

Vote At Home: The Turnout Effects of All-Mail Election Systems in Upballot and Downballot Races in Utah 2016

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Executive Summary

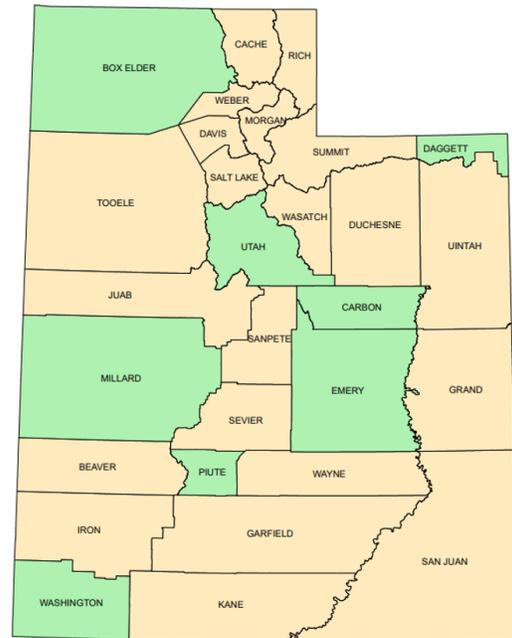
In the 2016 general election, twenty-one counties in Utah administered voting entirely by mail (also called “Vote At Home” or VAH), while eight used traditional polling place voting. Previous research shows that VAH is likely responsible for 5-7 points of increased turnout in these counties, even after controlling for pre-existing differences; individually, the positive effect was most pronounced for low-propensity voters. We now find that this increase in turnout was true both at the top of the ticket and in downballot races. When measuring among all registered voters, downballot turnout was higher in Vote At Home precincts than in polling place precincts, even after controlling for other differences. For example, Vote At Home was associated with a 5.5-point increase in turnout in State House races. However, since the positive turnout effect for Vote At Home was even higher for upballot turnout than for downballot turnout, the “downballot completion rate” showed a negative association with Vote At Home status. We speculate that when Vote At Home prompts additional low-propensity voters to vote, some of them choose not to vote in downballot races -- though most do. Overall, this research indicates that Vote At Home is a boon to civic participation at all levels of the ballot when measuring by the important metric of raw vote totals.

1. Background

1.1 About Vote At Home

Vote At Home (VAH) election systems, also called vote-by-mail or all-mail elections, are those where ballots are mailed to all registered voters, who can then return their ballots by mail or other methods (such as drop sites). Three states (Colorado, Oregon, and Washington) currently conduct their elections entirely by mail, while in other states there are particular counties or towns that have switched to VAH. Still other states and jurisdictions have enabled widespread absentee ballot voting -- though this is not the same as VAH, it should be noted. In VAH jurisdictions, it is the responsibility of elections officials to ensure that every registered voter receives a ballot in the mail, rather than responsibility being placed on voters themselves.

In the 2016 election, twenty-one of Utah's twenty-nine counties operated as vote-at-home jurisdictions. These counties represented 72% of all Utah registered voters in 2016. The other eight counties continued to use traditional polling place-based voting. Voter turnout in 2016 in the VAH counties was 8.7 points higher than in the non-VBM counties. The non-VAH counties were a mix of rural and more urban counties, and were relatively well-distributed geographically.



Voted by mail in 2016
 Did not vote by mail in 2016

1.2 Previous Research

Several pieces of recent research have found that VAH increases overall turnout (i.e. ballots cast divided by registered voters, even if those ballots were not completed for every race). Previous research by Pantheon Analytics looking at Utah 2016 found that VAH was associated with a 5-7 percentage point increase in turnout, even after controlling for pre-existing differences in vote propensity in the VAH counties versus the non-VAH counties. This was a somewhat larger effect, though in the same direction, as a 2013 study by Alan Gerber, Gregory Huber, and Seth Hill in the journal *Political Science Research and Methods*.¹ Their study of voter turnout in Washington State found that implementing VBM increased voter turnout by two to four percentage points overall. Both studies found that the biggest positive turnout effects occurred among low-propensity voters.

