

The Politics of Locating Polling Places: Race and Partisanship in North Carolina Election Administration, 2008–2016

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ABSTRACT

Do local election administrators change precincts and Election Day polling place locations to target voters based on their partisanship or race? We systematically evaluate whether decisions consistent with targeting occur using the near universe of eligible voters, polling place locations, and precinct boundaries across three presidential elections in the closely contested state of North Carolina. We find no evidence that local administrators allocate precincts and polling places in a manner consistent with partisan manipulation for electoral gain. Some counties appear to differentially target opposition party voters with these changes, but the county-level variation we document is likely due to random variation rather than deliberate manipulation. There is also little evidence that the removal of minority voter protections in *Shelby County v. Holder* impacted polling place placement. If partisan-motivated precinct or polling place decisions occur in North Carolina, they are seemingly more idiosyncratic than pervasive.

Keywords: election administration, polling places, voter suppression, minority politics, Voting Rights Act

INTRODUCTION

THE STRUCTURE OF ELECTION ADMINISTRATION in the U.S. offers partisan elites significant influence over the rules and conduct of elections (Cain 2014; Keyssar 2009). From literacy tests and all-white primaries to contemporary laws determining voter registration, the franchise of felons, and voter identification requirements, use of this influence to make voting harder or easier for some

groups of voters has long been central to party competition (Key Jr. 1949; Knafo 2013; Uggen and Manza 2002; Meredith and Morse 2014; Citrin, Green, and Levy 2014; Grimmer et al., 2018; Highton 2017; Gerber et al. 2017). Critically, and less well-studied, the decentralized structure of American election administration also offers local officials ample discretion to potentially undermine political accountability through routine aspects of their jobs (Kropf and Kimball 2013; Atkeson et al. 2010; Cobb, Greiner, and Quinn 2012; Porter and Rogowski 2018).

Discretion over where polling places are located and who is assigned to a given precinct can have important consequences for the costs of voting. Moving polling place locations can generate confusion, increase the costs of finding information about where to vote, and increase travel time to new polling locations (Brady and McNulty 2011). Changing precinct boundaries can potentially increase the number of voters using a given polling place, and thus increase wait times (Fausset 2014). Given correlations

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between race, partisanship, patterns of participation and the ability to overcome costs, these decisions can differentially affect turnout by groups (Verba, Schlozman, and Brady 1995; Leighley and Nagler 2013). Partisan geographic sorting and residential segregation also mean that geographically specific changes can create higher voting costs for some groups relative to others (Nall 2015; Rothstein 2017).

Many have claimed that elites have used local administrative discretion to deliberately disenfranchise voters. A recent report by Pew Trusts, for example, states “In the five years since the U.S. Supreme Court struck down key parts of the Voting Rights Act, nearly a thousand polling places have been shuttered across the country, many of them in southern black communities” (Vasilogambros 2018). And according to a recent *USA Today* investigation, “Election officials across the country have closed thousands of polling places and reduced the number of workers staffing them in recent years, citing cost savings and other new realities like increased early and absentee balloting. However, ... the burden of Americans’ shrinking access to in-person voting options is falling more heavily on urban areas and minority voters” (Nichols 2018). And on the basis of work by Insightus (2016) on early voting in North Carolina, the NAACP Legal Defense Fund concluded that “the widespread movement of polling places throughout North Carolina ... has kept tens of thousands of voters, disproportionately voters of color, from the polls,” in a report that compiled “state, county, and local level voting changes in the wake of the *Shelby County* decision that threaten minority voting rights” (Thurgood Marshall Institute 2016). NBC, in responding to this report, ran a story entitled “Study: North Carolina Polling Site Changes Hurt Blacks” (Roth 2015).

North Carolina appears especially susceptible to partisan-motivated election administration. In addition to an administrative structure that facilitates partisan influence—influence exercised by both Republicans and Democrats in recent years—the razor-thin margins of recent statewide elections have also arguably incentivized elites to use every available tool to help their party win. Numerous scholars have located the motivations for recent voter ID requirements and the availability of early voting in North Carolina in partisan competition (Graham 2016; Stern 2018a; Michaelson 2016; Ingraham 2016). In fact, the Executive Director of the North Carolina

Republican Party reminded Republican county board members of their discretionary powers to affect elections in the lead-up to the 2016 election: “Our Republican Board members should feel empowered to make legal changes to early voting plans, that are supported by Republicans ... Republicans can and should make party line changes to early voting” (Campbell 2016a).

Motivated by widespread concerns about partisan influence in local election administration, we examine the extent to which partisan-appointed county election officials in North Carolina alter the Election Day polling places of voters in ways consistent with strategic manipulation for electoral gain. We focus on county boards because they are the closest partisan entity to these decisions, they have the legal power to make the changes that we study, and because they are often identified in the press as the actor at alleged fault.

