

# Maryland Residential Vacant Land Valuation: Is Baltimore an Outlier?

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## Executive Summary

In 2025, the Center for Land Economics published Vacant Land in Baltimore: The High Cost of Undervaluation, documenting a severe and systematic undervaluation of residential vacant land in Baltimore City by the Maryland State Department of Assessments and Taxation (SDAT). That report showed that prime vacant lots in Baltimore routinely sold for many multiples of their assessed value, distorting incentives, encouraging speculative land banking, and undermining the city's stated goals of neighborhood revitalization.

This follow-up report asks a narrower but critical question:

### **Is chronic residential vacant land undervaluation a statewide problem in Maryland, or is it largely confined to Baltimore City?**

Using similar data sources and statistical tests as the original Baltimore report, we evaluated vacant land assessments across every Maryland county. Because this analysis was designed to scale statewide, it applies a slightly different validation process than the original Baltimore report. The results are unambiguous:

- Baltimore City is a dramatic outlier in residential vacant land assessments.
- Most other Maryland counties show assessment performance broadly in line with national norms.
- While no jurisdiction is perfect, none exhibit the persistent, extreme undervaluation observed in Baltimore. We note certain counties with room for improvement.
- SDAT has already begun a targeted initiative to correct vacant land assessments in Baltimore City, directly addressing the issues raised in our earlier work.

These findings support a hopeful conclusion:

**Residential vacant land undervaluation is not an intractable, statewide problem.** It is a local problem to Baltimore city, is entirely fixable, and is already being fixed.

# 1. Background

Our 2025 Baltimore report documented three interrelated failures in vacant land valuation:

1. **Systematic undervaluation** of residential vacant land relative to observed market sales.
2. **Large disparities** between the assessed land value of residential vacant lots and immediately adjacent improved parcels.
3. **Perverse incentives** that reward holding land vacant rather than developing it.

In our last report, using validated arm's-length sales of prime vacant lots, we found:

- Residential vacant lots sold after valuation typically sold for **8.3× their assessed value**.
- Residential vacant lots sold before valuation still sold for **2.8× their assessed value**.

These patterns were statistically robust and pervasive across Baltimore neighborhoods, suggesting a structural issue rather than isolated errors. Given the scale of the problem in Baltimore, a natural follow-up question emerged from policymakers, advocates, and assessors alike:

*Is Baltimore simply the most visible example of a broader statewide problem?*

This follow-up report is restricted solely to an analysis of median sales ratios of residential vacant land.

There may be other issues, but they are beyond the scope of this report. Examples include a statewide analysis of land valuations of vacant lots side-by-side with improved lots, as well as analysis of non-residential land valuation, such as commercial or industrial land. This report does not touch on these.

## 2. Research Methodology

### 2.1 Sourcing

First, we obtained a dataset of sales transactions and parcel characteristics from Maryland's [Open Data Portal](#). We supplemented this with data obtained from [REGRID](#) through an ongoing research partnership with the Center for Land Economics.

We relied primarily on the official Maryland data, and used REGRID to add a few additional characteristics, primarily land use details.

Notably, this data was sourced in November of 2025, prior to any recent activity by SDAT, so it does not reflect any improvements or corrections they have made for 2026 revaluations.

### 2.2 Cleaning

We loaded and cleaned the data using [OpenAVMKit](#), an open-source library maintained by the Center for Land Economics, performing the following tasks:

- Created chief dataframes:
  - "Sales" dataframe, representing parcel transactions, allowing repeat sales transactions for the same parcel, and giving each transaction a unique transaction ID. Loaded sale price, sale date, deed book & page, and conveyance code (which indicates the type & manner of the sale). Each sale transaction ID is composed of the county name, the parcel ID, and the date of sale.
  - "Parcel universe" dataframe, representing each parcel in its current state, with each parcel given a unique parcel ID. Loaded all available parcel characteristics, such as building size, land size, building age, land use, etc. Each parcel ID is prepended by the name of the county to avoid confusion.
- Deduplication: checked for duplicate transaction IDs in the "sales" dataframe and duplicate parcel IDs in the "parcel universe" dataframe and eliminated them.