Research on the downballot effects of VAH has been slightly sparser, often focusing on absentee voting in lieu of true VAH. But a 2017 study by Andrew Menger, Robert M. Stein, and Greg Vonnahme² examined downballot completion rates in Colorado before and after that state switched to VAH in 2014. Using a county-level fixed effects design, they found that Colorado's implementation of vote-by-mail led to higher downballot completion rates, though only in the Presidential election and not in the midterm election. While this study is strong in several ways, it does have certain shortcomings. County-level analysis necessarily creates a more limited number of datapoints than using smaller geographies, such as precincts; it is also more difficult to control for pre-existing differences in vote propensity at this level. Additionally, due to their research design and way of measuring completion rates, Menger, Stein, and Vonnahme do not account for the significant rolloff effects of uncontested races.

¹ Gerber, A., Huber, G., & Hill, S. (2013). Identifying the Effect of All-Mail Elections on Turnout: Staggered Reform in the Evergreen State. *Political Science Research and Methods*, 1(1), 91-116. doi:10.1017/psrm.2013.5

² Menger, A., Stein, R. M., Vonnahme, G. (2017) Reducing the Undervote With Vote by Mail. *American Politics Research*. <http://journals.sagepub.com/doi/abs/10.1177/1532673X17737059>

1.3 Hypotheses

While we know from our previous research that VAH is associated with higher overall turnout in Utah 2016, we can create two competing hypotheses for how VAH might affect ballot completion rates. On the positive side, we can hypothesize that VAH increases completion rates. We can speculate that voting at home gives voters more time to research and consider their choices for downballot races. In a voting booth, on the other hand, voters may see a local race or even a lesser-known statewide race (such as State Auditor) and realize they don't know much about the candidates, becoming more likely to abstain from voting in that race. It is not unreasonable to theorize that those same voters, if given ballots to complete at home, might take advantage of voter guides or internet searches and give themselves the confidence to vote downballot.

The alternate hypothesis is that VAH will lower downballot completion rates. We know that VAH is associated with increased turnout among low-engagement voters. We can therefore speculate that these "extra" voters may be less likely to bother voting downballot, even given the extra time and comfort afforded by VAH. Since ballot completion rates are calculated using a numerator (downballot votes) and a denominator (overall votes), adding more votes to the latter category and not the former will necessarily decrease the rate.

The null hypothesis, of course, is that Vote At Home has no effect on downballot turnout or completion rates.

2. Methodology and Descriptive Statistics

2.1 Methods and Data

This report employs several linear regression analyses to look at the effects of vote-at-home and other factors in predicting participation rates up and down the ballot. The dependent variable in each regression is detailed in each respective section of this report; each one looks at turnout in a slightly different way.

The key independent variable in these regressions is simply a dummy variable that describes whether the precinct was in a VAH county or not. In some additional regressions, extra metrics are introduced to account for the rate of absentee voting in non-VAH precincts. Finally, control variables are implemented to account for other factors that could affect turnout and ballot completion rates, most notably the average vote propensity score for each precinct.

The dataset for this project was acquired from the National Committee for an Effective Congress (NCEC), which has a long and reliable track record of transcribing precinct-by-precinct vote totals to create its own models. Such transcription is a laborious process; in Utah, for instance, most counties reported their precinct-level results in PDF form (see example).

Election Summary Report			Date: 11/14/16
Piute County, Utah			Time: 15:13:47
General Election			Page: 1 of 2
November 8, 2016			
Summary For Marysvale, All Counters, All Races			
Official Results			
Registered Voters 363 - Cards Cast 257		70.80%	
Num. Report Precinct 1 - Num. Reporting		1	100.00%
STRAIGHT PARTY			
	Total		
Number of Precincts	1		
Precincts Reporting	1	100.0 %	
Times Counted	257/363	70.8 %	
Total Votes	120		
Independent American Party	IAP	3	2.50%
Democratic Party	DEM	13	10.83%
Republican Party	REP	104	86.67%
Constitution Party	CON	0	0.00%
Libertarian Party	LIB	0	0.00%
GOVERNOR			
	Total		
Number of Precincts	1		
Precincts Reporting	1	100.0 %	
Times Counted	257/363	70.8 %	
Total Votes	249		
Gary R. Herbert	REP	201	80.72%
Superdell Schanze	IAP	4	1.61%
Brian E Kamerath	LIB	11	4.42%
Mike Weinholtz	DEM	32	12.85%
Write-in Votes		1	0.40%
U.S. PRESIDENT VICE PRESIDENT			
	Total		
Number of Precincts	1		
Precincts Reporting	1	100.0 %	
Times Counted	257/363	70.8 %	
Total Votes	252		
"Rocky" Roque De La		0	0.00%
Jill Stein		0	0.00%
Alyson Kennedy		0	0.00%
Gary Johnson	LIB	2	0.79%
Rocky Giordani	IAP	0	0.00%
Donald J. Trump	REP	215	85.32%
Darrell L. Castle	CON	0	0.00%
Hillary Rodham Clin	DEM	27	10.71%
Monica Moorehead		1	0.40%
Evan McMullin		7	2.78%
Write-in Votes		0	0.00%
ATTORNEY GENERAL			
	Total		
Number of Precincts	1		
Precincts Reporting	1	100.0 %	
Times Counted	257/363	70.8 %	
Total Votes	244		
Michael W. IsBell	IAP	6	2.46%
Jon V. Harper	DEM	32	13.11%
Sean D. Reyes	REP	193	79.10%
W. Andrew McCullough	LIB	13	5.33%
STATE AUDITOR			
	Total		
Number of Precincts	1		
Precincts Reporting	1	100.0 %	
Times Counted	257/363	70.8 %	
Total Votes	245		

