - Municipalities not currently updating their parcel geometry, contracting with a non-GIS vendor, or having “low confidence” in their ability to conduct parcel geometry updated internally
 - Municipalities with a relatively small parcel count or relatively few parcel geometry updates

A2.6 Additional Considerations for Per Parcel Payment

- In addition to submittal compliance criteria, a time frame component is needed when assessing a town’s eligibility for a per parcel payment (e.g., annually). Some towns are technically “compliant” and are working with a vendor but have not submitted an update to VCGI since before 2020. For small towns that may not have any changes from year to year, and therefore do not submit an update, VCGI should still receive an annual confirmation that no changes or updates are needed to the existing data
- Consider possible tiered system for payments to encourage compliance. For example: fully compliant or minor edit towns receive full payment amount, major edit town receive 50%, and non-compliant towns receive none
- Based on discussions with vendors in 2024, it is not necessarily practical or feasible for vendors to directly use parcel data published by VCGI (e.g., vendors are not downloading the latest data for a town from VCGI prior to making their next round of edits). Often vendors are maintaining additional fields and formats beyond what is submitted and used by VCGI following the existing VT GIS Parcel Data Standard. This is likely a factor leading to repeated edits with each submission. Consider avenues to summarize and communicate submission issues or edits made by VCGI so vendors are aware and can correct for their subsequent submission, ideally without creating significant extra work for either VCGI or vendor. In addition or alternatively, VCGI should work with vendors to potentially update the current VT GIS Parcel Data Standard to be compatible with existing workflows.

Appendix 3: Implement Vermont CAMA Data Standard and Require Submittal to State Considerations

A3.1 Land Use Codes

Vermont Department of Tax [Use of Property Codes](#), updated August 2024:

CATEGORY CODE	CATEGORY
01	Domicile/Principal Residence
02	Non-Principal Residence: Fit for year-round
03	Non-Principal Residence: Not fit for year-round habitation

04	Non-Principal Residence: Long-term rental
05	Commercial
06	Government Use
07	Industrial
08	Open Land
09	Timberland
10	Operating Farm
11	Other

Table 13: Vermont Department of Tax Use of Property Codes. *Use codes could provide sufficient detail for information not currently or widely tracked in CAMA data.*

A3.2 Standardized CAMA schema

The proposed standardized CAMA schema, based on example data from CAMA vendors in Vermont as well as a similar schema being developed in Connecticut, can be viewed [here](#). See ‘PriorityFields_v1’ for fields to standardize first following agreement between VT Department of Tax and all CAMA vendors.

A3.3 Mapping of Unlanded Structures and Common Interest Parcels

Background

Statewide standardized parcel data in Vermont is currently comprised of parcel geometry, the approximate parcel boundary lines drawn as closed multi-sided shapes (parcel polygons) as sourced from municipalities, and parcel attribution from the annual Grand List collected and published by the Tax Department. These two components are joined together by a matching School Property Account Number (SPAN) in the attribute table of the parcel polygons layer and in the Grand List. In most cases each polygon is joined to one Grand List record, but it is not uncommon for more than one Grand List record to be joined to the same polygon. This happens most often with condominiums as they are typically described by their percentage of undivided interest in the common area and facilities rather than discrete boundaries that can be easily represented by polygons. While VCGI has provided some guidance on mapping condominiums per the Vermont GIS Parcel Data Standard, a more comprehensive recommendation for mapping all types of unlanded structures is necessary to improve data quality, clarity, and ease of use.

A.3.3.1 Current Unlanded Structure and Common Interest Parcel Mapping Practices in Vermont

Stacked Method - Recommended

Stacked polygons use a standalone Intersection Table to relate multiple SPANs from the Grand List to the same “placeholder” SPAN assigned to a polygon in the parcel data.

OBJECTID *	GIS_SPAN	GLIST_SPAN	YEAR	TOWN
1	C-12405-46	405-126-13113	2021	MONTPELIER
2	C-12405-46	405-126-13114	2021	MONTPELIER
3	3550	405-126-13115	2021	MONTPELIER
4	3551	405-126-13116	2021	MONTPELIER
5	3552	405-126-13117	2021	MONTPELIER
6	3553	405-126-13118	2021	MONTPELIER
7	3554	405-126-14094	2021	MONTPELIER

Click to add new row

Placeholder SPANs

SPANs found in Grand List

Figure 26: Relationship Between GIS SPAN (Geometry) and Grand List SPAN. In Vermont parcel data, the stacked method is recommended. This method uses a placeholder GIS SPAN in the parcel geometry. In the Intersection Table, the GIS SPAN is listed for all corresponding Grand List SPANs at that parcel.

This method creates identical polygons “stacked” on top of each other, which can be “flattened” to remove all but one polygon for each parcel for analytical purposes. Unlike the building footprints methods, there is no visual distinction between unlanded structures and the common land. Because of this, parcel geometry is simpler to maintain.