## 2.3 Parcel Tagging

We tagged each parcel with its proper “model group” – such as residential, commercial, etc. Our analysis only used parcels tagged as “residential,” which we define as parcels having a land use code of “Residential” or “Town House”. (Our land use code comes from the “DESCLU” field).

Sales validation proceeded through several steps.

### **Step 1: Use assessor’s codes**

We loaded the assessor’s codes to make initial judgments for three sale conditions: *valid sale*, *vacant sale*, and *multi-parcel sale*. All sales that were not initially marked as a *valid sale* were automatically excluded, and the remainder were subjected to further scrutiny. Sales purported to have been vacant lots at the time of sale were marked as *vacant sale*, and were the chief focus of our analysis. Parcels sold together in a single transaction alongside other parcels were marked as *multi-parcel sale*; these were specially flagged because they often turned out to be anomalous or misclassified and were later excluded. These three sales conditions were derived depending on the value of the transaction conveyance field, whose name is “CONVEY1”.

- *Valid sale*: “1”, “2”, or “3”
- *Multi-parcel sale*: “3”
- *Vacant sale*: “2”

### **Step 2: Apply our rules**

After we ingested initial validation codes from the assessor, we applied our own logic:

- Excluded all vacant sales whose price was less than or equal to \$5000 (for such low values, the sale price itself was often nominal, and the transaction not arms-length)
- Exclude sales for properties that were almost certainly for garages or parking spaces:
  - Identified as parcels with less than 400 square feet of land and an assessed total market value less than 1000. This heuristic was confirmed as reliable by manual inspection.

### **Step 3: Manual inspection of outliers**

Additionally, we identified suspicious sales by going through the entire map of Maryland's vacant sales by hand and visually looking for spatial anomalies. Any suspicious sales were manually investigated, and only excluded if a clear disqualifying condition could be identified.

The most common type of invalid sale we identified in this manner were "predeveloped lots" – sales of lots that were genuinely vacant at time of sale, but whose listed transaction price included money earmarked for the construction of a soon-to-be-built home on that site. The typical pattern for this kind of vacant sale was a vacant lot that sold for the same price level as a nearby sale for a brand new house. In some cases these vacant sales already had brand new houses built on the site within a year of the sale, and in other cases these sales were found in rapidly developing neighborhoods where many houses were being constructed and sold.

These sales are coded by SDAT as "vacant sales," but the transaction price does not represent site value. They should be properly treated as sales of improved property, and excluded from direct land valuation analysis.

### **Step 4: Algorithmic sales scrutiny**

We next applied algorithms to detect anomalous sales. A more lengthy treatment of our method is described in the article [Amateurs Talk Algorithms, Professionals Talk Data Cleaning](#).

We employed two different approaches:

1) Cluster-based analysis

We divide all sales into homogenous clusters, where the location and physical characteristics of all parcels were as similar as possible, then calculated median price/built sqft of improved property and median price/land sqft of vacant property. We naturally expected the selling prices of similarly-located, physically similar properties to be similar, so any time a price stuck out, we investigated it to see if there was an obvious cause for exclusion, such as incorrect characteristics, or non-arms length circumstances.

2) Heuristics-based analysis

- a. Flagged sales with identical deed/book/page AND identical sale dates. These were often multi-parcel sales that have been improperly classified.
- b. Flagged sales from the same county, transacted on the same date for the exact same price. These were often either duplicate sales, or multi-parcel sales that had been improperly classified as single-parcel sales.
- c. Flagged alleged “vacant sales” that had buildings on them which were older than the date of sale. These were often sales that were actually improved at time of sale, but were misclassified as vacant at time of sale.

Finally, we manually flagged sales as invalid or anomalous after direct inspection of the parcel and its transaction metadata. Besides the aforementioned categories, other types of non-representative “vacant” sales we removed included: boat mooring parcels, parcels cut in half by a county border, irregularly shaped parcels not typical of buildable lots, and misclassified sales.

