Reducing Ballot Roll-Off Among Likely Democratic Voters

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Disclaimer

The author conducted this study as part of the program of professional education at the Frank Batten School of Leadership and Public Policy, University of Virginia. This paper is submitted in partial fulfillment of the course requirements for the Master of Public Policy degree. The judgments and conclusions are solely those of the author, and are not necessarily endorsed by the Batten School, by the University of Virginia, or by any other agency.

Acknowledgements

I would like to thank Professor Bassett and Professor Wyckoff for their advice and understanding on every step of this process, especially when this APP differed from many of the others that they advised. I would also like to thank Carrie O'Foran and Bryan Christ for their detailed and constructive feedback on each of my work products, especially when they had the same problems as me. Finally, I'd like to thank Kevyn Hadley, Kendall Johnson, Ruth Checknoff, Brendan Novak, Trent Chinnaswamy, and Sarah Tmimi for their help on every little thing when I was struggling.

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Executive Summary

"Ballot roll-off," the phenomenon where less salient races further down a ballot are less likely to be filled in by a voter than races at the top of the ballot, has long been studied less in the political science literature than more high-profile issues like voter turnout. However, it has large implications for democratic representation, the make-up of elected bodies across the country, and policy decisions from school boards to Congress. Equally worrying perhaps is that roll-off is distributed unequally: Democrats tend to roll-off at higher rates than Republicans, which can have disastrous consequences for the electability of Democrats further down the ballot.

In the introduction, I illustrate this example with several important case studies, and lay out the historical and contemporary significance of the problem. In the background, I present evidence on the scale of roll-off in general, and then present my own analysis of the scale partisan roll-off, or the differential in roll-off between Democrats and Republicans. In the literature review, I discuss three of the most common reasons for roll-off in the literature: fatigue, information, and salience. I then describe how roll-off varies among different demographics, as well as several issues related to roll-off that may provide further insights into the problem. To finish the section, I describe the evidence related to interventions that attempt to provide information to address problems stemming from low-information.

In the criteria section, I propose the three dimensions by which I will evaluate my proposed alternatives: effectiveness at reducing roll-off, implementation feasibility & cost, and the likely impact of the intervention on roll-off among Democrats specifically (distributional effects). In my alternatives section, I propose three alternatives to address the problem of Democratic roll-off, and evaluate them against my criteria.

1. Ballot Guides
2. Poll Greetings
3. Down-Ballot Tripling

I conclude that while the research into what is effective at reducing roll-off is limited, the third alternative performs best against the three criteria, and merits further research. I conclude the section with sensitivity considerations that may affect which alternative is selected. Finally, I propose an implementation plan for the third alternative.

In the appendix, I discuss the difficulties of studying ballot roll-off from a partisan lens, note important assumptions, and briefly detail the methodology of my own analysis.

Introduction

In 2019, De'Keither Stamps decided to run for Mississippi Public Service Commission in the state's Central District. The commission serves as a state regulatory body, overseeing telecommunications, electric, gas, water and sewer utilities regulation. In an election in which the Democratic Gubernatorial candidate carried the district by almost 15 points, De'Keither lost his election to his Republican opponent by just 1 percentage point (about 3,500 votes). The election gave the Public Service Commission a 2-1 Republican majority for the next four years.

During the 2017 General Election in Virginia, Democrats handily won the Governorship by 8 percentage points. They performed worse in the down-ballot House of Delegates races. While before 2017, the House of Delegates had leaned heavily Republican, 66-34, the blue wave of 2017 flipped over a dozen seats. While a 50-50 split House could have had its ties broken by the newly elected Democratic Lieutenant Governor, control of the House of Delegates ultimately fell to the Republicans, 51 seats to 49. In the tied 94th House district, the election was determined in favor of the Republican candidate when he won a random drawing. Statewide that year, five House of Delegates seats were decided by less than one percentage point (Virginia Department of Elections, 2017).

The result of each of these elections was years of Republican control of statewide bodies across the country. Over the past several decades, Republicans have turned their focus more and more to the state level, while Democrats have continued to focus overwhelmingly on national politics. Conservative groups like the American Legislative Exchange Council, the State Policy Network, and Americans for Prosperity have channeled millions of dollars into state politics to influence state policy and to push state policymaking rightward (Covert, 2019). Even in the most recent midterm, as they began to understand the importance of state policy in the Trump era, Democrats continued to be outspent in key state races nearly 5 to 1, while lagging Republicans fundraising at the state level by 30% (Nilsen, 2018). Today, Republicans retain control of 1 in 2 Governorships and 3 in 5 state legislatures (NCSL, 2020).

Common across both of these races was a trend visible in almost every general election in every state across the country. Even when Democrats are convinced to turn out on election day, many leave some races on the ballot blank. Democrats voted in the Mississippi Public Service Commission race at a 12% lower rate than they did in the Gubernatorial race, while the Virginia House of Delegates saw an 8% drop from the Governor's race to contested House of Delegates races.

If just a few more Democrats who were drawn to the polls to vote in hotly contested Presidential and Gubernatorial races had voted in those down-ballot races, both of these elections would have turned out differently. This problem has profound consequences for thousands of competitive races each year, from local school board races to statewide offices. In key races, translating turnout into down-ballot success can make a huge impact: in 2018, Democrats needed to win only 17 state legislative seats to flip 8 different state chambers (DLCC, 2018). While Democrats have consistently focused on

aggregate turnout, much less attention has been paid to down-ballot races, many of which have much more impact on people's everyday lives than the Presidency or Congress do, in areas ranging from education, to civil rights, to the climate crisis.

In this analysis, I define this problem as "ballot roll-off," present evidence of its existence, explain the importance of a partisan lens, describe its causes, and propose potential methods of addressing it.

Background

"Ballot roll-off" (or sometimes, "ballot drop-off") refers to the phenomenon where less salient races further down a ballot, such as state legislative seats, are less likely to be filled in by a voter than races at the top of the ballot, such as Senate or Gubernatorial Races (Davis & Southwell, 2015).

Ballot roll-off is part of the more encompassing term of "undervoting," in which at least one race on the ballot is left blank by the voter. In the case of ballot roll-off, voters are motivated to go to the polls because of races at the top of the ballot (such as federal or state executive elections) and whether because of lack of information, lack of motivation, confusion, or other factors, they choose not to complete their ballots in full (Knack & Kropf, 2003).

The phenomenon of ballot roll-off is problematic because even in instances of motivated turnout and perfect ballot design, the preferences of the voting electorate may not be accurately expressed if voters do not complete their ballots. This may result in the election of representatives that a majority of the electorate disagrees with.

Client Profile

VoteTripling.org is a PAC focused on testing and scaling behavioral science informed interventions to support the election of more Democrats at all levels of government. While they currently focus only on the tactic of "Vote Tripling," they have plans to expand into other interventions that increase voting and Democrat vote share in future years. This review seeks to synthesize the literature to better describe the phenomena of ballot roll-off, why it happens, and what can be done to address it.

The Scale of Ballot Roll-Off

Ballot roll-off differs from other forms of undervoting in that it is an intentional phenomenon. During Presidential elections, voters rarely leave the top of the ballot blank: one study estimated that only about 0.25-0.75% of ballots cast during Presidential elections intentionally left the top option blank (Knack & Kropf, 2003).

Consider a recent case, in the 2018 Florida midterms. A review of ballot roll-off by the MIT Election Lab found that among voters who chose one of the major party candidates in the Gubernatorial election (the most salient election), there was 2.7% roll-off to the Chief Financial Officer election, 2.5% roll-off to the Agriculture Commissioner election, and 1.6% roll-off to the Attorney General election (Morse & Meredith, 2019). These elections were separated by margins of 3.4 percentage points, 0.1 percentage points, and 6 percentage points respectively (Ballotpedia, n.d.). In other words, intentional undervoting could have a large enough effect so as to change the results of elections lower on the ballot.

In general, while elections at the top of the ballot tend to experience less roll-off, total roll-off varies based on the levels of election examined and the salience of each election (Davis & Southwell, 2015). Wattenberg et al. (2000) estimate that over half of the voters in their sample left at least one race blank, with 1 in 5 skipping at least a quarter of races.

At the Congressional level, roll-off tends to be in the high single digits. Wattenberg et al. (2000) find roll-off of 2% for the 1994 Senate election and 4% for the House election relative to the Gubernatorial election. However, they find roll-off over 5% in House elections in Presidential election years. Further, their national analysis of Presidential voters using NES data from the 1980s yields an estimated roll-off rate in contested House elections of 9.3%. While the authors note that this may be an overestimate, it may provide a bounded upper estimate of roll-off.

Hayes and McKee (2009) estimate roll-off of 5-9% in Texas Congressional elections between 2002 and 2006 in their study of redistricting. Nichols & Strizek (1995) estimate roll-off of between 9 and 13% during their examination of the effect of electronic voting on roll-off in the 1992 general election in Columbus, Ohio. Rogers & Leong (2008) find an average of 8% roll-off from the 2004 Presidential to Congressional elections. Among the quartile of precincts with the highest amount of roll-off, roll-off averages over 20%, while the quartile of precincts with the lowest roll-off only averages 1.4%.