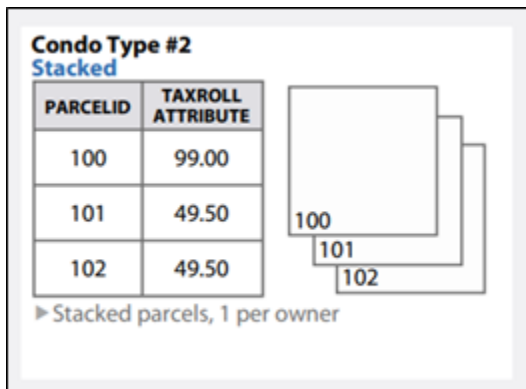


Figure 27: Stacked Method Mapping of Condos. The stacked method depicts multiple owners through parcel stacking; there is no distinction between common land and building footprints (source: Wisconsin Condo Stack Tool Guide).

Pros

- Geometry is easier to maintain when compared to the building footprints methods
- Geometry includes common land to reflect total, calculated acreage and is relatively easy to “flatten” stacked polygons for analysis purposes

Cons

- Requires the creation and maintenance of GIS SPANs in the Intersection Table

Discrete and Distributed Methods

Building footprints are often used to visually distinguish between unlanded structures and the common land, particularly as a paper tax map convention. The difference between the “Distributed” and “Discrete” building footprint methods is whether or not the common land has a SPAN. Per the Vermont GIS Parcel Data Standard, “in some instances, a deed specifies a percentage of common land ownership to each condominium unit and the common land does not have a SPAN number. In other instances, a deed does not allocate the common land, and the common land does have a SPAN number.”

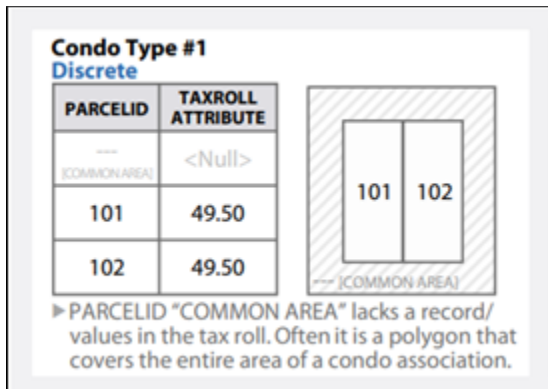


Figure 28: Discrete Method Mapping of Condos. *The discrete method depicts multiple owners through building footprints; common land does not have a SPAN (source: Wisconsin Condo Stack Tool Guide).*

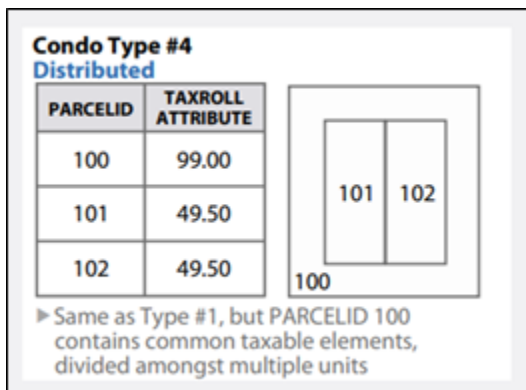


Figure 29: Distributed Method of Mapping Condos. *The distributed method depicts multiple owners through building footprints; common land also has a SPAN (source: Wisconsin Condo Stack Tool Guide).*

Pros

- Creates visual distinction between unlanded structures and common land
- Avoids potential confusion caused by the use of different GIS and Grand List SPANs in the Intersection Table

Cons

- Time intensive to create/maintain individual building footprints geometry

A.3.3.2 Other Unlanded Structures Mapping Practices from Other States

Parcel points are maintained by Dakota County in the State of Minnesota. This data layer is a compilation of tax parcel information, containing one record for each real estate/tax parcel identification number (PIN) within the county. Condominiums are included in this dataset (whereas they are not in the polygons).