**NOTE:** *We aggressively excluded all flagged sales because we want to be as fair as possible to the assessor, and ensure that we are not comparing land valuations to anomalous or potentially misclassified vacant sales. Due to these exclusions, we do not expect perfect correspondence between the results of this report and the previous one.*

## 3. Statewide Results

### 3.1 Median Assessment Ratios

A standard measure of assessment accuracy is the assessment to sale price ratio, or ASR. This is the assessed value divided by the sale price. An ASR of 1.0 indicates perfect alignment with market value, an ASR greater than 1.0 indicates overvaluation, and an ASR below 1.0 indicates undervaluation.

*NOTE: In our previous report we used the reverse ratio, sale price to assessment, or SAR, where SAR greater than 1.0 indicates undervaluation, and SAR below 1.0 indicates overvaluation.*

If we plot the median ASR values for vacant sales in all Maryland counties on a bar chart, we get the following results. Values above the red line represent overvaluation, and values below the red line indicate undervaluation.

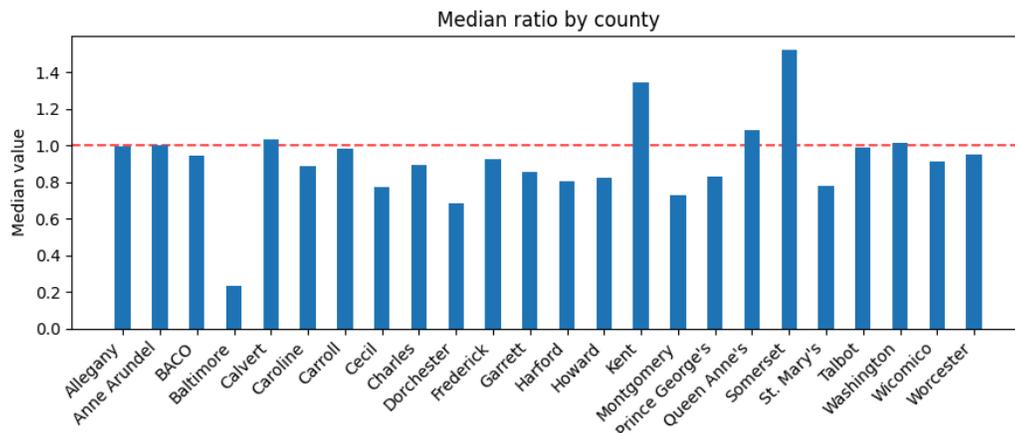


Figure 1: Median ASR ratio by county

With a few exceptions, most counties err on the side of moderate undervaluation. None, however, come anywhere close to Baltimore city’s median ASR of 0.23.

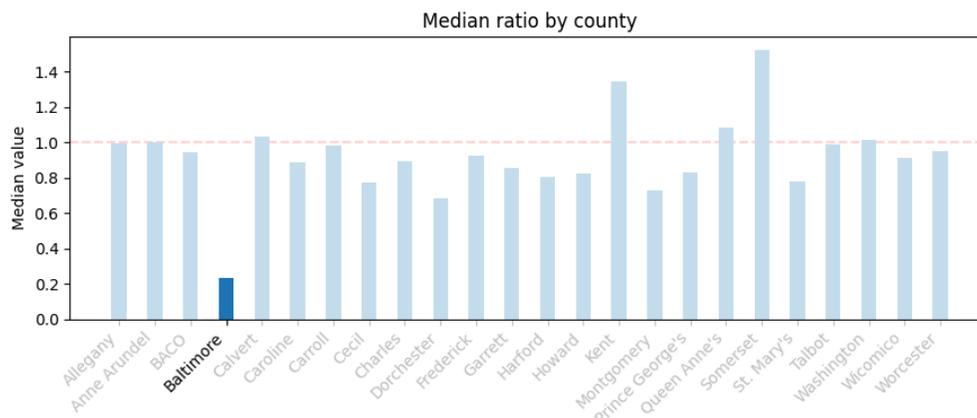


Figure 2: Median ASR ratio by county (Baltimore highlighted)

Baltimore city’s vacant land undervaluation stands apart. The four other jurisdictions with the most undervalued land are Dorchester (0.69), Montgomery (0.73), Cecil (0.77), and St. Mary’s (0.78). Two counties actually over-value vacant land somewhat: Kent (1.35) and Somerset (1.52). Notably, Baltimore county (BACO on the chart) has no problem with undervaluation, given its median ratio of 0.94.