In elections for state offices, roll-off tends to be even higher. Nichols & Strizek (1995) find an average roll-off of 12-18% in 1992 Ohio state legislative elections, while Rogers & Leong (2008) divide precincts into quartiles based on demographic and election data, and find roll-off of 14.4% in 2004 state legislative elections, and 10.5% in the 2006 state legislative elections. In these elections, roll-off ranges from 1-2% in the first quartile of roll-off to over 30% in the fourth quartile of roll-off. Roll-off is even larger in state judicial elections, with estimates as high as ⅓ of voters (Wattenberg et al., 2000; Hall, 2008; Nichols & Strizek, 1995) rolling-off. However, these elections present perhaps the highest degree of variability: across all the states studied by Hall, statewide roll-off in judicial elections between 1980 and 1994 ranges from 6% to 50%.

State referendums exhibit roll-off similar to other statewide elections, although higher than judicial elections. Sinclair (2004) finds roll-off of 6-14% in state legislative elections in Los Angeles County in 2000. Similarly, Wattenberg et al. (2000) find roll-off of between 2-17% relative to the Gubernatorial race in the 1994 California elections. They note that in 1996, roll-off on referendums exceeded 20% in a dozen states.

At the local level, roll-off appears at similar rates as state races. Nichols & Strizek (1995) find average roll-off of 16-26% across local races, with roll-off between 30-48% in local judicial and appeals court races. Similarly, an examination of a 1993 municipal election in Atlanta found that there was about a 20% roll-off from the Mayor's race to the city council chair, with up to a 50% roll-off for county commissioner positions (Bullock & Dunn, 1996).

To provide a more comprehensive overview of ballot roll-off in a recent case, I conducted an analysis of roll-off during the 2017 Virginia state election. Lieutenant Governor and Attorney General, two hotly contested elections, both saw less than 1% roll-off. House of Delegates races, on the other hand, saw roll-off of over 6% relative to the Governor's race (Virginia Department of Elections). The rate of roll-off was so big, that if only 1 in 13 of those who voted in the Governor's election but not the House of Delegates races had voted for the Democrat in their district, the balance of the House would have flipped from 51R-49D to 47R-53D.

Examining Partisan Roll-Off: An Analysis[1]

Here I present my own analysis of partisan roll-off in several contexts. As noted in the appendix, this analysis is subject to a set of limitations and important assumptions that may impact the accuracy of the results. However, this analysis presents a rudimentary examination of roll-off that may provide a general picture of the extent of the partisan differential in roll-off.[2]

Virginia, 2005-2017

Virginia has traditionally been a Republican state that has been trending Democratic for several decades. As such, it has been characterized by close elections (such as the 2017 House of Delegates election) with the potential for small reductions in roll-off to change the results.

My analysis indicates that Democratic roll-off has consistently been systematically higher than Republican roll-off over the almost two decades in which data is available from the Virginia Department of Elections. This covers a period spanning from Republican dominance of statewide politics in 2005, to 2019, when Democrats gained control of the House of Delegates and Senate after having elected Democratic Governors since 2013 and supporting the Democratic Presidential candidate since 2008. This period includes the years 2005, 2008, 2009, 2012, 2013, 2016, and 2017, all of which included an election at the top of the ballot (either Governor or President) and down-ballot races (either state House of Delegates or Congressional House of Representatives).

In each of these years but one (the 2009 Gubernatorial election), Democratic roll-off exceeded Republican roll-off. In the three Presidential elections studied, the difference in roll-off between Democrats and Republicans was consistently in the low to mid-teens: a difference of 12 percentage points in 2008, 11 percentage points in 2012, and 16 percentage points in 2016. Gubernatorial elections, on the other hand, exhibited more variable differences in partisan roll-off. This ranged from a 38 percentage point differential in 2005 and 2013, to a 7 percentage point differential in 2017, to similar roll-off in 2009.

1 See Appendix for limitations of partisan roll-off studies, key assumptions, and my methodology

2 Each of the analyses below define roll-off relative to the race that received the most overall votes

Partisan Difference in Roll-Off in Virginia Elections 2005 – 2017

Year	Election Type	Roll-Off by Party	Difference in Roll-Off
2005	State	**D:** 28.0 percent	**38.1 percentage points**
		R: -10.1 percent	
2008	National	**D:** 11.1 percent	**12.7 percentage points**
		R: -1.6 percent	
2009	State	**D:** 6.9 percent	**-2.3 percentage points**
		R: 9.2 percent	
2012	National	**D:** 8.4 percent	**11.4 percentage points**
		R: -3.0 percent	
2013	State	**D:** 23.1 percent	**37.8 percentage points**
		R: -14.7 percent	
2016	National	**D:** 7.2 percent	**16.2 percentage points**
		R: -10.0 percent	
2017	State	**D:** 7.5 percent	**7.3 percentage points**
		R: 0.2 percent	

Years and Election Types highlighted in Red indicate a Republican statewide win
Years and Election Types highlighted in Blue indicate a Democratic statewide win

These numbers are in line with estimates of aggregate roll-off, and are directionally consistent with expected roll-off based on the demographics of each party (discussed more in the Literature Review section). Of note in these results is that the pattern remains consistent over time, both before Virginia was a political battleground and today, as it becomes more safely Democratic. These results also lend credence to the assumption of limited split-ticket voting, given that there is no difference in trends between the elections where to race at the top of the ballot was won by the Republican candidate (in red) and the elections where the race at the top of the ballot was won by the Democratic candidate.

Wyoming, 2018

Virginia is a large, east coast state with both large urban and rural areas that has been trending blue for several decades. Wyoming, on the other hand, is a western, mostly rural, and consistently Republican state. In 2016, Donald Trump received a supermajority (67%) of votes cast in the Wyoming general election, while Republicans currently hold a supermajority in both chambers of the Legislature (Wyoming Secretary of State, n.d.). As such, it provides an example to study roll-off in a very different context.

In the 2018 Wyoming state elections, Republicans handily swept every statewide office on the ballot. However, Wyoming exhibited a similar pattern of roll-off as Virginia does. While Democrats exhibited roll-off in every race, Republicans exhibited negative roll-off[3] in every race except one.

Partisan Difference Roll-Off in the 2018 Statewide Wyoming Election

Office *(relative to the Senate race)*	**Democrat Roll-Off**	**Republican Roll-Off**	**Difference in Roll-Off**
United States Representative	2.2 percent	6.1 percent	**-4.1 percentage points**
Governor	8.6 percent	-0.1 percent	**8.7 percentage points**
Secretary of State	12.9 percent	0.6 percent	**13.5 percentage points**
State Treasurer	10.4 percent	-4.1 percent	**14.5 percentage points**
State Auditor	14.3 percent	-5.7 percent	**20.0 percentage points**

Much like the pattern in Virginia elections, Democrats exhibit much higher roll-off than Republicans. Similarly, Republicans exhibit a tendency to vote at a similar rate in down-ballot races, while Democrats are much more likely to roll-off as a race appears further down the ballot.

Mississippi Public Service Commissioner, 2019

The race for the Central District seat of the Mississippi Public Service Commissioner exhibits similar trends as the two examples above. While Democrats in the Central District were more likely to roll-off further down the ballot, Republicans in the Central District voted *more* in elections down-ballot of the Governor's race.

[3] While roll-off refers to a drop in votes for down-ballot candidates relative to candidates at the top of the ballot, negative roll-off means that a down-ballot candidate received more votes than their counterpart at the top of the ballot

Partisan Difference in Roll-Off in the 2019 Mississippi Central District Election

Office (relative to the Gubernatorial race)	**Democrat Roll-Off**	**Republican Roll-Off**	**Difference in Roll-Off**
Secretary of State	12.0 percent	-16.0 percent	**28.0 percentage points**
Transportation Commissioner	12.7 percent	-17.2 percent	**29.9 percentage points**
Public Service Commissioner	15.6 percent	-20.2 percent	**35.8 percentage points**
Treasurer	15.6 percent	-21.3 percent	**36.9 percentage points**
Lieutenant Governor	16.7 percent	-23.8 percent	**40.5 percentage points**

These results show the impact roll-off had on D'Keither. If Democrats and Republicans had maintained the same level of roll-off, D'Keither would have received 58% of the vote.

Implications

The evidence above suggests a pattern of down-ballot roll-off in which Democrats consistently suffer from higher roll-off than Republicans. This has important implications in several areas of political research and activity. If Democrats focus on increasing turnout among likely Democratic voters, this may be more beneficial for candidates at the top of the ballot than for candidates further down the ballot. Further, this suggests important limits to the "coattails effect," in which salient or charismatic candidates at the top of the ballot draw more Democrats to the polls, which then provides more votes for down-ballot candidates.

Beyond just winning more down-ballot races, these results have important policy implications – reducing the partisan disparity in roll-off could mean more Democrats in thousands of elected offices across the country; from school board, to mayor, to utilities commissioner, to judicial offices, to state assemblies. This in turn means the passage of important legislation addressing the climate crisis, supporting education spending, protecting civil and voting rights, preventing barriers to abortion access, providing a strong social safety net and more.