To compile this data, NCEC painstakingly transcribed the PDFs into an organized spreadsheet. Not every race's vote totals were recorded, however. Low-level races such as city council or school board were not reported; the most downballot race

reported in the dataset was State House. Additionally, while the number of registered voters in each precinct was included in the dataset, the number of total ballots cast was not. Fortunately, the ballots-cast figure is nearly synonymous with the number of votes cast for upballot races, particularly President. In this study we will use the phrase “ballots cast” to refer to the maximum number of votes recorded in each precinct for any race (again, typically President).

2.3 Descriptive Statistics

Our dataset contained results for 2,189 precincts in Utah, of which 2,063 had 30 or more registered voters. Precincts with under 30 registered voters were excluded from this analysis.

Chart 2.3.1: Descriptive Statistics for Utah Precincts, 2016

		VAH Precincts	Non-VAH Precincts
Votes Cast Divided by Registered Voters	Overall Turnout	83.7%	75.8%
	Congressional Turnout	81.7%	74.0%
	Attorney General Turnout	80.6%	73.2%
	State Auditor Turnout	78.7%	71.9%
	State Treasurer Turnout	78.0%	71.6%
	State House Turnout	76.6%	68.1%
Votes Cast Divided by Ballots Cast	Congressional Ballot Completion	97.5%	97.6%
	Attorney General Ballot Completion	96.2%	96.5%
	State Auditor Ballot Completion	94.0%	94.9%
	State Treasurer Ballot Completion	93.1%	94.4%
	State House Ballot Completion	91.5%	89.8%
Number of Precincts		1580	483

Generally, turnout in Utah in 2016 was fairly high. Ballot completion rates were also fairly high, both in VAH and non-VAH counties, though for most races the VAH precincts showed slightly lower completion rates. The exception was State House, though only when looking at this surface level. As section 5 below will elaborate, the higher State House completion rate in VAH precincts was likely due to a greater number of uncontested House races in the non-VAH precincts. This illustrates the

importance of using regression analysis to tease out the effects of vote-at-home from other electoral factors present in overlapping geographies.

Chart 2.3.2: Precincts with Contested and Uncontested State House Races

	VAH Precincts	Non-VAH Precincts	Total Precincts
Contested House Race	1211	171	1382
Uncontested House Race	369	312	681
Total Precincts	1580	483	2063

Chart 2.3.3: Mean State House Ballot Completion Rate by Contested Status

	VAH Precincts	Non-VAH Precincts	All Precincts
Contested House Race	95%	96%	95%
Uncontested House Race	80%	86%	83%

All other downballot races examined in this report (Congress, Attorney General, State Auditor, and State Treasurer) were contested in 2016.

As shown in previous research, voters in VAH and non-VAH counties had small but meaningful differences in their historical voting patterns and demographics. This meant that pre-existing vote propensities, as measured by turnout model scores, were slightly different across the various precincts, and needed to be controlled for. The analyses in this report also control for the variation in the percent of the population that is white versus nonwhite.

Chart 2.3.4: Differences in Vote Propensity and Race

	VAH Precincts	Non-VAH Precincts	All Precincts
Mean Turnout Score	73.7	72.6	73.4
Mean Percent White	87%	91%	88%

3. Results: Overall Turnout

Before looking at downballot completion rates by precinct, we ran a regression analysis looking at overall turnout (ballots cast divided by registered voters). Since previous research using an individual-level voter file found a turnout boost of 5-7

percentage points in VAH counties, we would expect a reasonably similar result using precinct-level data.