### 3.2 Checking for Sales Chasing

A common cause of inconsistent valuations is a practice known as “sales chasing,” which is when an assessor simply copies the observed sales price of a parcel and writes that down as the valuation. This is easy to do for properties where the assessor can see the sale, but leaves them vulnerable to large valuation misses on properties that haven’t sold (which is most properties). In cases of pervasive sales chasing, we expect to see very good (or even perfect) ASR values on sales that happened *before* the assessor turned in their values, but poor predictive performance on sales that happened *after*, because the assessor had no prior knowledge of their sale price.

We can test for this directly by observing the ASR of properties that sold before and after the valuation date. If the ASR's of properties that sold before and after the valuation date are significantly different, that could indicate sales chasing.

In the following graph, the blue bar represents the median ratio for properties sold before valuation, and orange those that sold after. With a few notable exceptions, the two bars look similar for most jurisdictions.

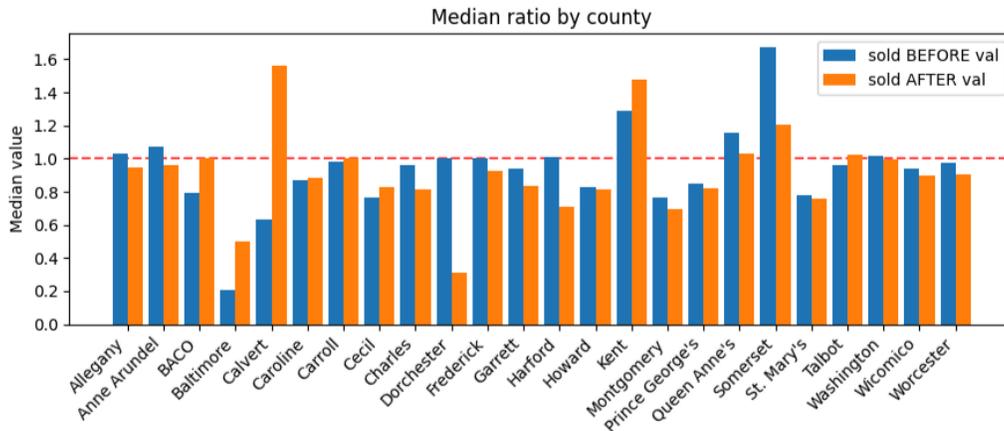


Figure 3: Median ASR ratio by county before and after valuation date

For context, the following graph provides the number of vacant sales for each county. The results for any county with less than 25 vacant sales should be taken with a grain of salt due to low sample size:

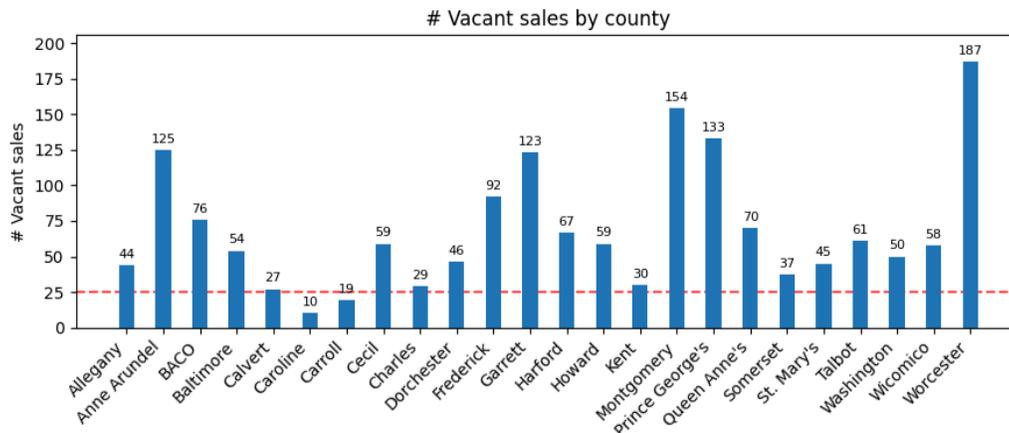


Figure 4: Number of vacant sales for analysis

If we focus on Baltimore city, we see that no other county exhibits consistent undervaluation for *both* the before and after bars, indicating true chronic under-valuation:

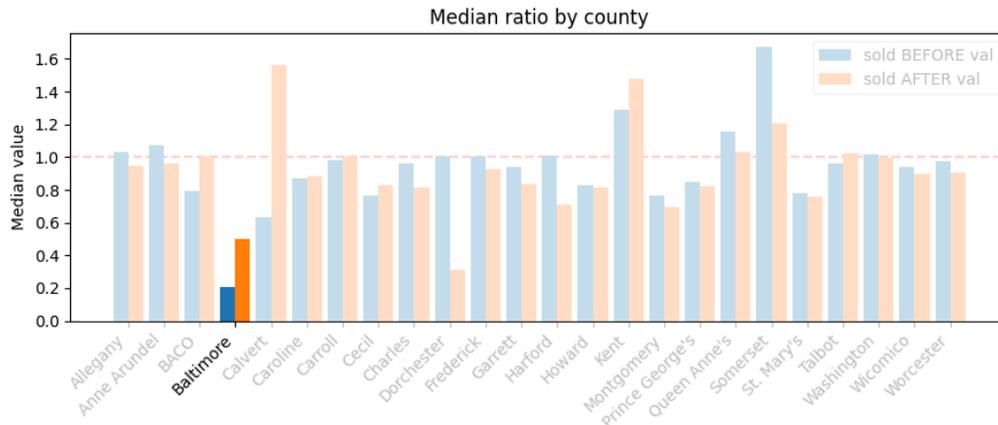


Figure 3: Median ASR ratio by county before and after valuation date (Baltimore highlighted)

The county of Dorchester provides a useful contrast here, as the jurisdiction with the second-most undervalued land. By breaking out the median ratios separately for properties sold before and after valuation, we see that the median sales ratio for properties sold before valuation is fine, it's only after valuation that it drops:

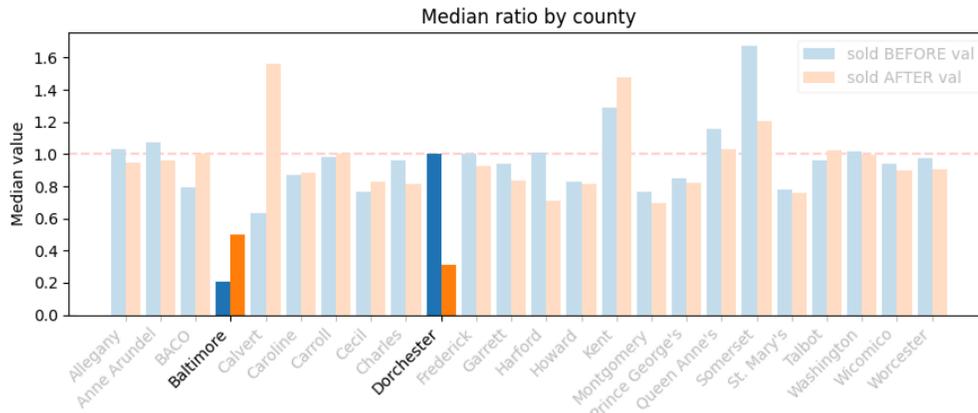


Figure 3: Median ASR ratio by county before and after valuation date (Baltimore & Dorchester highlighted)

With 46 vacant land sales within the study period, it's unlikely to be an artifact of small sample size and may suggest some degree of "sales-chasing" vacant land in Dorchester county. If so, SDAT could improve results in Dorchester by making sure that vacant properties that haven't sold are being valued in a manner consistent with those that have.

While sales-chasing could account for Dorchester’s low-ish land valuations, it can’t fully explain Baltimore city’s, because vacant land in Baltimore remained significantly under valued both before and after the valuation date.

The before/after analysis reveals a few other discrepancies – Kent and Somerset, the two counties that were consistently over-valuing land, also show notable differences in median ratio before and after valuation. Calvert shows a very large discrepancy. Besides the aforementioned Dorchester, the rest of the counties are unremarkable.