In the following section I highlight several related problems, note variations in roll-off that may explain some of this differential, and explore several explanations for roll-off.

Literature Review

Reasons for Roll-Off

While roll-off is highly context dependent, the literature points to three main reasons for roll-off.

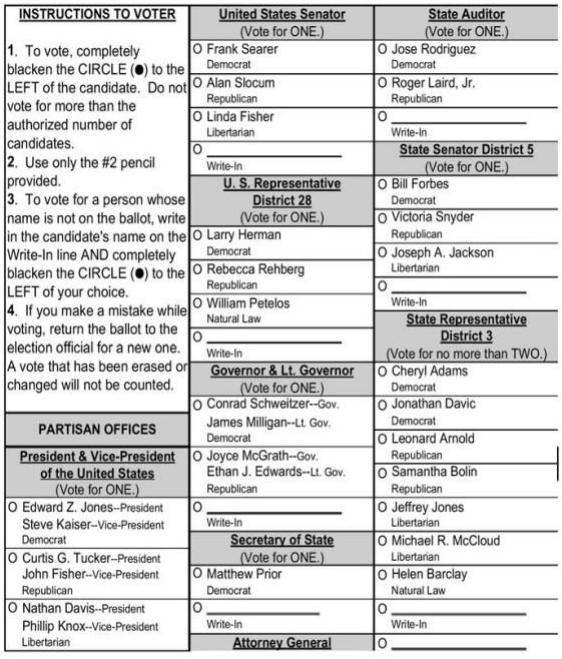
Information

The first reason for roll-off, low information, involves the voter lacking knowledge about candidates or office roles. This theory arises from the notion that races at the top of the ballot (such as Senate elections) tend to have more media coverage and campaign activity, while races further down the ballot (such as the dogcatcher's election) usually receive less attention.

Survey data reveals that voters are often more knowledgeable about higher-level elections and offices than lower ones. Roll-off is correlated with knowledge of the office, but also the number of candidates running and the number of offices; as each of these categories grows, they require voters to have more information (Wattenberg et al., 2000). Factors that increase knowledge of these categories (such as campaign spending and media coverage) are also correlated with reduced roll-off, while each additional proposition on the ballot (i.e., increased complexity) is associated with a 1% decrease in voter awareness of the ballot (Nicholson, 2003).

While some informational cues are external to the voting booth, others – such as party – are internal. For voters who lack specifics of the office, party may provide a strong source of information about the candidates. For example, roll-off is higher in states that use the office block ballot design (which groups candidates by office) than the party column format (which groups candidates by party) (Kimball, 2001; Brockington, 2003). Indeed, Wattenberg et al. (2000) found that states without the straight party ticket option had between 1 and 3 percentage points more roll-off.

The implication of the low-information hypothesis is that more information, whether through public channels such as media, or ballot-specific channels such as party ID, should reduce roll-off. Interventions that include additional information about the ballot or initiatives that focus on educating voters about less well-known elections should also reduce roll-off.



INSTRUCTIONS TO VOTER

1. To vote, completely blacken the CIRCLE (●) to the LEFT of the candidate. Do not vote for more than the authorized number of candidates.
2. Use only the #2 pencil provided.
3. To vote for a person whose name is not on the ballot, write in the candidate's name on the Write-In line AND completely blacken the CIRCLE (●) to the LEFT of your choice.
4. If you make a mistake while voting, return the ballot to the election official for a new one. A vote that has been erased or changed will not be counted.

PARTISAN OFFICES

President & Vice-President of the United States (Vote for ONE.)
- O Edward Z. Jones--President / Steve Kaiser--Vice-President, Democrat
- O Curtis G. Tucker--President / John Fisher--Vice-President, Republican
- O Nathan Davis--President / Phillip Knox--Vice-President, Libertarian

United States Senator (Vote for ONE.)
- O Frank Searer, Democrat
- O Alan Slocum, Republican
- O Linda Fisher, Libertarian
- O _____ Write-In

U. S. Representative District 28 (Vote for ONE.)
- O Larry Herman, Democrat
- O Rebecca Rehberg, Republican
- O William Petelos, Natural Law
- O _____ Write-In

Governor & Lt. Governor (Vote for ONE.)
- O Conrad Schweitzer--Gov. / James Milligan--Lt. Gov., Democrat
- O Joyce McGrath--Gov. / Ethan J. Edwards--Lt. Gov., Republican
- O _____ Write-In

Secretary of State (Vote for ONE.)
- O Matthew Prior, Democrat
- O _____ Write-In

Attorney General

State Auditor (Vote for ONE.)
- O Jose Rodriguez, Democrat
- O Roger Laird, Jr., Republican
- O _____ Write-In

State Senator District 5 (Vote for ONE.)
- O Bill Forbes, Democrat
- O Victoria Snyder, Republican
- O Joseph A. Jackson, Libertarian
- O _____ Write-In

State Representative District 3 (Vote for no more than TWO.)
- O Cheryl Adams, Democrat
- O Jonathan Davic, Democrat
- O Leonard Arnold, Republican
- O Samantha Bolin, Republican
- O Jeffrey Jones, Libertarian
- O Michael R. McCloud, Libertarian
- O Helen Barclay, Natural Law
- O _____ Write-In

Example of the Office Block Ballot Design (Herrnson et al., 2012)

Salience

The second reason for roll-off, low salience, is related to the information hypothesis, but instead focuses on voters' *interest* in a specific election. One may choose to only vote in elections with the most personal importance, or with the highest chance of affecting the outcome. For example, Presidential year roll-off is much lower among more competitive House elections, indicating lower roll-off when one's vote may affect the outcome (Wattenberg et al., 2000). Similarly, voters may have knowledge of the candidates, but lack strong preferences. Bullock & Dunn's (1996) analysis of the 1993 Atlanta municipal election illustrates this point. The election for county commission chair was viewed as highly salient (a black candidate vs a white candidate) with low roll-off, but the adjacent election on the ballot for the commission's at-large seat, presumably a similar office, had a high degree of roll-off. Indeed, while roll-off is higher for black voters in general, the black-white gap diminishes substantially in contests featuring a black candidate or an issue surrounding race (Kimball, 2001).

While it is often difficult to decouple the salience explanation from the information explanation, this theory implies that giving voters a reason to care about an election, such as sharing information that relays how each election impacts voters' everyday lives, will reduce roll-off.

Fatigue

The third reason for roll-off, voter fatigue, is heavily correlated with ballot position. It posits that as voters work through longer ballots, they become cognitively overloaded and thus have a harder time completing the full ballot. Research in psychology supports this view: acts of self-control (such as attention control and focus) reduce blood glucose and reduce future ability to exhibit self-control. This problem disappears after replenishing glucose, indicating that thinking through each election makes self-control more difficult as one goes further down the ballot (Baumeister, 2002; Gailliot et al., 2007).

Fatigue can manifest as the tendency to favor the status quo when voting or as roll-off (Bowler et al. 1992). Augenblick & Nicholson (2015) estimate that decision fatigue causes an 8% increase in abstentions due to position of elections on the ballot, accounting for almost half of intentional undervotes, while Bowler et al. (1992) estimate that each additional position on the ballot increases roll-off by ⅓ of a percentage point, which can compound significantly over the dozens of propositions on California's ballots. Similarly, Bullock & Dunn (1996) find strong evidence of roll-off in their study of the Atlanta election, especially among black voters. This aligns with other evidence that notes that voter fatigue is more common among black and low-income voters (Wattenberg et al., 2000).

Fatigue is a direct consequence of longer ballots, and is thus difficult to resolve outside the institutional context. However, allowing straight-ticket voting may reduce cognitive strain by allowing voters the option to vote for a party (one decision) instead of making many successive decisions that may induce fatigue.

Demographic Predictors of Roll-Off

While increased turnout typically favors Democrats, ballot roll-off can mitigate the impact of an expanded electorate. Even though voters who don't identify with either major party are the most likely to vote in highly salient races and abstain from down-ballot races, the demographic groups most likely to roll-off are the youngest and oldest demographic groups, lower income voters, and members of racially and ethnically marginalized groups, most of whom tend to vote Democrat. Intentional and unintentional undervoters tend to lean Democratic, meaning that higher rates of undervoting may also be viewed as missed Democratic votes for lower offices (Knack & Kropf, 2003).

Rogers and Leong (2008) merge precinct-level data from 43,212 precincts with 2000 US Census data to examine demographic differences in roll-off across demographic quartiles during the 2004 and 2006 state and Congressional house elections. They find that roll-off tends to be highest among the youngest eligible age groups and lowest among those 40-64, after which begins to increase slightly. These differences are relatively small, however, with a 1-2 percentage point difference in roll-off between the youngest and oldest quartiles. Median household income has similarly small differences between the lowest and highest quartiles. On the other hand, education seems to play a large role: the least educated quartile precincts were approximately 3 percentage points more likely to roll-off, although this effect diminished after the first quartile. Similarly, precincts with a higher percentage of minority voters tended to have increased roll-off, accounting for a 5 percentage point difference between the top and bottom quartiles.