Chart 3.1: Regression Results for Overall Turnout, Utah 2016

Dependent variable: Voter Turnout	Regression		
	I	II	III
Precinct is in a Vote At Home county	0.088***	0.093***	
Precinct is over 50% absentee (non-VAH county)		0.0734***	
Combined VAH and Absentee Metric			0.119***
Mean turnout score	0.006***	0.006***	0.006***
Percent White	0.190***	0.182***	0.193***
Constant	0.107***	0.113***	0.101***
Observations	2060	2027	2027
R ²	0.485	0.495	0.501

p < .1 **p < .05 ***p < .01

At the precinct level, we find a slightly larger effect size for VAH than in the individual-level analysis: around nine points. Predicted turnout, as measured by mean turnout score, was used as a control variable, as was the percentage of the precinct that was White.

To account for those precincts in non-VAH counties that had a high degree of absentee voting (i.e. voluntary VAH), two additional regressions were run. In regression II, a dummy variable was assigned to precincts where more than half of voters voted by absentee ballot. In regression III, a variable was constructed that assigned all precincts in VAH counties a value of 1, while the value in all non-VAH precincts was equal to the percent of voters who voted absentee. In these regressions, too, there were significant positive associations between turnout and mail-based voting.

What to make of the effect sizes seen for VAH in these regressions? Larger than the 5-7 points seen in previous individual-level analysis, it is possible that the 9+ points effect sizes seen in these regressions are slightly overvalued. Turnout scores were a very important control variable in the individual-level analysis, and some nuance may be lost when turnout scores are averaged at the precinct level. Therefore, it is possible that the VAH variables themselves are capturing some degree of the

pre-existing variation in turnout, since we know that turnout in VAH counties was already a bit higher before the reform.

Still, these results largely agree with the individual-level analysis of Utah in 2016. And the effect sizes seen here for overall turnout at precinct level will be helpful in providing context to the effect sizes in the subsequent sections.

4. Results: Downballot Turnout as Percent of All Registered

Traditionally, downballot completion rates are measured by dividing the number of votes cast in a downballot race by the number of ballots cast overall (or the number of votes cast at the top of the ticket specifically). We will take that perspective later. First, though, we wanted to examine downballot turnout in the same manner that we look at overall turnout: as a percent of all registered voters. We know from the analysis above that VAH is associated with higher overall turnout. But is it also associated with higher downballot turnout?

Chart 4.1: Regression Results for State House Turnout

Dependent variable: Votes for State House candidate divided by total registered voters	Regression		
	I	II	III
Precinct is in a Vote At Home county	0.055**	0.060***	
Precinct is over 50% absentee (non-VAH county)		0.079***	
Combined VAH and Absentee Metric			0.077***
Mean turnout score	0.007***	0.006***	0.006***
Percent White	0.226***	0.218***	0.231***
House GOP candidate running unopposed	-0.095***	-.095***	-.093***
House Dem candidate running unopposed	-.097***	-.098***	-.098***
Presence of third party House candidate	.018***	.017***	.016***
Constant	0.047**	0.056**	0.045*
Observations	2060	2027	2027
R ²	0.590	.600	.598

p < .1 **p < .05 ***p < .01

The answer appears to be yes. For instance, when looking at turnout in State House races (dividing total House votes by total registered voters) there is still a 5.5 point

turnout boost associated with VAH status, as seen in regression I. This is after controlling for mean turnout score, percent white, and three additional control variables specific to house races: whether a Democrat was running unopposed, whether a Republican was running unopposed, and whether there was a third party candidate running. (It is perhaps not surprising that uncontested races have lower participation, and yet most previous studies of downballot rolloff have not accounted for this significant factor.)

If we compare the 5.5 point effect size seen here for State House turnout to the 8.8 point effect size seen above for overall turnout, an interesting narrative emerges about the varying effects of VAH. While VAH is effective at getting a higher raw number of voters to participate at all levels of the ballot, at least a few of those “extra” voters are not voting downballot. Put another way, VAH is most effective at increasing turnout for top-of-the-ticket races, but still has significant positive effect on raw turnout in State House races as well. This finding is bolstered when looking at other downballot races.