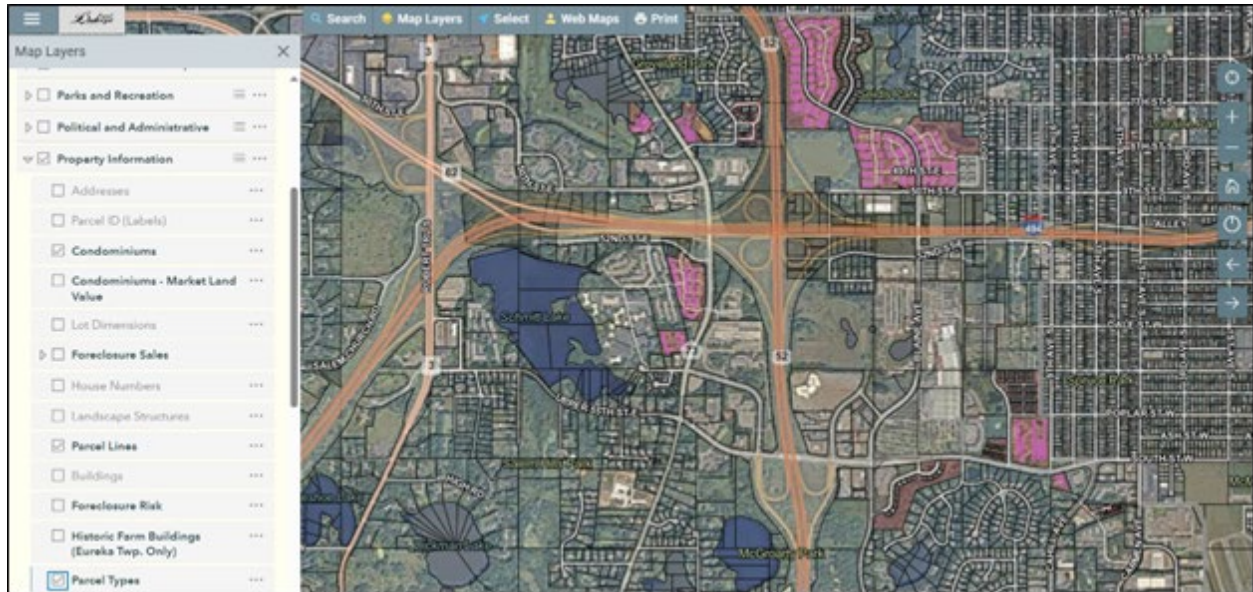


Figure 30: Parcel Points Method Mapping of Condos. While parcel points are not currently maintained or available in Vermont, at least one mapping vendor does manage them for parcels with multiple owners (source: Dakota County, Minnesota).

Pros

- Already practiced by some Vermont municipalities internally
- Creates some visual distinction without subtracting from total, calculated acreage

Cons

- Requires the creation and maintenance of separate geometry layer

A3.4 Example CAMA Submittal Statutes in Other States

Connecticut Sec. 7-100I. Transmission of digital parcel file. Annual report.

Appendix 4: Clarify Right-of-Way Mapping for Tax Purposes Considerations

A4.1 Example ROW Statutes in Other States

Washington RCW 84.36.210 Public right-of-way easements

New Jersey N.J. Admin. Code § 18:23A-1.16 Rights-of-way and easements

Appendix 5: Clarify Grand List vs. GIS Acreage Guidance Considerations

A5.1 Acreage in Common Ownership

A stacked polygon is a group of identical parcel features (polygons) stacked on top of each other with a different grand list record assigned to each. Stacked polygons often represent common ownership parcels like condominiums. [Explore common ownership parcels.](#)

- There are 27,239 grand list records represented as 3,254 stacked polygons statewide
- Stacked polygons account for 200,457 acres (about 3.5% of the total acres attributed to parcels)