A similar analysis by Warshaw et. al (2009) used exit polls and survey data (unverified with actual voting behavior) to describe roll-off in the 2000 and 2004 Congressional elections. Consistent with Rogers and Leong (2008), those with graduate degrees self-reported rolling off at a lower rate than those who did not complete high school. Similarly, the authors find that self-reported levels of roll-off are negatively correlated with age and income (although these effects diminish rapidly after the lowest ages and levels of income). Unlike Rogers and Leong, Warshaw et. al find inconsistent levels of self-reported roll-off by racial groups across surveys and across years.

Wattenberg et. al (2000) use National Election Study Data from 1980, 1984, and 1988 to examine roll-off among demographic groups. While they find only small effects of age, race, and education, they find moderate effects of length of residence in an area and marital status, possibly due to increased connections in a community. Unsurprisingly, the highest individual level predictors of roll-off are political affiliation, interest, and knowledge, consistent with the salience and information hypotheses.

Several studies indicate that black voters tend to roll-off at higher rates than white voters – however, this difference declines as blacks make up a greater proportion of elected officials, or appear more prominently on the ballot. Bullock and Dunn's (1996) analysis of roll-off in the 1993 Atlanta and Fulton County municipal election found that black voters rolled off at a rate 25 percentage points higher than white voters in the same jurisdiction. Similarly, Vanderleeuw & Engstrom (1987) find large differences in roll-off by race in New Orleans, even controlling for age and education. This is in line

with Nichols and Strizek (1995), who find highly statistically significant effects of race on roll-off. Further, Vanderleeuw & Liu (2002) find that black roll-off doubles in the context of majority-white city council elections, relative to majority-black city council elections.

Roll-Off and the "Coattails Effect"

Ballot roll-off also has implications for the "coattail effect" – the tendency of a popular candidate at the top of the ballot to draw in more voters who may vote in down-ballot races as well. If ballot roll-off is very low or nonexistent, one might expect popular candidates to create a down-ballot cascade effect that would tilt other elections more in the direction of the candidate's party. If ballot roll-off is relatively large, then one might expect election outcomes at the top and further down the ballot to differ in relation to their deviation from an area's typical partisan lean.

For example, while Beto O'Rourke lost his 2018 Senate race, he is popularly credited with Democrats' 12 seat pickup in the Texas House (Garrett & Barragán, 2019). If O'Rourke increased overall turnout in the election, then the degree of ballot roll-off has implications for whether Democrats might have instead picked up several fewer seats, or several more seats.

Descriptive research indicates that areas with higher turnout rates to begin with also have lower rates of roll-off (Rogers and Leong, 2008). Elections or interventions that increase turnout beyond the norm tend to also increase down-ballot roll-off (Bowler et. al, 1992). This is likely because non-habitual voters are drawn to these elections for a particular reason (for example, high salience or social pressure), but do not necessarily increase their knowledge of or interest in down-ballot races. Indeed, research has shown that interventions that increase turnout do not necessarily have down-ballot effects (Davis & Southwell, 2015; Analyst Institute, 2017; Wattenberg et. al, 2000). This evidence, along with my analysis of partisan disparities in roll-off in the previous section, suggests that the coattails effect is much more limited than common wisdom might suggest, given consistently high Democratic roll-off.

Contextualizing Roll-Off with Other Problems

Ballot Order

In many elections, the order of candidates listed for a given office has a significant effect on voters' choices. Ho & Imai (2008) exploit random variation in name order due to California's "alphabet lottery" from 1978-2002 and find large effects for nonpartisan elections but smaller effects for major party candidates. Similarly, several authors have found relatively consistent ballot order effects across contexts, demographics, and countries, although effects may increase in elections with more candidates and higher quality candidates (King & Leigh, 2009; Koppell & Steen, 2002; Brockington, 2003; Meredith & Salant, 2012). However, some scholars argue that because of conflicting results in laboratory settings and possible confounders such as incumbency, these effects may be overstated (Darcy & McAllister, 1990).

Status Quo Bias

Evidence from other studies points towards a tendency to vote "no" or for the status quo when voters lack information or are fatigued. Bowler et al. (1992) examine California ballot propositions from 1974-1988 and hypothesize that voters may prefer the certainty of the status quo to the uncertainty of a "yes," and find large and significant tendencies to vote "no." Similarly, Augenblick & Nicholson (2015) exploit quasi-random variation in ballot order in San Diego from 1992-2002 and find that each additional increase in ballot position is associated with an increase of over a tenth of a percentage point likelihood of voting "no" – a significant change given that the average proposition position was 26.8. This difference is large enough to swing the result of an estimated 6% of ballot propositions. Additionally, an analysis of 700 ballot propositions found that for each additional proposition on the ballot, the share of 'No' votes increased by 0.4 percentage points (Selb, 2007).

Correct Voting

One explanation for these phenomena is that voters with lower risk tolerance are more likely to roll-off, while those with higher risk tolerance are more likely to vote in races in which they lack information. In other words, voters' decisions whether to vote, or whether to vote for change in certain down-ballot elections stems from how willing they are to cast an "incorrect vote."

Lau and Redlawsk (1997) conduct an experiment to estimate the number of voters voting "correctly," defined as how voters would have voted based on their individual-level beliefs and opinions. They then use American National Election Survey (ANES) data to estimate "correct voting" in Presidential elections from 1972-1988. They find that voters vote correctly approximately 70% in the experimental condition, and about 75% in the ANES data, indicating that while voters usually pick the candidate in line with their own beliefs, they nonetheless have a high probability of voting incorrectly. In a follow-up study, Lau et. al (2008) estimate that incorrect voting systematically disadvantages Democratic candidates relative to Republicans: they estimate that between 1980 and 2004, the average Democrat would have received 6% more votes, while the average Republican would have received 8% fewer votes in the absence of incorrect voting. Much of this effect is driven by higher rates of incorrect voting among young voters and voters of color, two groups most likely to roll-off.

Reilly & Richey (2009), in their examination of state-level ballot questions from 1997-2007, find that roll-off increases with ballot complexity, a finding that suggests that when voters perceive a higher probability of voting incorrectly, they are more likely to abstain. Similarly, Brockington (2003) finds that ballot position effects are driven primarily by lack of information about the candidates: as information decreases, voters are more likely to roll-off or defer to the "no" option or incumbent, suggesting that low levels of information activates the use of heuristics when voting that can cause higher rates of incorrect voting.

Milita (2017) conducts an experiment to understand the role of risk of casting an incorrect ballot on a voter's decision whether to abstain. The author randomly assigns subjects to either high/low readability ballot questions and high/low complexity topics, and asks them to vote either "yes," "no,"

or to abstain. Participants are more likely to roll-off as the level of information decreases, the level of complexity of the issue increases, and as a voter's risk tolerance decreases. Furthermore, risk-averse individuals are less likely to believe that they are well informed on the issues, reducing their belief in their ability to vote correctly.

These problems are important to keep in mind when attempting to reduce roll-off. Ballot order effects parallel the tendency for roll-off to increase as a race falls further down the ballot, consistent with the fatigue hypothesis. Similarly, the tendency of voters to prefer the status quo when lacking information or mental energy has important vote choice effects that may be just as impactful on the outcome of an election as a voter's choice to abstain in down-ballot races when lacking these same resources. Finally, voters' risk preferences have a large impact on their decision to roll-off in low information or high complexity elections.

Effectiveness of Informational Interventions

As my literature review has indicated, there are three primary reasons for roll-off: information, salience, and fatigue. The former two categories are information related: the salience hypothesis stems from individuals lacking information about why one should *care* about an election, while the information hypothesis stems from those individuals lacking information about what the office *does* or what the candidates stand for.

These informational barriers are easier for an organization to affect than something like fatigue, which is a result of the ballot design. Because information is both a significant barrier in the literature and something *VoteTripling.org* can impact as an organization, it therefore makes sense to focus specifically on information during the formulation of alternatives. Holding other systemic aspects of the election system constant, informational reasons for roll-off are easier for such an organization to address and mitigate.

The apparent solution to the hypothesis that lack of information causes roll-off would appear to be providing *more* information. However, the broad conclusion from literature across a wide array of domains, from politics to education, is that this isn't always the case. Historically, informational interventions are not very effective at mobilizing the desired changes and correcting problems caused by informational deficiencies.

For example, one study, which coordinated seven randomized controlled trials aimed at increasing democratic accountability of representatives' performance and conducted a meta-analysis of the results, found no evidence that the typical informational campaign had any impact on vote choice (Dunning et. al, 2019). The study, whose trials were conducted across six countries by independent research teams, found statistically insignificant results on both vote choice and voter turnout.

These results are similar to results in the realm of education, which point to null effects of informational campaigns. One such campaign, conducted in Kenya, found no effect on parental

involvement of informing parents about their children's educational and testing performance, even when including information about how to become more involved (Lieberman et. al., 2014). Similarly, a meta-analysis of 77 randomized trials focused on improving learning in primary schools found small to null effect sizes of informational interventions (McEwan, 2015).