Chart 4.2: Regression Results for Turnout in Other Downballot Races

Dependent variables: Turnout in each respective race as pct of registered	Regression			
	U.S. Congress	Attorney General	State Auditor	State Treasurer
Precinct is in a Vote At Home county	0.086***	0.082***	0.075***	0.072***
Mean turnout score	0.007***	0.007***	0.007***	0.006***
Percent White	0.216***	0.184***	0.182***	0.198***
Constant	0.032	0.050**	0.065***	0.061***
Observations	2060	2060	2060	2060
R ²	0.505	0.494	0.465	0.447

p < .1 **p < .05 ***p < .01

The effect size for VAH status is larger for races that are closer to the top of the ballot, such as U.S. Congress, than for further-downballot races such as Auditor and Treasurer. Unfortunately the dataset acquired for this project did not include local races such as county council, city positions, school board, etc. Future research should examine effects on these very-far-down-the-ballot races.

5. Results: Downballot Completion as Percent of Ballots Cast

We now turn to the most traditional way of understanding downballot completion rates. In this measure, we divide a precinct’s total number of votes in a low-level race by its total number of votes overall (or, in our case, substitution maximum votes for total votes -- usually a nearly identical figure).

Chart 5.1: Regression Results for State House Ballot Completion Rates

Dependent variable: Votes for State House candidate divided by max votes cast	Regression		
	I	II	III
Precinct is in a Vote At Home county	-0.027**	-0.027***	
Precinct is over 50% absentee (non-VAH county)		0.015**	
Combined VAH and Absentee Metric			-0.036***
Mean turnout score	0.001***	0.001***	0.001***
Percent White	0.033**	0.033**	0.038**
House GOP candidate running unopposed	-0.120***	-.123***	-.123***
House Dem candidate running unopposed	-.168***	-.168***	-.168***
Presence of third party House candidate	.016***	.019***	.022***
Constant	0.864***	0.867**	0.866***
Observations	2060	2027	2027
R ²	.715	.720	.718

p < .1 **p < .05 ***p < .01

This time, we find a small negative effect for VAH status. For instance, among people who cast a ballot, VAH precincts saw a State House ballot completion rate that was 2.7 points lower. This apparent depression of downballot completion rates due to VAH status was, it must be noted, much smaller than the negative effect of having an unopposed candidate. Completion rates for State House races were 12-17 points lower if a candidate was running unopposed.

The effect sizes for VAH status were smaller, but still negative, when regressed against completion rates for Attorney General, State Auditor, and State Treasurer. However, VAH status had no effect on completion rates for Congressional races -- which are closer top top-of-ticket.

Chart 5.2: Regression Results for Other Downballot Completion Rates

Dependent variables: Turnout in each respective race as pct of max ballots cast	Regression			
	U.S. Congress	Attorney General	State Auditor	State Treasurer
Precinct is in a Vote At Home county	0.000	-0.003***	-0.010***	-0.014***
Mean turnout score	0.001***	0.001***	0.001***	0.001***
Percent White	0.036***	-0.004	-0.001	0.019**
Constant	0.880***	0.892***	0.895***	0.884***
Observations	2060	2060	2060	2060
R ²	0.162	.092	.066	.092

p < .1 **p < .05 ***p < .01

What can we conclude from this paradox of higher overall turnout with VAH but lower ballot completion rates? Since we know from previous research that VAH has the strongest positive turnout effects among low-propensity voters, a credible theory for downballot behavior can emerge. Even with the greater time and ease provided by voting from home, some less experienced voters may still not feel as comfortable voting in downballot races as they do in highly publicized races such as President or Congress. Getting a ballot in the mail makes them more likely to vote -- and the majority of them do seize the opportunity to vote downballot as well. But some do not. Thus, under this theory, raw turnout increases in downballot races but increases to an even greater degree in upballot races, thus leading to lower downballot completion rates.

6. Results: Downballot “Opportunities Taken” Analysis

In Menger, Stein, and Vonnahme’s 2017 study, an alternate method of looking at completion rates was used. Rather than looking at individual races on their own, Menger et al created a composite measure involving all races on the ballot.