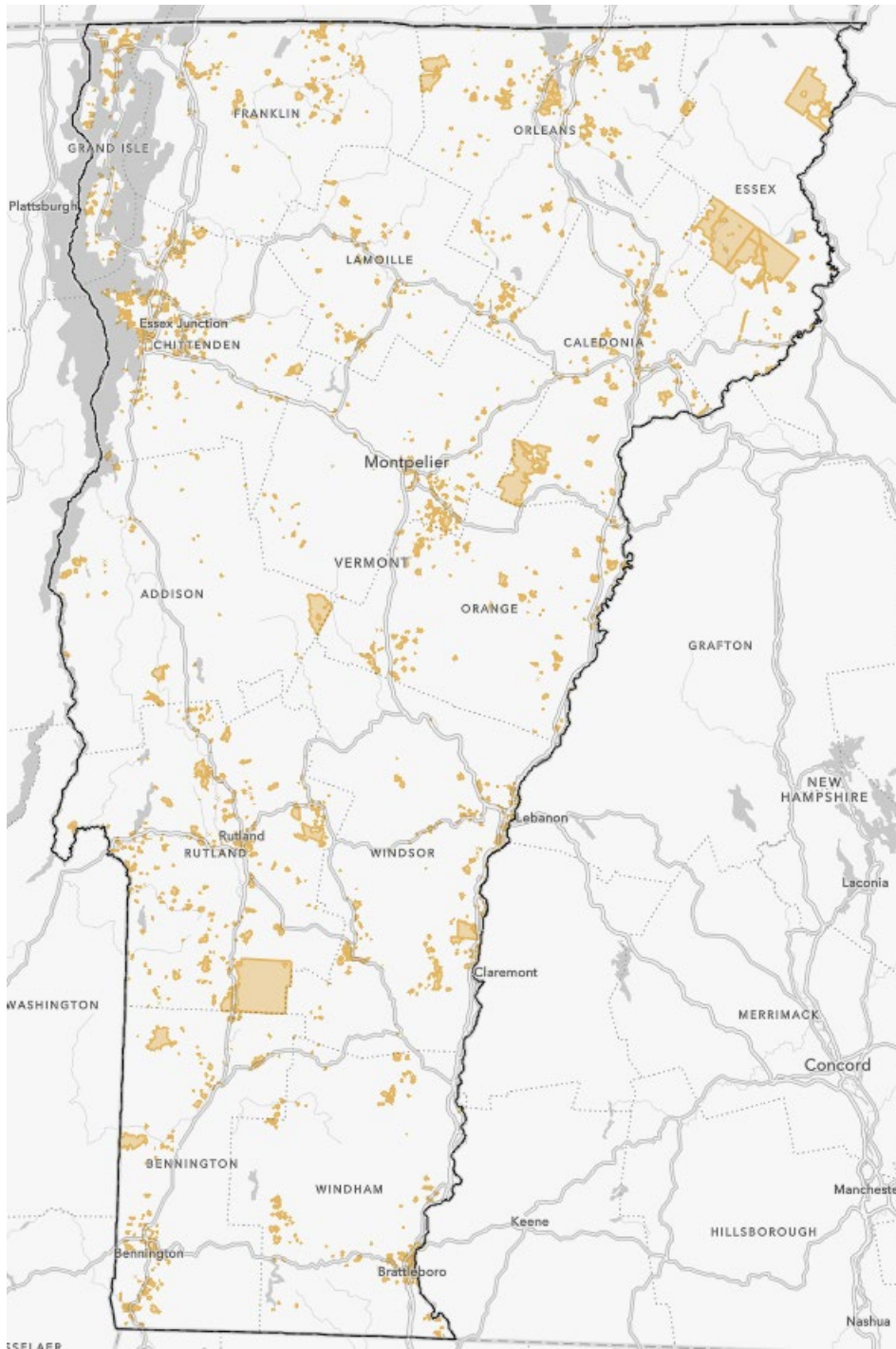


Figure 31: Common Ownership Parcels Statewide. Shaded areas represent stacked parcels.

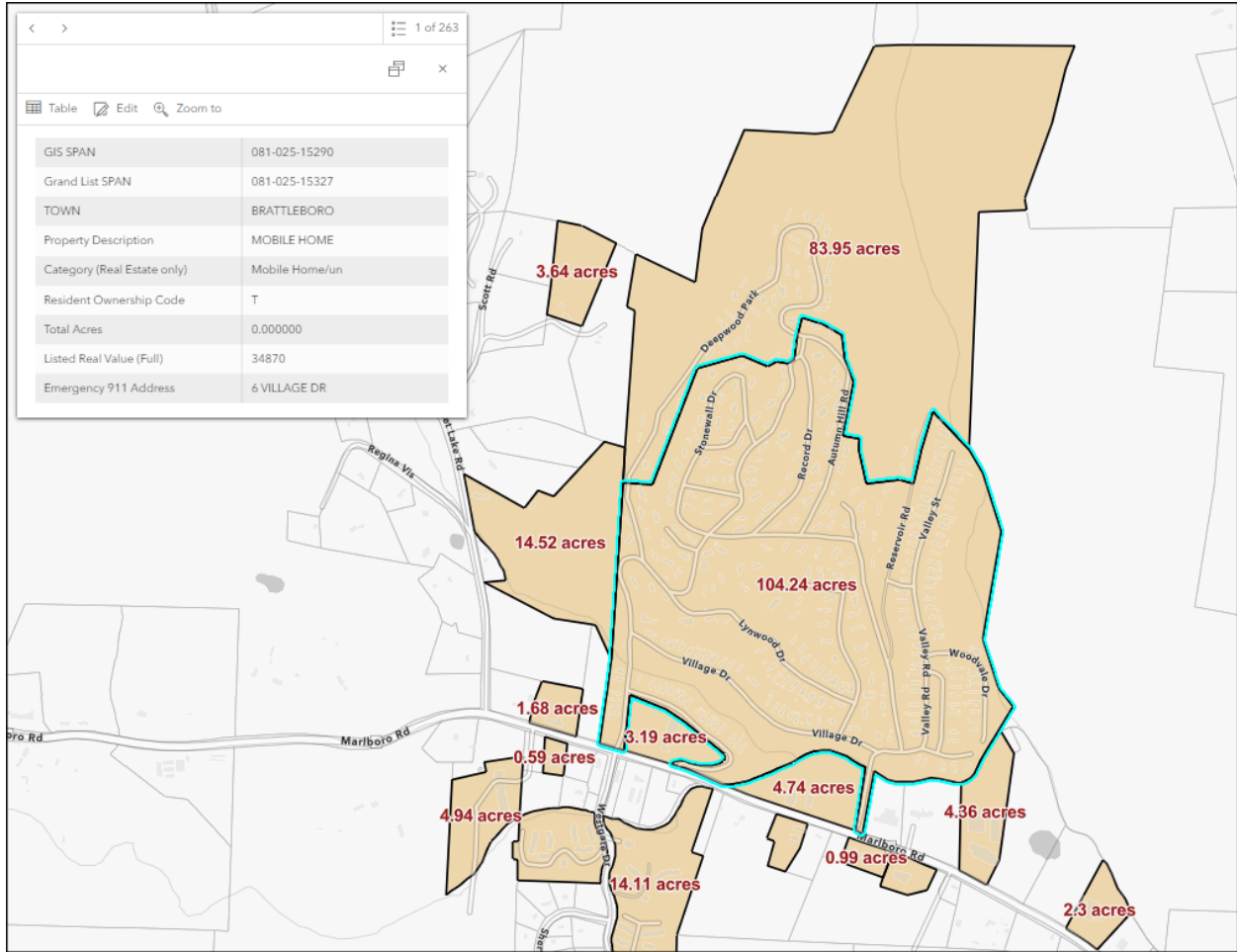


Figure 32: Stacked Parcels in Brattleboro. An example of stacked parcels (shaded) indicating a mobile home park with over 200 unique Grand List SPANs.