There have been several randomized trials that have attempted to ascertain the impact of informational interventions on roll-off. The Analyst Institute conducted several randomized trials in 2012 and 2016 across several states that attempted to increase the amount of information available to voters. While these experiments had effects on persuasion and turnout, there was no detectable effect on roll-off (Analyst Institute, 2016). A multi-state field experiment conducted during the 2008 Presidential election similarly found limited effects of an informational intervention. The treatment included multiple elements: a vote by mail application, four phone calls, and three mailings (spread over the month before the election). The mailings attempted to create a "civic duty" mindset, emphasizing the importance of down-ballot elections for local issues (similar to the salience hypothesis for roll-off). As the author notes, the multiple treatments methodology was "a deliberate decision to 'throw the kitchen sink' at the behavioral aspect of down-ballot roll-off to see if anything worked" (Mann, 2013). While one variation of the treatment had small but statistically significant reductions in roll-off to Congressional races and state ballot initiatives, it had no effect on state assembly. The other variation of the treatment had no impact on roll-off in any of the down-ballot races.

As the research above demonstrates, informational interventions alone consistently fail to have demonstrable impacts. Bowler & Donavan (1994) provide a framework by which information might mobilize changes in voting behavior. As they note in their study of opinion volatility in the leadup to a ballot proposition contest, "information mobilizes awareness, which is a prerequisite for opinion." While an opinion is necessary to cast a vote in a down-ballot race, they note that information is a necessary but insufficient condition for opinion. This is corroborated by multiple studies in the behavioral sciences, which find limited impacts of information alone, but find greater impacts of information when used in conjunction with motivation (for example, elements that add social pressure, improve understanding, use framing, or incorporate persuasion) (Fielding et al., 2012; Adams et. al, 2015).

Criteria

To recommend an alternative from the proposed list, I will use the following criteria.

Effectiveness

The first criteria I will use is *effectiveness at reducing roll-off*. This criterion is perhaps the most important for addressing the problem at hand of reducing roll-off among Democratic voters. To evaluate this criterion, I will refer to the literature on which each alternative is based, as well as my own research. My conclusions will be based on a combination of effect sizes found in the literature, as well as my own estimates of how well these estimates are likely to replicate in different contexts (i.e. the current year as opposed to the year of the studies referenced, down-ballot races as opposed to races at the top of the ballot). An alternative will be rated more highly if it is judged to have higher effectiveness at reducing roll-off. Because of its importance for addressing the problem, this criterion will be weighted 60%.

Implementation Feasibility

Second, I will use *implementation feasibility*. This criterion measures the difficulty of implementing an alternative for *VoteTripling.org* and its partners, taking into account technical expertise needed to design and implement the intervention, the difficulty in reaching the target population, and the cost of implementation.

If an alternative requires more staff-hours to properly execute in the lead-up to election day, if it requires a higher level of technical expertise to properly design and implement (for example, micro targeting, mail or digital consultants, large amounts of information that differ for different geographic or electoral contexts), or if the alternative requires larger and more diverse partnerships with external organizations, then the alternative will be rated lower on this criterion.

Similarly, the cost of implementation affects implementation feasibility just as much as the complexity of implementation. If the cost increases, whether as a result of increased implementation complexity or because of an increase in the amount of resources required, then an alternative will score lower on this criterion.

While an alternative with lower feasibility may still be implemented if it is highly effective, the level of feasibility is still a large determinant of the ability and desire of *VoteTripling.org* to use a given alternative. Therefore, this alternative will be weighted 30%.

Distributional Effects

Third, I will rate the *distributional effects of the intervention*. By this, I refer to how well the proposed alternative reduces roll-off among the target population of voters who cast votes in elections at the top of the ballot, but fail to cast votes for down-ballot Democrats. As my literature review has demonstrated, roll-off is high on aggregate across a variety of down-ballot elections, but the difference in roll-off is systematically higher for Democratic candidates than for Republicans. While reducing

average total roll-off will likely reduce the absolute amount of roll-off among Democrats more than Republicans in a given election, this is not necessarily the case.

Therefore, this criterion rates an alternative specifically on how well the intervention reduces Democratic roll-off relative to Republican roll-off. This also means that an alternative that moderately reduces Democratic roll-off while not reducing Republican roll-off will rate more highly than an alternative that heavily reduces both Democratic and Republican roll-off.

Another important consideration associated with distributional effects is that different interventions affect different target populations, or groups of interest. While the effectiveness of one intervention may be high, if the population affected by the intervention is inherently small, then it will have little effect on the overall distribution of roll-off between Democrats and Republicans, and rate lower on distributional effects.

This criterion is perhaps the hardest to measure, and will therefore be measured using a combination of existing literature, my own research, and inferences about how the intervention will affect specific demographics' voting choices. Because an intervention judged to be *highly effective* will also likely disproportionately reduce roll-off among Democrats, this criterion receives a weight of 10%.

Alternatives and Findings

Alternative 1: Ballot Guides

Intervention

This alternative would involve the creation of ballot guides intended to inform voters about contested elections on the ballot, including down-ballot races. Each election listed on the ballot guide would include a brief description of the function of the contested office, information about the preferred candidate, and endorsements from relevant organizations and public figures. Ballot guides should be directly addressed to likely individual voters, identified as likely Democratic voters by their voter file.

Example of a Ballot Guide (Analyst Institute, 2016)

Background

This alternative mirrors one of the most common informational interventions used in political science research and by campaigns, election offices, and newspapers. Each of these ballot guides, whether partisan or nonpartisan, is aimed at providing voters with more information about specific candidates, propositions, offices, and races.

For example, local and national newspapers often provide short, nonpartisan explainers of specific issues and candidates on the ballot, as well as arguments for and against, endorsements by relevant sources, and other information (Paybarah, 2019). Issue groups, such as the NRA and Planned

Parenthood, also provide ballot guides, which often provide information in a more partisan manner. Even local and state governments provide varying levels of ballot guides, from local election offices' sample ballots to some states' requirements that they provide detailed descriptions of ballot measures and candidate statements (Underhill, n.d.).

One study, which examined the effects of Washington State's vote-by-mail (VBM) rollout between 1996 and 2012, finds support for this kind of method. Washington rolled out mandatory VBM on a county by county basis over almost two decades. The ability for voters to see their ballot, and take time to inform themselves on the candidates and ballot initiatives had significant effects on roll-off, averaging a 15% reduction in roll-off in down-ballot races (Marble, 2017). This study has an important implication: if voters are given time to see what's on the ballot and inform themselves about races and ballot initiatives (for example, through a ballot guide sent in advance of the election), roll-off is likely to decrease.

The research into ballot guides reveals that informational ballot guides often have little to no effect on roll-off. The Analyst Institute has conducted multiple randomized controlled trials to examine the effect of such ballot guides. Across seven RCTs in three different Presidential elections, ballot guides had no statistically significant impact on roll-off in any election, with the exception of one low-salience state Supreme Court election (Analyst Institute, 2017). Each of these interventions was specifically targeted at reducing roll-off, and while they failed to do so, these informational campaigns did have an effect on *vote choice*, i.e. they caused some of those who were going to vote down-ballot anyway to switch their votes.

In the one study above that *did* show an impact of ballot guides on roll-off, the election was characterized by several key traits: it was non-partisan (and thus lacked the usual information of party ID on the ballot), it already had high levels of roll-off (research shows that judicial elections tend to have among the highest levels of roll-off), and it had relatively low campaign spending (which often serves as an information source for voters) (Streb et al., 2009; Analyst Institute, 2013). This points to the importance of contextual factors in determining the proper intervention. Informational interventions such as ballot guides *may* be effective, *given* the precondition of extraordinarily low information, such that the "correct" choice cannot be understood from quick cues such as party ID.

Evaluation of Alternative 1 Against Criteria

Effectiveness

Based on the literature, ballot guides have had little success at reducing roll-off, although they have had documented persuasion effects. However, as the case of effective mail guides in statewide judicial elections shows, ballot guides may be most effective in extremely low salience elections further down the ballot, such as nonpartisan local elections, but given the difficulty of randomizing at such a local level, little evidence exists to support this theory. This alternative therefore ranks low on effectiveness.

Feasibility

Mail ballot guides may be easier to target than other methods, because voting history and address are public record. Based on the above ballot guide experiments, mail ballots cost an average of $0.43 per guide and $0.51 per targeted household, while a study in Virginia found a cost of $1.27 per target (Analyst Institute, 2017 & 2018). A similar ballot guide study in Washington state randomizing among 5000 precincts totaled $200,000. However, both of the above studies targeted lack of information in low-salience, yet still statewide elections (judicial and ballot measures). Neither of these studies takes into account the cost of designing mail guides for non-statewide elections, such as state assemblies or even local offices. As the level of elections included on the ballot guide becomes more local, the amount of resources needed to develop information for each office increases as well. Given the high cost per target and inability to scale "down-ballot", this alternative ranks moderate on feasibility.

