2025 Virginia House of Delegates Projections Post-Election Report

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Note and disclaimer:

- Throughout this report, ‘accuracy by result’ refers to correctly predicting the winning party, and ‘accuracy by margin’ refers to predicting the final margin within an absolute value of 2.5 percentage points
- Just like the original report, I’ve analyzed the results of the model in a non-partisan manner and have put aside any biases which could possibly hinder an apolitical analysis of the model
- Any figure, such as R+n% or D+n% means “Republican candidate(s) winning by an n% margin” and “Democratic candidate(s) winning by n%” respectively
- All citations regarding district-by-district statistics, including partisan voting and district education make-up, can be found at “https://github.com/krishna-on-gh/2025predictions” in the “*2025 Projections Bibliography Document.pdf*” document

Accuracy of the Excel Predictive Analytics Model:

On election night, the "VAHoD 2025 Data Project" Excel model had a ***91% accuracy rate*** of all 22 elections that were analyzed. Of the 15 specific elections which were picked in order to write the "2025 VA HoD Projections Summary" document, 13 out of 15, or ***86.67% of the elections, were accurately analyzed and projected***. For the entire model, the mean margin miss was 2.46% and the median miss was 2.35%, which is a respectable 0.11% delta between the mean and median. In 15 of the 22 elections which were specifically analyzed and projected, the delta between the mean and median was narrowed to 0.05%, with the mean miss being 2.40% and the median yet again being 2.35%. In modern U.S. elections, high-quality polls generally report sampling margins of error around 3–4 percentage points, making my model's 2.4 - 2.46% average miss comparable to or mildly better than the typical polling error [1]. Taking into account these numbers, the number of races accurately projected by margin (within 2.5% of the final result) was a stunning ***55-56%***. This means that not only was the formula over 86-91% correct in predicting the end result of each election, but it was also 55-56% correct in predicting each election by the margin (within 2.5%). Using a formula for a Z-Score method, the percentage of ***outlier predictions*** in the end came to be roughly ***9.09%*** of the entire model, which all things considered, is not too bad and is within a relatively acceptable range.

Where errors took place, and where there's room for improvement:

As much as the model had some very impressive feats on election night, there were also some things that ended up going wrong, for a variety of reasons. First, the top ticket gubernatorial margin, which was an Abigail Spanberger win by a 12.27% margin, was off by nearly 3.09%. Like I had noted in the "2025 VA HoD Projections Methodology," had I weighed AtlasIntel's party identification modelling, in their final 2025 Virginia poll, to a 2017-like environment according to exit polls, I would've only been off by a margin of roughly 0.68% (projected margin of D+16.04% vs. actual margin of D+15.36%). Had I gone forward with this conclusion, my model's accuracy by projection would've gone up from 91% to a whopping 95.5%. However, there also would've been a cost, with accuracy by margin going from 55% to 32%. This drastic decrease in accuracy of margin can be attributed to one main takeaway: <u>It's likely smarter to weigh each result to the overall political environment, which would be most ideally measured by the margin of victory for a political party at the legislative election level</u>. For instance, for the 2025 election cycle, trying to estimate the swing from the 2021 HoD margin (calculated to roughly R+3% accounting for unopposed races) to the 2025 HoD margin (D+11.96% if I weighed AtlasIntel's D vs. R midterm poll to the 2017 VA electorate), that would've yielded a swing of about 14.96%. In the end, using this methodology, the model

would've been 100% correct in projection by result, and would've kept the accuracy rate by margin the same, at 54.5%.

Sub-analysis of the margin misses:

Another interesting thing to note is that for the two elections that I hadn't predicted properly, they were both districts that Donald Trump won by less than 2% in 2024. If I had removed incumbency advantage for each of these Republicans in seats that Trump won by less than 4% in 2024, the projected results would've been a bit closer to the final results. Going back in the model and reexamining the statistics, the seats that were missed by more than the median miss of 2.35% tended to be over 40% college educated, while the more accurate predictions under the 2.35% median had a 35-37% college educated adult population. The working hypothesis based on this data is that districts with higher college educated populations tend to not conform to political environmental swings as easily as relatively less college educated districts. The final takeaway from all of this is that going forward, the smarter choice would be to weight election results between the previous top ticket result, or district election result, to the projected political environment result (non-top ticket). On top of this, I have a new working hypothesis that unless they're drastically outspending their opponent (think 1.5:1/2:1 or more), Republican incumbents in legislative districts that Trump won by less than 4% in 2024 no longer have an incumbency advantage.

Conclusions and takeaways:

There are a few takeaways to be had regarding the above analysis. The main conclusion, however, is that weighting projected results to the top-ballot isn't the most accurate possible indicator for downballot results. Even though the model achieved a 91% accuracy by projection rate thanks to this methodology, had I instead tied results to a predicted VA HoD environment, the model would've had a perfect 100% projection rate. On top of this, if I had eliminated incumbency advantage for Republican incumbents/candidates in districts that Trump won by less than 4%, the mean and median miss margins would've fell from 2.46% to 2.29% (a decrease of almost 6.9%) and from 2.35% to 2.34% respectively.

Bibliography:

[1] N. Silver, "The polls weren't great. But that's pretty normal," FiveThirtyEight, Nov. 10, 2020. [Online]. Available: https://fivethirtyeight.com/features/the-polls-werent-great-but-thats-pretty-normal/. (accessed: Nov. 25, 2025)