A5.2 Acreage within State Boundary

GEOGRAPHY	TOTAL AREA			LAND AREA			WATER AREA		
	Sq. Mi.	Sq. Km.	Acres	Sq. Mi.	Sq. Km.	Acres	Sq.Mi.	Sq. Km.	Acres
Vermont	9,615	24,903	6,153,746	9,217	23,873	5,899,041	398	1,031	254,705
			100%			96%			4%

Table 14: Statewide Total, Land, and Water Area. Areas calculated for the state of Vermont per U.S. Census Bureau's 2022 TIGER/Line Geodatabase File.

Notes:

1. The NIST standard for converting square meters into square miles was used (1 square mile = 2,589,988.110336 square meters).
2. Acres were calculated by multiplying square miles by 640, per conversion factors in the NIST Handbook 44 (2023), Appendix C: General Tables of Units of Measurement.

3. Area measurements are from the Census Bureau's master TIGER database. Land and water classifications reflect updates made to the TIGER database through August 2022. Values reflect the ALAND and AWATER fields. Water measurements include only perennial water. All other water (intermittent, glacier, marsh/swamp) is included in the table as part of land area calculations.



Figure 33: Vermont Land and Water Areas. *Statewide land and water areas as depicted using BNDHASH and NHDPlus HR input layers.*

Appendix C: Principles of a High-Quality Tax System

Act 68 of 2023 requires the recommendations in the Department's report on the Vermont reappraisal system to incorporate the principles of a high-quality tax system as enumerated by the National Conference of State Legislatures.¹ These principles are woven throughout the report in the discussion of specific issues. This Appendix provides a brief overview of the six principles of a high-quality tax system as identified by the National Conference of State Legislatures and illustrates the application of those principles to a reappraisal system.

The National Conference of State Legislatures principles of a high-quality tax system are:

- Reliability
- Equity or fairness
- Simplicity
- Economic competitiveness
- Economic or tax neutrality
- Accountability

Reliability means stability, certainty, sufficiency. Stability refers to taxes that raise relatively constant revenues over time that do not fluctuate unpredictably. Certainty means that tax changes are minimal and made in a way that allows taxpayers to plan for the future. Sufficiency means that revenues are enough to fund the intended policy goals.

With regard to a reappraisal system, a regular schedule that keeps up with market conditions will help reduce swings in the common level of appraisal (CLA) that in turn affect property tax rates. A more robust system requiring more frequent reappraisals will help policymakers, administrators, and taxpayers gain certainty and predictability to plan for the future in terms of expected property tax revenues and payments owed, as well as administering the actual reappraisal process.

Equity means both the ability to pay and **fairness** in the amount of taxes that taxpayers with similar economic circumstances pay. These are referred to as vertical and horizontal equity and are part of a progressive tax system.

With regard to a reappraisal system, inequities in property valuation occur when a town's grand list deviates from fair market value. This happens when fair market values for properties in a town are higher or lower than the most recent property tax appraisal. Addressing this inequity is the reason for the common level of appraisal (CLA). The CLA is a method of ensuring that each town is paying its fair share of education property tax to the State's Education Fund even if its grand list is not at 100% of fair market value. Once the CLA is

determined, it is used to adjust the education property tax rates. It does not change property values; only the education tax rate in a town is adjusted.

Recently, the rapid appreciation in residential properties in Vermont since the COVID pandemic has particularly exacerbated the difference between values for tax purposes and fair market values. This has been further worsened by the dearth of reappraisal firms that are qualified and able to do reappraisals in Vermont. Additionally, municipalities, especially small ones, are challenged to find individuals to serve as listers and assessors to carry out grand list work. Outdated grand lists cause inequity between taxpayers because their properties are valued and thus taxed inconsistently. “[I]nfrequent reappraisals create a system of de facto valuation freezes. Valuation freezes have been known to cause regressive values that impact lower value properties causing them to be overtaxed relative to higher valued properties.” (IAAO Report, p. 11).

Currently, Vermont is the state with the smallest assessment jurisdictions in the country. No other state groups assessment and their appeals from so few parcels and from such small population groups. “The lack of reliable and current sales data becomes increasingly challenging in times of a slow sales market and in the case of unique properties, made even more difficult when a jurisdiction is as small as many are in Vermont.” IAAO report, p. 28. The less sales data, the less reliable a valuation estimate becomes. Creating larger assessment districts would help increase sales data and equity in valuation.