Distributional Effects

Informational interventions such as ballot guides tend to have the greatest impact among those who are most uninformed (Bowler & Donovan, 1994). The ballot guide RCTs mentioned above had no detectable effects on turnout and roll-off; however, they did persuade voters in the treated condition to switch their vote to the down-ballot Democrat-supported issue and candidates. This implies that ballot guides were effective at informing risk-tolerant voters and reducing incorrect votes. While the above guides were not targeted at likely Democratic voters, they still increased the Democratic-endorsed margin. This, combined with a mail ballot guide campaign, would likely further increase the benefit to Democratic candidates and issues. Therefore, this alternative ranks high on distributional effects.

Alternative 2: Poll Greeting

Intervention

This alternative involves the utilization of location services on a person's phone to share information about down-ballot races when a voter arrives at a polling place. *VoteTripling.org* would collect sign ups ahead of time from interested voters. The voter's address can be matched with the associated polling place from the state website to send an alert when the voter gets within ¼ mile of their polling place. The alert would include a pre-filled sample ballot based on publicly available races associated with a voter's address.

Background

While much of the research into the effect of informational interventions across a wide array of disciplines finds null effects, this could be because preconditions for effective informational interventions are not being met. Specifically, research indicates that to be effective, an informational intervention must take place right at or before the point of decision-making.

Among the most common informational interventions used in the campaign world (phone calls, door knocking, digital ads, mail, and television ads), the mode with the largest effect on vote margin is television ads (Analyst Institute, 2019). One RCT, conducted during the 2006 Texas Gubernatorial

election across 18 different media markets, found that television ads, while incredibly effective in the short term, had a decay period of one to two weeks before the effects disappeared, on par with similar observational estimates (Gerber et. al., 2011). These results reflect the psychological concept of priming, in which exposure to certain topics more easily brings to mind other associations with these topics, and increases the weights placed on these considerations when making a decision (Lenz, 2009). While priming is effective close to exposure to the stimulus, its effects quickly fade.

Outside of political science, evidence in other disciplines points to the importance of the timing of informational interventions. In the health sciences, for example, a systematic review of the effectiveness of interventions designed to increase physical activity found that among informational interventions, "point-of-decision" prompts, which provide information intended to affect behavior at the point a decision is made, had the highest effect (Kahn, 2003). The CDC recommends using "point-of-decision" prompts when designing health interventions (CDC, 2020.; CDC, n.d.). Similarly, research in diabetes treatment, vaccination, and malarial drug adherence indicates that informational interventions are most effective when timed close to treatment availability (Hood et. al., 2015; Busso et. al., 2015; Raifman et. al., 2014).

One such "point-of-decision" study was conducted in Michigan during the 2012 election cycle. The RCT was intended to increase support for a down-ballot proposition, and to reduce roll-off from the top of the ticket by encouraging more people to vote on the proposition (Analyst Institute, 2013). The results of the study found no statistically significant decreases in roll-off (although both experimental conditions appeared to show small effects in the expected directions). What explains the difference between this experiment and health literature? One possibility is that the "point-of-decision" in this study is during the act of casting the ballot, instead of entering the polling place, where poll greeters were situated. Another possibility is that casting a vote in a down-ballot race requires more information than can be conveyed when walking into a polling place, rendering "point-of-decision" interventions less effective in a campaign setting than in a health setting.

Evaluation of Alternative 2 Against Criteria

Effectiveness

While the Michigan experiment above found null results, this could stem from a failure to intervene at the point of decision – unlike poll greeters, cell phones can be taken into the polling place. The evidence is mixed, but if implemented correctly, could yield large reductions in roll-off. However, even if effective, this alternative requires voters to sign up before the election. In addition to the difficulty of publicizing the option to sign up for such a service (for example, *VoteTripling.org's* own cold SMS conversion rate is 4%; its IDed conversion rate is 10%), the more information that is required (especially personally identifying information such as addresses), the lower the conversion rate. Thus, even if a point-of-decision method is effective, it may be effective for fewer people than a system like mail ballot guides. Therefore, this alternative rates moderate on effectiveness.

Feasibility

An opt-in system such as this alternative requires a large up-front effort in order to get voters to sign up initially. Further complicating such a system is the development of the geolocation system and software, something that is not possible through an automatic texting system, but would require the development of a new application or partnership with an existing popular application with geolocation capabilities such as Facebook, Instagram, or Snapchat to function effectively. Meanwhile, the cost of the text messages themselves will likely be relatively cheap compared with mail ballot guides: $0.03 - $0.05 per text, depending on the number of texts sent. Overall, due to the high level of technical complexity needed to implement properly and high sign-up difficulty, this alternative rates low on feasibility.

Distributional Effects

As mentioned above, an opt-in reminder system such as the above requires high up-from effort to publicize the service and to induce people to sign up before the election. Further complicating this, it is easier to collect sign ups from already reliable down-ballot voters than less reliable down-ballot voters (i.e., the targets of this intervention). While this option may be able to target Democrats more effectively than a mail ballot guide campaign, it will also likely target those Democrats with a higher propensity to vote in down-ballot races. Therefore, this alternative rates low on distributional effects.

Alternative 3: Social Networks

Intervention

This alternative is effectively a slightly modified variant of the "sample ballot spread" vote tripling tactic, focused on reducing down-ballot roll-off rather than turnout. Utilizing the same sign-up processes (Cold SMS, Canvassing, Polling Place, etc.) and communication process (once to sign up, and once on election day) as vote tripling, this intervention leverages the informational benefits of a ballot guide along with the established informational trust of social networks. Participants opt-in and pledge to be a "down-ballot tripler," and on election day are sent a ballot guide to share with three friends.

Background

VoteTripling.org began with a focus on deploying the technique of "vote tripling": (1) signing up individuals to commit to get three friends to vote, and (2) providing a reminder to follow up with their friends on election day (VoteTripling.org, n.d). The technique relies on social networks of more active voters to reach and influence less active voters. The idea behind vote tripling can also be leveraged to reduce roll-off, in part because of their shared target population. Just as vote tripling leverages social networks to reach less active voters, roll-off is especially pronounced among those voters less likely to be informed.

Since the development of the initial concept, *VoteTripling.org* has piloted several different variations, including "candy tripling" (similar to poll greeters at polling places), "nonpartisan line walking" (encouraging everyone in line to vote at heavily Democratic polling places to vote triple), "selective

tripling" (wearing partisan apparel and only talking about vote tripling to those who react favorably), and "sample ballot spread" (sharing pictures of a filled-in sample ballot with friends). This last variation, sample ballot spread, is effectively an intervention that leverages social networks as part of an informational intervention.

Research points to the importance of social networks in learning and incorporating new information. In multiple lab experiments, information shared from trusted sources in an individual's social network improved the quality of their decision making (Boudreau, 2009; Ryan, 2011). Similarly, interview-based research linking people's political information gathering and their networks indicates that people are able to make informed decisions by relying on trusted members of their networks with greater perceived political knowledge (McClurg, 2006; Huckfeldt, 2001).

Polling data too reveals the importance of trust in one's network when making important decisions. For example, a 2013 national AARP poll of adults 18+ found that 98% trust their spouse, 94% trust their best friend, and 84% trust their neighbors – compared with 35% who trust strangers (AARP, 2013). Similarly, a recent poll by Pew found that 43% of Americans rely on advice from others "a lot" before making major life decisions, compared with 31% who said they relied a lot on professional experts (Pew, 2020).

One of the largest studies to date on the topic, a 61 million person evaluation of social influence conducted on Facebook during the 2010 Congressional elections, found sizable impacts of social networks (via a digital "I Voted" button shared publicly on Facebook) on voting expression *and* behavior (Bond et. al., 2012). Specifically, seeing friends posting about voting through this button increased both *expressed* voting behavior (sharing the button oneself) and on *validated* voting behavior (through public voting records). Most importantly, these effects were greatest for closer friends, demonstrating the importance of social networks and high trust relationships on voting behavior. This intervention provides evidence that social networks have an impact on voting behavior beyond just social desirability – knowing that friends voted increased one's own voting likelihood even without a prompt that voting behavior is publicly accessible knowledge.

Evaluation of Alternative 3 Against Criteria

Effectiveness

Research points to the importance of trust within one's social network when sharing information, especially about elections. Further, the vote tripling model has proven effective at leveraging social networks to encourage voting, so it stands to reason that the same social mechanism that encourages turnout will also encourage recipients of messages from close friends to learn more about the election. Therefore, this alternative rates moderate on effectiveness.

Feasibility

Vote tripling is not very costly, requiring only two-three texts from the organization itself (at a cost of $0.03 - $0.05 per text). Because it utilizes the same format that *VoteTripling.org* currently uses, it doesn't

require additional resources or training for employees and partners beyond what the organization already provides. This alternative therefore rates high on feasibility.

Distributional Effects

Similarly to Alternative 2, down-ballot tripling requires participants to opt-in to participate on election day, rendering the effective target population dependent on the amount of sign-ups generated before the election. However, while this tactic utilizes the same process as vote tripling, it can be applied to a different target audience as needed – while vote triplers are encouraged to message friends who are less likely to vote, down-ballot triplers can be encouraged to message friends less likely to be informed about down-ballot elections, even if they are already likely or reliable voters.