Our measure of ballot completion is the ratio of actual registered preferences to the number of possible registered preferences (i.e., the product of the ballots cast and number of contests). For example, if there were 10 contests on the ballot and 10 voters, there would be 100 possible discrete voting opportunities. If two people only voted in one contest, two people voted in only half of the contests, and six people voted in all contests, then the ballot completion measure would be $72 / 100 = 0.72$ or 72%. Our measure includes all federal, statewide, statehouse, and countywide contests.⁶

Though slightly more opaque to interpret, this “opportunities taken” metric is another valuable way to look at completion rates. Unfortunately, the dataset we purchased for our analysis did not contain results for races below the level of state house. Still, we created a metric in the vein of Menger’s, incorporating ballots cast in the following races: president, U.S. Senate, U.S. House, Governor, Attorney General, State Auditor, State Treasurer, and State House.

Once again, VAH status is associated with a small but significant decrease in the ballot completion rate. Using this composite measure, VAH is associated with a 1% decrease in voting opportunities taken.

Chart 6.1: Regression Results for Downballot “Opportunities Taken” Metric

Dependent variable: Percent of Voting Opportunities taken (President, U.S. Senate, U.S. House, Governor, Attorney General, State Auditor, State Treasurer, and State House)	Coefficient
Precinct is in a Vote At Home county	-0.009***
Mean turnout score	0.001***
Percent White	0.008
House GOP candidate running unopposed	-0.016***
House Dem candidate running unopposed	-0.032***
Presence of third party House candidate	0.003***
Presence of a third party Congressional candidate	0.005***
Constant	.910***
Observations	2060
R ²	.439

*p < .1 **p < .05 ***p < .01

As with the race-by-race analyses above, though, it worth pointing out that this opportunities-taken metric does not account for the increase in raw vote totals at all levels that VAH appears to impart.

While Menger, Stein, and Vonnahme found a positive association in Colorado between VAH and downballot opportunities taken, we find a small negative association. It is possible that there are differing effects for races very far down the ballot, which were included in their metric and not in ours. It is also important to remember that the Colorado study does not account for uncontested races, which we can see had a large and significant effect in Utah. Depending on the distribution of uncontested races in Colorado, the positive completion effect that Menger, Stein, and Vonnahme discovered could instead reflect this hidden, confounding factor.

7. Discussion

By getting more registered voters to turn out overall, VAH appears to increase the number of votes cast even for downballot races. Yet, perhaps because VAH has the positive effect of turning out more low-propensity voters, VAH is also associated with a small decrease in ballot completion rates among people who actually voted.

When we think about civic participation, what we really care about is getting more people to participate at every level. Ultimately, raw vote totals up and down the ballot are a better indicator of civic health than the rates at which those ballots that are fully completed. While these initial results from the Utah 2016 analysis point to lower ballot completion rates due to VAH, those negative effects are dwarfed by the much larger positive effects VAH appears to have on total turnout at all levels.

To illustrate these effects, we can imagine a hypothetical precinct with 100 registered voters. By switching to a VAH system, we might expect turnout in this precinct to increase by as much as nine voters. Perhaps only five or six of those additional voters, however, would choose to fill out their ballot at the State House level. (Of course, there could also be changes among those who would have voted

anyway; it is more plausible, however, that the “extra” downballot voters are simply a subset of the “extra” upballot voters.)

8. Future Research

One important question that this research cannot answer is whether there are differing effects of VAH on the downballot behavior of low-propensity versus high-propensity voters. We have created a plausible theory that the low-propensity voters who are stimulated to vote by receiving a ballot in the mail may end up voting downballot at lower rates. Can we confirm this theory? And what of the high-propensity voters? There are states which make individual-level ballot images -- scans of voters' filled-out ballots -- available to academic researchers. But there would be no way to link up these anonymized ballot images to each voter's turnout score.

One method for studying these questions would be to identify precincts where nearly everyone is a high-propensity voter and compare them to precincts with many low-propensity voters, examining the VAH and non-VAH precincts within each set. Unfortunately, Utah does not provide a robust enough dataset of such outlier precincts. But as more states adopt VAH, such an analysis may be possible. In particular, precinct-rich California -- which has been adopting VAH in some counties -- may be able to provide the necessary data.

Future research could also focus on additional levels of downballot results. The dataset we acquired for Utah 2016 did not include truly local races such as city council, school board, county positions, and so forth. Looking at VAH's effect on these races, which typically have lower voter participation, would be illuminating. Likewise, our dataset unfortunately did not include results for any of Utah's three ballot measures. Because ballot measures are often where voters feel most uninformed (absent the heuristic of party), it would be useful to know whether the added time for research afforded by VAH makes a difference.