Another way equity is often used, is how individuals from different backgrounds are treated under a tax system. “Assessors are focused on providing fair and equal treatment of all property and property owners. Assessors do not track race but do track values and property characteristics. Racial equity is of course important, but when assessors speak of valuation equity or inequity, they are generally referring to the equal treatment of all property types, classes and value ranges.” (IAAO Report, p. 61).

Simplicity means a tax that is easy to administer for the taxing authority and easy to comply with for taxpayers.

With regard to a reappraisal system, Vermont currently has the smallest assessment jurisdictions in the country. This creates additional complexity and thus inefficiencies in requiring multiple different reappraisals and contracts for a small number of parcels. Creating assessment districts of at least 10,000 parcels would justify creating full-time assessment positions at the assessment district level, thus sharing resources and gaining efficiencies across towns. These positions could be modeled after the assessment structures that are successfully used by some of the larger towns/cities in Vermont with parcel sizes ranging from 5,000-10,000.

Economic competitiveness for a state primarily means interstate competition, not international.

With regard to a reappraisal system, there is a lack of available firms to conduct reappraisal work in Vermont to keep the grand list accurate and equitable. Small Vermont municipalities face a special challenge in hiring reappraisal firms because the relatively small scope of work and the unpredictability of future contracts is not lucrative enough for many firms to take on. In addition to struggling to find reappraisal firms who will even bid on, let alone accept, contract work to conduct reappraisals, many Vermont municipalities struggle to find individuals to serve as listers and assessors for regular grand list maintenance. Creating larger assessment districts that reappraise on a regular cycle will likely attract more reappraisal firms to work in Vermont.

Economic or tax neutrality means that a tax applies generally and does not target particular taxpayers, although certain taxes do this explicitly, such as “sin” taxes like tobacco and cigarette taxes whose express policy intention is to dissuade product use.

With regard to a reappraisal system, the current number of outstanding reappraisal orders reflects the acute challenge municipalities face. At the time of finalizing this report, 135 towns are actively under an order to reappraise their grand lists. Additional reappraisal orders will be issued based on the upcoming results of the 2024 equalization study. There are 60 towns (24%) that had their last reappraisal more than 15 years ago. The average last year of reappraisal in Vermont is 2016. Towns are currently booking reappraisals for calendar years 2026–2029. In the past 10 years, approximately 19 towns on average have completed reappraisals each year. This context is important, because it demonstrates that a large portion of grand lists in Vermont needs updating. Outdated grand lists cause inequity between taxpayers because their properties are valued and thus taxed inconsistently. “[I]nfrequent reappraisals create a system of de facto valuation freezes. Valuation freezes have been known to cause regressive values that impact lower value properties causing them to be overtaxed relative to higher valued properties.” (IAAO Report, p. 11).

Accountability means taxpayers know they are paying taxes, and taxes are evaluated regularly to ensure they meet the intended policy.

With regard to a reappraisal system, the process of a reappraisal is not necessarily well understood by taxpayers. One way to address this lack of familiarity is to ensure more regular reappraisals, such as the six-year cycle enacted by Act 68.

Appendix D: Appeal Structure Research

Purpose and Summary of Research

Act 68 of 2023, Sec. 4(b)(3)(C) required the Department of Taxes to study other State administrative appeal structures and to incorporate the strengths and advantages of those appeal structures into the Department's recommendation to the General Assembly on creating a statewide reappraisal appeal structure. The Department's research was focused on the other Vermont administrative appeal structures that have a statewide presence: the Vermont Agency of Human Services, the District Environmental Commissions, the Vermont Department of Labor, and the Vermont Agency of Transportation.

The Department also researched several other New England states' property valuation appeals structures, including Maine, Massachusetts, New Hampshire, and Rhode Island. Generally, most New England states, including Vermont, allow a first level of appeal at the municipal level. The biggest difference between Vermont and other states throughout the country is that Vermont does not have highly developed county-level governance. Most other states in the country set property values and hear appeals at the county level. Other states do not have appeal structures or requirements that are specific to reappraisals.

Vermont Administrative Appeals Structures

A handful of Vermont entities with organized appeal processes at the State level were researched: the Vermont Agency of Human Services, the District Environmental Commissions, the Vermont Department of Labor, and the Vermont Agency of Transportation.

Agency of Human Services Appeals

- If dissatisfied with the Department's decision on a matter, one may file an internal appeal.
- Only after an internal appeal, can one request a "fair hearing" in front of the Human Services Board (the "Board") de novo.
 - The Board is a citizen's panel consisting of 7 members created by the Legislature pursuant to 3 V.S.A. § 3090. Its duties are to act as a fair hearing board for appeals brought by individuals who are aggrieved by decisions or policies of departments and programs within the Agency of Human Services.
 - The Board has two hearing officers who conduct hearings on a regular basis in each district in which the Agency of Human Services maintains offices. The

hearing officers issue written recommendations that include findings of fact and a proposed decision for the Board to act upon.