Importantly, the design of the peer-to-peer model means that those targeted are most likely to be Democratic voters – *Democratic* "triplers" will most likely message *Democratic* friends about voting in down-ballot races. Furthermore, this tactic can share the same ballot guides as the previous interventions – ballot guides that, if partisan, could encourage the selection of Democratic candidates or Democratic endorsed issues. Therefore, this alternative rates moderate on distributional effects.

Analysis and Recommendation

Recommendation

Based on an evaluation of the three alternatives against the criteria of effectiveness, feasibility, and distributional effects, I recommend Alternative 3, Down-Ballot Tripling. This alternative is estimated to have the highest level of effectiveness of the three options, along with Alternative 2. Given the high weight given to effectiveness (60%), Alternatives 2 and 3 rate more highly than Alternative 1. However, unlike Alternative 2, which rates low on feasibility, Alternative 3 rates high on feasibility. Alternative 3 also rates more highly than Alternative 2 on distributional effects. While Alternative 1 rates more highly on distributional effects, this criterion is only weighted at 10%.

Outcomes Matrix for Proposed Alternatives

	Effectiveness (60%)	*Feasibility (30%)*	*Distributional Effects (10%)*
Alternative 1: Ballot Guides	Low	Moderate	High
Alternative 2: Poll Greeting	Moderate	Low	Low
Alternative 3: Down-Ballot Tripling	Moderate	High	Moderate

Sensitivity Considerations

There are two important caveats to this recommendation. The first one strengthens the recommendation. If one were to critique this analysis on the basis of the weights used, and argue that implementation feasibility is more important than effectiveness and that the weights should be switched, Alternative 3 would still rate more highly. Even if all three criteria were weighted equally, Alternative 3 would still rate more highly.

The second caveat is perhaps the most important for the selection of the preferred alternative. All of the estimates of effectiveness are based on projections from the literature. So far, there have been several experiments conducted with the intent of reducing ballot roll-off. None of these studies have had consistent success at reducing roll-off, with the exception of very specific, very low information circumstances. Further, the area of *partisan* roll-off has been studied even less, and it is unlikely solutions will be piloted to attempt to reduce partisan roll-off until more research has been conducted on how to successfully reduce roll-off in general. The estimates for effectiveness and distributional effects presented here are therefore more akin to educated guesses of effectiveness than true estimates drawn from the literature.

Given the null results of past interventions, if any of the proposed alternatives are effective, they are likely to have small effect sizes. As the Analyst Institute notes at the end of their Down Ballot Rolloff Memo (Analyst Institute, 2017):

> *"If it is absolutely necessary to pursue downballot rolloff reduction, we recommend developing a new and novel theory and message. Since we expect the typical downballot rolloff reduction program to be ineffective, we strongly recommend any new program be paired with an experiment to see if the new approach is effective."*

The alternatives proposed here are thus educated guesses for what may be effective, and should therefore be tested experimentally in smaller settings before scaling up further.

Implementation

My recommendation calls for the selection of Alternative 3, down-ballot tripling.

Purpose

The purpose of this APP was to better help understand the scale and importance of down-ballot roll-off for the progressive community, to diagnose the major reason(s) why roll-off happens, especially among likely Democratic voters, and propose potential solutions to address these barriers. To that end, the following section presents several main considerations regarding the implementation of the proposed recommendation.

Alternative 3 rated most highly in terms of feasibility, partially because of its low intervention cost per person, but primarily because implementation of this alternative is in line with the activities and processes that *VoteTripling.org* already carries out. Implementing this alternative would follow the same process already established for vote tripling, and would not require any additional resources or external partnerships beyond those already in development.

Concerns

There are three primary concerns to consider during the implementation phase. *First, how will the ballot guides be designed?* For statewide elections, the design of ballot guides is easy: present a statewide list of contested statewide offices, which usually number under half a dozen, and provide information that supports the progressive candidate(s). However, as a ballot guide extends further down-ballot, not only will it need to include more races at local levels of government (i.e. the addition of city council, school board, general assembly, local prosecutor, local agricultural commissioner, local judges, etc), but it will also need to be targeted based on the ballot that an individual voter will vote on. For example, New Hampshire, which has the largest legislature in the United States, has 400 seats in its House of Representatives, elected from 204 districts (NH Legislature, n.d.). While every resident of New Hampshire votes for the same candidates for Governor, there are many more elections across the state for state legislative seats. The resources needed to develop ballot guides for every resident across the state are substantial, especially if developed with a purposely progressive tone. The resources needed only increase as the number of down-ballot races increases (for example, by including all city council or mayoral elections).

There are several potential solutions to this problem. First, *VoteTripling.org* could work with organizations such as Ballotpedia, which sends out questionnaires to candidates (including many down-ballot candidates) and develops candidate profiles. However, these profiles are nonpartisan, and often are not complete for every race on the ballot. Second, *VoteTripling.org* can partner with local or statewide Democratic parties and progressive organizations to write up ballot guides for each down-ballot election. Because local parties have a better idea of the history and political stances of local candidates, they might be better prepared to develop the ballot guides. This option would require developing new partnerships, but *VoteTripling.org* has previously developed partnerships with campaigns, Democratic parties, and other progressive organizations, so this should be no different

from those other partnerships. Third, *VoteTripling.org* could design ballot guides itself by focusing on races of interest. Because the organization's goal is currently evaluation first, before scaling, it can develop guides only for specific counties and precincts that will be evaluated in initial experiments, and consider the first two options if it later decides to scale the intervention.

The second concern to consider during the implementation phase is *how will the ballot guides be disseminated?* While the concept of vote tripling requires just the name of three friends, down-ballot tripling requires a friend's address in order to share the relevant ballot guide. As the number of demands and information required from a tripler increases, the completion rate of both pledges to triple and of actual messages to friends will likely decrease.

One solution to this problem is to tailor the implementation of this method to the relevant election. Ballot guides shared with triplers can focus specifically on elections in which friends are likely to face the same choices between candidates and ballot initiatives as triplers. For example, most down-ballot triplers will share the same state and city or county as their friends. Ballot guides that include statewide or locality wide races can therefore be shared with triplers based on their city or county alone, without necessitating the addresses of a tripler or their friends. Conversely, state assembly elections may be less effective with regard to this method, because state assembly districts often cut across city and county lines. Ballot guides would be more difficult to tailor to friends without sharing each friend's address using this method, because a tripler's friend could live only several miles away but live in a separate assembly district. However, this problem isn't necessarily as bad as it may seem. *VoteTripling.org* uses housemates to measure turnout effects of interventions, because housemates are those most likely to be engaged with by triplers. This indicates that a large number of those contacted by triplers may be in the same household, and thus the same assembly district as well.

The third concern to consider during the implementation phase is *how will the implementation of down-ballot tripling interfere with already existing efforts to vote triple?* While down-ballot tripling leverages the same process and knowledge base as vote tripling, it may also engage the same populations already engaging in vote tripling. This may reduce the overall number of people engaging in both. For example, if someone is interested in down-ballot tripling, they may decide to do that and not vote tripling, when they would have vote tripled in the absence of down-ballot tripling. If both interventions are implemented together, each intervention's individual effectiveness may be diluted because fewer people engage than otherwise would have.

Measurement

VoteTripling.org is primarily a research organization, with the goal of testing and scaling interventions that can increase the performance of progressive candidates and issues, and to disseminate successful interventions among active campaigns. Therefore, this recommendation calls for future research into the idea of down-ballot tripling, or the use of social networks to overcome down-ballot roll-off, rather than direct implementation.

Unlike previous research conducted on vote tripling, the results of down-ballot tripling are not visible in individuals' voter files. Vote tripling has been measured by comparing turnout in the households of vote triplers to turnout in control households, giving a likely minimum estimate of the effect of the intervention. However, while an individual's decision to vote is a matter of public record, whether they vote down-ballot is not. This information must instead be viewed at an aggregate level, measuring the degree of Democratic roll-off at the precinct, county, or state level.

While past experiments of vote tripling could gather large sample sizes because results were viewed at the household level, the measurement limitations of roll-off interventions require measurement at the precinct level, at the very least. However, the lower the level of measurement, the less likely an intervention captured all of the friends that triplers contacted. Again, this may be less of a problem than expected – *VoteTripling.org* anecdotally estimates that around 25% of those contacted by vote triplers are housemates, meaning they would vote at the same precinct as the tripler. Conversely, while measuring at higher levels than the household, including precinct or county level, can capture more of the treatment effect, it will also reduce the effective sample size of the intervention, which will require engaging more triplers to detect any effects.

With current methods of measurement, limited resources, and the estimated small effects of such an intervention, it is unlikely the effects of a down-ballot tripling intervention could be detected using an RCT. Instead, I recommend the use of less causally inferential, but more feasible evaluations. First, measure the effects of the intervention in a controlled lab setting, using a service such as MTurk. If *VoteTripling.org* decides to test the effects of such an intervention in a real-world election setting, case studies may provide a more feasible test of concept, before designing an RCT.