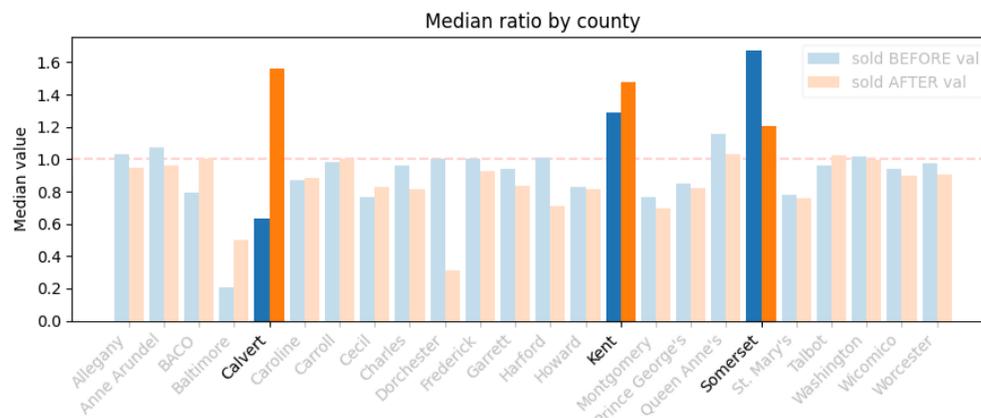


Figure 3: Median ASR ratio by county before and after valuation date (Calvert, Kent, & Somerset) highlighted)

It is worth noting that although Calvert, Kent, and Somerset are all above the 25 vacant sale threshold, they still have low sample sizes overall (37, 30, and 37 parcels, respectively). This could partially account for the inconsistencies, but SDAT should still review vacant land valuation in these counties just to be safe.

Key findings:

- Baltimore City’s median ASR for vacant land sold *before* valuation is approximately **0.20**.
- For vacant land sold *after* valuation, the median ASR rises to about **0.50**, but remains deeply undervalued.
- No other county exhibits sustained undervaluation across *both* time windows.

In plain terms: **vacant land in Baltimore routinely sells for two to five times its assessed value, even when SDAT has no prior knowledge of the sale.**

## 4. Discussion

The statewide comparison reinforces an important conclusion from our original report:

Baltimore city's specific problems with residential vacant land valuation are not caused by Maryland law, statewide policy, or inherent flaws in mass appraisal.

Instead, it reflects a **localized breakdown** driven by:

- Valuations not based on market evidence
- Poor sales validation for vacant land
- Data quality gaps in building characteristics
- Administrative challenges unique to Baltimore City

Other Maryland counties, all subject to the same statutory framework, do not experience the same outcomes. Even where discrepancies exist, none come close to what was seen in Baltimore.

Since the publication of *Vacant Land in Baltimore*, SDAT has publicly acknowledged the issue and launched a **targeted corrective initiative** focused specifically on Baltimore City. In August 2025, SDAT announced a pilot program to address the undervaluation issues in Baltimore. This response is significant for two reasons:

1. It confirms that the problem is real and localized, not theoretical.
2. It demonstrates that institutional correction is both possible and already in motion.

Our report confirms that, while SDAT should continue to address sales validation and data quality gaps across the state, the problem of severe residential vacant land undervaluation may be unique to Baltimore city.

# Conclusion

The evidence suggests the following takeaways for SDAT and Maryland stakeholders alike:

- Chronic residential vacant land undervaluation is not a statewide norm.
- Baltimore City is a clear outlier in both magnitude and persistence of vacant land undervaluation.
- Baltimore City's problem stems from correctable administrative and data issues, not structural impossibilities.
- SDAT has already begun addressing these shortcomings.
- A renewed focus on basic practices such as sales validation and data collection, along with regular ratio studies and map reviews, should help to shore up remaining issues.

Baltimore's residential vacant land valuation problem is serious, but it is also fixable. Other Maryland jurisdictions demonstrate that fair, consistent, market-aligned land valuation is achievable today, under existing law, with existing tools.

**The task ahead is not to invent a new system, but to finish implementing one that is already working elsewhere in the state.**