- The Board meets monthly to consider those recommendations.
- Parties to an appeal can attend the Board meetings and argue whether the Board should or should not adopt the hearing officers' recommendations.
- The Board's Hearing Officers are bound by Vermont's General Rule for Executive Branch Administrative Hearing Officers.
- The Board's decision may be appealed to the **Vermont Supreme Court**.

Environmental Appeals (i.e., Act 250)

- There are nine District Environmental Commissions, each composed of a chair, two members, and four alternates. The District Environmental Commissions are responsible for assuring that developments or subdivisions comply with Act 250's ten criteria.
- Districts' findings, conclusions, and jurisdictional opinions may be appealed to a **District Commission**.
 - Parties must have participated in an appeal at the District Commission level to further appeal their case (unless the appeal is a party status denial).
- Appeals of a District Commission and a District Coordinator are heard by the **Vermont Superior Court – Environmental Division**. These hearings are **de novo**.
 - The **Natural Resources Board (NRB)** consists of a full-time Chair, four citizen volunteer members, and up to five alternates.
 - The NRB's primary function is to administer Act 250. This includes supporting the District Environmental Commissions, procedural and substantive rulemaking, and participation in Act 250 appeals and enforcement matters before the Environmental Division of the Superior Court.
- Appeals from rulings by the Vermont Superior Court – Environmental Division are made to the **Vermont Supreme Court**.

Department of Labor Appeals (i.e., Unemployment Insurance)

- Appeal to an **Administrative Law Judge**; this level of appeal is reviewed **de novo**.

- An appellant may appeal the Admin. Law Judge’s decision to the **Employment Security Board**.
 - This Board generally reviews only the record created by the administrative law judge and does not accept new testimony. The Employment Security Board will schedule a hearing, which is conducted in person, and only in Montpelier.
 - The Board will review the hearing transcript and all documents entered into the record before the administrative law judge. The Board can sustain, modify, or reverse the decision of the administrative law judge, or in some cases will remand the case for further hearings.
 - The Board will make its decision and issue it in writing.
- The party may appeal the Board’s decision to the **Vermont Supreme Court**.

Agency of Transportation Appeals

- AOT decisions may be appealed to an **Administrative Law Judge**. This level of appeal is **de novo**.
- If unsuccessful in the administrative law proceeding, one may appeal the decision to the **Vermont Superior Court – Civil Division**.
- An unsuccessful party may further appeal their case to the **Vermont Supreme Court**.

Other States’ Appeal Structures

Maine

1. A taxpayer can request an informal valuation review with the municipal assessor’s office.
2. File a formal valuation appeal (“Application for Abatement of Value”) with the municipal assessor’s office (within 185 days from the municipality’s commitment date; the commitment date usually occurs about the time that tax bills are first mailed for the tax year). 36 MRS § 841.
3. Assessor must grant or deny the abatement request within 60 days, or it is deemed denied. 36 MRS § 843.
4. Taxpayer can appeal abatement decision to:
 - a. Local board of assessment review. 36 MRS § 843.
 - b. If a municipality does not have a board of assessment review, appeals go to the county commissioners. 36 MRS § 844. County commissioners are elected in each county to oversee county operations. 30-A MRS Chapter 1, Subchapter 2.

- c. If the property is nonresidential with a value of \$1,000,000 or greater, the applicant can appeal from local board of assessment to State Board of Property Tax Review. 36 MRS Chapter 101, Subchapter 2-A, and §§ 843, 844.
 - i. **State Board of Property Tax Review** has **15 members** appointed by the Governor for terms of 3 years with membership equally divided among attorneys, real estate brokers or appraisers, engineers, assessors who are certified by the State Tax Assessor to perform assessing functions. At least one vacancy of a public member must be filled by a member of the public with expertise in taxation, finance or property valuation matters. 36 MRS §§ 311, 271(1).
 - ii. Statutory **compensation** is **\$75/day** of serving on an appeal panel, not counting time spent preparing for a case. 5 MRS § 12004-B(6) and 36 MRS § 271(6).
 - iii. State Board of Property Tax Review also hears appeals by any municipality aggrieved by the Bureau of Revenue Services' determination of equalized or adjusted equalized valuation or failure to meet minimum assessing standards. 36 MRS §§ 272, 272-A.
5. Either party can appeal from the local board of assessment review, county commissioners, or State Board of Property Tax Review to Superior Court. 36 MRS §§ 843, 844.
6. Appeals from Superior Court go to the Maine Supreme Court.

No apparent appeal requirements specific to reappraisals. An informal meeting between the property owner and assessor appears to be a common practice.

Massachusetts

1. File abatement request with a municipality's board of assessors on the approved form on or before the due date for payment of the first installment of the actual tax bill. See G.L. c. 59, § 59.
2. Assessors have three months to act on an abatement application or it is deemed denied. See G.L. c. 59, § 64.
3. Taxpayer can appeal within three months to the **Massachusetts Appellate Tax Board** ("ATB"), which is a **5-member board** appointed by the governor to conduct hearings and render decisions on appeals of all types of state and local taxes, including property tax (both real estate and personal property), corporate excise, individual income tax, sales and use tax, and automobile and other excises. See G.L. c. 58A, G.L. c. 59, § 64 and G.L. c. 59, § 65. Taxpayers may elect to file an ATB appeal under either the formal procedure (G.L. c. 58A, § 7) or the informal procedure (G.L. c. 58A, § 7A). The filing fee is the same, and both procedures guarantee a hearing between taxpayers and assessors before an ATB Commissioner.