Appendix

Examining Partisan Roll-Off: Limitations

While there has been some research quantifying roll-off across a variety of contexts, there is a dearth of research on *partisan* roll-off, or differential roll-off based on one's political preferences. In this section, I present some barriers to such research, including key assumptions that must be made in order for such research to be accurate.

A major cause of this gap in the literature is the way that election data is available. Individual-level voter data is limited – this level of data does not include the candidates that one voted (or didn't vote) for. Instead, voting data on an individual only shows their polling precinct and whether or not they cast a ballot in a given election. This kind of data is useful for examining the effectiveness of turnout, but is less useful when examining the effect of an intervention on vote choice or participation in a given race on the ballot.

Previous research has been able to examine roll-off on an *aggregate* level by comparing the overall number of votes cast in highly salient "top of ballot" races (such as Governor or President), or overall number of ballots cast, to the number of votes cast in down-ballot elections. For example, if 100 ballots were cast in the Presidential race, but only 90 were cast in the corresponding House of Representatives race, this represents 10% roll-off ([100-90]/100).

Estimations of partisan roll-off are more difficult, for several reasons. First, consider the individual. If they vote for the Democrat at the top of the ballot, but leave a race blank further down the ballot, we might consider this to be Democratic roll-off. However, this may not be the case. This voter might otherwise have voted split-ticket: they may have cast a vote for the Democrat at the top of the ballot, and would have preferred to cast a ballot for the Republican in the down-ballot race. Even if individual level vote choices were visible on the ballot, counting this as Democratic roll-off requires the strong assumption that every voter who voted for the Democrat at the top of the ballot also would have voted for Democrats in down-ballot races.

This problem persists even at the aggregate level. Partisan roll-off can be calculated as the difference between the number of votes cast for the candidate of a specific party at the top of the ballot and the number of votes cast for the candidate of that party in a down-ballot race. However, given the problem above, this requires a similarly strong assumption that split-ticket voting is proportionally distributed between parties. For example, if 10% of voters who supported a Democrat at the top of the ballot supported Republicans in the down-ballot race of interest, calculating partisan roll-off this way is only accurate if 10% of voters who supported a Republican at the top of the ballot supported Democrats in the down-ballot race of interest.

This assumption is even more problematic if the number of votes cast for Democrats and Republicans at the top of the ballot differs widely (i.e. a large margin of victory for one candidate). For example, consider a scenario in which the top-of-ballot Democrat gets 60% of the vote, while the top-of-ballot Republican gets 40% of the vote in a 100,000 vote election. If 10% of those who voted for the Democrat at the top of the ballot prefer the down-ballot Republican, and 10% of those who voted for the Republican at the top of the ballot prefer the down-ballot Democrat, then the down-ballot Democrat will receive 4,000 crossover supporters while the Republican will receive 6,000 crossover

supporters.[4] In both a context with zero roll-off and a context with non-zero roll-off, taking the margin of support at the top of the ballot and assuming evenly distributed split-ticket support will underestimate support for the down-ballot candidate of the lowest voting getting party at the top of the ticket.

One final barrier presented by the absence of individual-level roll-off data is the problem of split precincts. Given that which races an individual voted in are not visible at an individual level, research on partisan roll-off can only examine roll-off starting at the lowest level at which roll-off can be observed – generally the precinct (or county) level. In these cases, it is possible to see the number of votes cast for each candidate in each office at each precinct. Some precincts, however, serve voters across multiple down-ballot districts (for example, state assembly) who all vote in the same races at the top of the ballot (for example, statewide races such as Governor). In this case, it is not possible to exactly match votes cast for races such as Governor to down-ballot races such as state assembly.

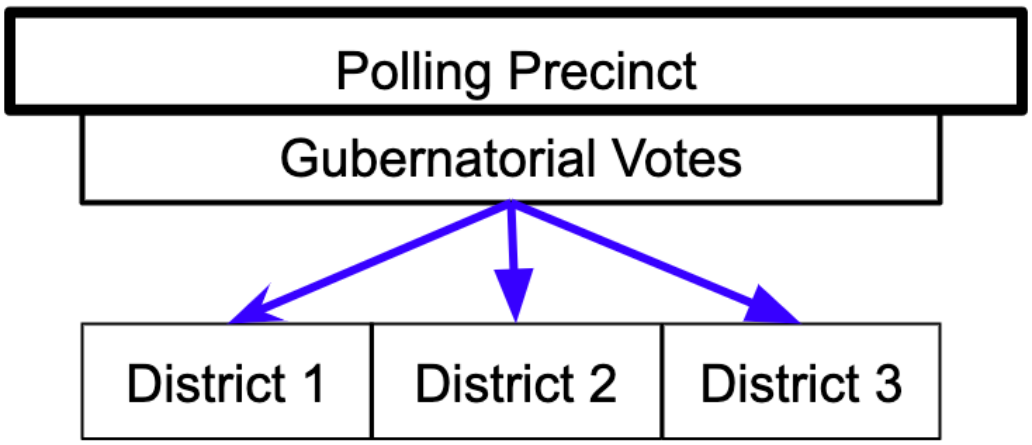


Illustration of a split precinct

Key Assumptions of Partisan Roll-off Studies

Therefore, examinations of partisan roll-off at the aggregate level (i.e. above the individual level) must make the following assumptions:

1. A voter's vote at the top of the ballot is indicative of their opinions and values.
    a. This means given full information, voters would support down-ballot candidates of the same party, whether or not they abstained in a down-ballot race.
2. Ticket splitting is rare.
3. In the context of split precincts, the number of votes for candidates in offices at the top of the ballot can be assigned in proportion to the number of votes received by each candidate in each of the down-ballot races within the precinct.
    a. For example, consider a precinct that serves two state assembly races, A & B, each with a Democrat and Republican. To measure roll-off in each state assembly race, allocate Democratic votes at the top of the ticket in proportion to the proportion of Democratic votes in race A and race B.

[4] 100,000 votes * (60% of the vote) * 10% crossover support = 6,000 crossover votes for down-ballot Republicans. 100,000 votes * (40% of the vote) * 10% crossover support = 4,000 crossover votes for down-ballot Democrats.

Partisan Roll-off Methodology

Virginia, 2005-2017

Election data is available from each state's website, although each state differs in the format that they provide it. Some states provide election data at the precinct level, while others only provide data at the city or county level. Similarly, while some states provide data in a ready to analyze spreadsheet, others provide data in formats more akin to lists, which require extra effort to organize in a format ready to analyze.

Virginia is an optimal case to study, not just because of its place as a swing state, but also because it provides detailed, spreadsheet-ready, precinct-level data over a long period. For years in which there was a Gubernatorial or Presidential election at the top of the ballot, I kept all Republican and Democratic candidates. If a Gubernatorial election happened in a given year, I kept races for Governor and House of Delegates. If a Presidential election happened in a given year, I kept races for President and House of Representatives. I restricted my sample to races in which there was a contested general election in the down-ballot race (i.e. both a Democrat and a Republican).

To address the problem of split precincts, I assigned votes cast for the candidates on the top of the ballot in a given precinct to the down-ballot race with the most votes, and dropped the other votes cast in other districts from within the precinct. I then collapsed the votes cast in the election at the top and down-ballot for each party within each district. Finally, for the purposes of this analysis, I collapsed the total votes cast for each office by party. Roll-off was calculated as the difference between the number of votes cast at the top of the ballot and down-ballot for each party, divided by the number of votes in the race at the top of the ballot.

Wyoming

Wyoming is difficult to study for down-ballot elections, in part because it only provides vote data at the county level (which makes matching state assembly races to statewide races more imprecise), but also because it provides data in a formate that looks more like a list than a spreadsheet, requiring reshaping by hand. However, Wyoming counts the total number of undervotes and overvotes in each election in each county, which may be helpful for statewide races.

Here, I compared each of the statewide elections in Wyoming. First, I organized these races by hand, where one observation included all the votes cast across different parties, undervotes, and undervotes within each race. Then, I created a variable indicating the total number of votes cast in each election by summing up the vote totals received by each party in each election. I then sorted the races in order of total votes, and dropped all party vote totals except the Democrat and Republican parties.[5] I defined Democratic roll-off and Republican roll-off relative to the election with the most votes (Senator) by subtracting the number of votes that party received in each down-ballot election by the number of votes that party received in the Senate election, and dividing the result by the number of votes that party received in the Senate election.

Mississippi Public Service Commissioner, 2019

Mississippi includes data in an easily interpretable spreadsheet format, by county. Because the Central District is defined by county lines, everyone in the Mississippi Central District faced the same choices with regard to both statewide races and the Public Service Commissioner and Transportation

[5] Across the four statewide races that included minor party candidates, these candidates accounted for between 2.8 and 6.5% of the total vote cast within each election. I excluded write-in votes.

Commissioner races. I first restricted the data to counties in the Central District, and then calculated the total votes cast for each party and office within the Central District. Roll-off was defined as the difference between the number of votes cast for each party between the Governor's race and down-ballot races such as the Public Service Commissioner, divided by the number of votes cast for each party in the Governor's race.

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