- a. Informal Procedure – In the informal procedure, the ATB may eliminate formal rules of pleading, practice, and evidence, and every effort is made to reduce the expense associated with the appeals process. Neither party may file, or be made to answer, formal discovery requests like interrogatories, document requests, and requests for admission. In the informal procedure, all rights of appeal from the ATB’s decision are waived by both parties, except in very limited circumstances. Most taxpayers filing appeals concerning single-family homes file under the informal procedure.
 - b. Formal Procedure – Appeals from the formal procedure go to the Massachusetts Appeals Court. See G.L. c. 58A, § 7.
 - c. **Compensation** – Membership on the ATB is **full-time** and compensated as follows:
 - i. ATB chair: 75% of salary received by the chief justice of the trial court (as of December 2024: (75% of) \$220,160); and
 - ii. Every other member of ATB: 75% of salary received by an associate justice of the trial court for the board (as of December 2024: (75% of) \$207,855). G.L. c. 58A, § 1, G.L. c. 211B, § 4.
 - d. Evaluation – Members are subject to an annual written performance evaluation. G.L. c. 58A, § 1.
4. Final appeal is to the Supreme Judicial Court. Mass.R.A.P. 27.1.

Every fifth year, the commissioner shall certify as to whether the board of assessors is assessing property at full and fair cash valuation. 40:56 58:1 58:1A 58:3 59:2A 59:38 acts 2016 218. All

communities are required to undertake a public disclosure program of all real and personal property valuations prior to receiving final certification. The assessors must provide adequate opportunity, either during or after regular office hours, for taxpayers to make telephone or office inquiries regarding the proposed new values. If the assessors conducted a full revaluation program, which includes a full recollection of all property data and the development of a new valuation system, they are required to send impact notices to all taxpayers and must hold informal hearings. See: [Division of Local Services Gateway](#).

New Hampshire

1. File abatement application with the municipality (by March 1 following the notice of tax). RSA 76:16(I)(a).
2. Municipality has until July 1 to grant or deny the abatement request or it is deemed denied. RSA 76-16(II).
3. Taxpayer can appeal abatement decision to:
 - a. **Board of Tax Appeals**, RSA 76:16-a(I), which consists of **3 full-time board members**, appointed by the Supreme Court, who are “learned and experienced

- in questions of taxation or of real estate valuation and appraisal” (see RSA 71-B) and compensated an annual salary and reasonable expenses, including transportation (statutory annual salary as of December 2024: \$72,930-\$101,490 (see, RSA 71-B:4 and 94:1-a)), or
- b. Superior Court, RSA 76-17.
4. Appeals from both the BTA and superior court go to the New Hampshire Supreme Court. RSA 76:16-a(V).

The New Hampshire Constitution and statute (RSA 75:8-a) require revaluations at least as often as every five years. As part of the revaluation process, there is an informal review process where the taxpayer and assessor meet one-on-one to review/correct the initially determined assessment information.

Rhode Island

1. Notice of Intention to Bring in an Account – Each year that an owner wishes to appeal the property assessment, the owner must submit a sworn account identifying the subject property and stating its value as of December 31st of the preceding year. Due on or before January 31. RI Gen. Laws § 44-5-15.
2. Filing an Account – Provided that a Notice of Intention to Bring in an Account has been filed prior to January 31st, an account stating under oath the accurate value of the property is due between March 1 and March 15 in accordance with RI Gen. Laws § 44-5-16. Failure to file an account each year bars a claim in that year challenging the assessment in all but a few scenarios.
3. Filing tax appeal with local tax assessor – A tax appeal must be filed with the tax assessor within 90 days of the deadline for the first quarterly tax payment (Late Summer/Early Fall). Failure to file a timely appeal bars any further relief. RI Gen. Laws § 44-5-26.
4. Appeals of Tax Assessor’s Decision – Thirty days after an adverse decision from the tax assessor, the aggrieved owner must file an appeal with the **local board of tax review**. RI Gen. Laws § 44-5-26.
5. Within thirty days after the board’s decision, an appeal in the form of a complaint must be filed with the **Rhode Island Superior Court**. RI Gen. Laws § 44-5-26.

Per RI Gen. Laws § 44-5-11.6, cities and towns are required to perform a statistical update every third and sixth year and a full property revaluation every nine years. Upon completion of an update, each city or town shall provide for a hearing and/or appeal process for any aggrieved person to address any issue that arose during the update. RI Gen. Laws § 44-5-11.6(b). After all of the informal hearings are conducted and changes made, the assessor’s office will certify the tax roll and mail tax bills. Taxpayers who still disagree with their values may file a formal appeal with the Tax Assessor (see step 3, above).