Our focus on polling place and precinct decisions rather than other election administration decisions—e.g., the allocation of poll workers, the purging of voter rolls, or the hours of early voting—may appear surprising given the amount of attention devoted to these latter aspects of election administration. However, there are good reasons for our investigation. First, the location of a polling place affects the first-order outcome of whether a voter shows up to vote (Brady and McNulty 2011). Whether a voter is correctly listed in the voter rolls, or whether a voter has to wait in a long line as a result of an understaffed polling place, for instance, only matters *once* the voter has made it to the poll. If voters are prevented from making it to their polling place in the first place, other changes are effectively unnecessary.¹

In addition, the popular press is increasingly concerned with the existence and consequences of partisan manipulation of polling places and precincts. Vasilogambros (2018), for example, suggests partisanship behind the closing of many of the 868 polling places closed since 2013, noting that “just last month, Indiana Secretary of State Connie Lawson, a Republican, removed 170, mostly Democratic

¹Note of course that polling place location changes affect this first order ability to make it to the polls, while changes in precinct boundaries that change the number of people at a given polling place are in the category of second-order effects. Like staffing of a polling place, they can only affect voters conditional on showing up to the polls in the first place.

voting precincts from Lake County—home to the state’s largest Latino and second-largest black communities.” Stinebaker (2007) similarly reports: “Officials in two Houston-area elections recently manipulated polling locations to clear the path for their supporters to vote and to toss numerous roadblocks before their opponents.” But despite the increasing prevalence of such accounts, these decisions are still far-less covered than other high-profile forms of (potential) electoral manipulation.

Yet, it’s possible that precisely *because* precinct and polling place decisions are less likely to generate as much press and interest group attention, they may be particularly valuable tools for partisan-motivated officials seeking to avoid scrutiny. Relatedly, because so many criteria are used to evaluate the suitability of a polling place location or the “need” for one to move, it is potentially easier to mask partisan motivations underlying those decisions. Regardless of whether polling place changes or precinct consolidations are the *most* salient local electoral changes that can be studied, they are forms of administrative discretion that can potentially be used to disenfranchise. From a normative perspective in which *any* manipulation puts the foundations of democracy at risk, they warrant critical scholarly examination.

It is possible that parties gain electorally from these administrative changes. Moving polling places and packing voters into precincts affects the costs of turning out to vote for very specific groups of voters. And critically, the information necessary to potentially target specific groups can be determined from voter registration rolls and past voting behavior. Because election officials’ motivations are unobservable, we look for evidence *consistent* with strategic targeting by collecting geolocated data on nearly every precinct boundary and polling place location change made by partisan-appointed county election administrators across the closely contested presidential elections of 2008, 2012, and 2016. We combine these data with information on the partisanship and demographic information of all 2,350,731 registered voters collected from the North Carolina voter rolls to analyze which voters *within a county over time* are impacted by precinct and polling place locations. Because county-level analyses may mistakenly infer partisan manipulation from effects caused by partisan sorting and residential segregation, our statewide analysis leverages over-time variation in the partisanship of elec-

tion administrators when identifying whether some voters are *more* affected than others based on their partisanship and race.

Statewide, we find no evidence that partisan-appointed local election officials were systematically more likely to target opposition-party voters with changes—Republican-appointed officials administering the 2016 presidential election were not more likely to move polling places used by Democratic voters, and Democratic-appointed officials administering the 2012 presidential election were not more likely to move polling places used by Republican voters. Nor do we find that black voters were any more likely to have had their polling place changed by Republican-appointed administrators than white voters. Nor were polling places more likely to be moved *farther* from opposition voters (and therefore *closer* to same-party voters). Nor do the changes produce more voters per polling place location for opposition voters—changes that would arguably increase the cost of voting because of increased congestion and wait times to vote.

County-by-county, our results are also inconsistent with partisan targeting. While the effects in some counties appear consistent with partisan manipulation when considered in isolation, in considering the universe of county-specific effects, there are as many counties appearing to target co-partisans as counties appearing to target non-co-partisans *under the same partisan-appointed regime*. Moreover, the distribution of county-level effects strongly suggests that the county-level variation is a product of chance—specifically, aggregating voter-level shocks—rather than a greater willingness or capacity to target voters in some counties. To be clear, we cannot prove that strategic manipulation did not occur in the counties where the patterns are consistent with targeting, but the fact that opposition-party voters are as likely to be harmed as helped statewide suggests that the changes we document are likely made primarily for non-strategic reasons.

The removal of minority voting rights protections in roughly half of the counties in North Carolina as a result of the Supreme Court’s decision (*Shelby County v. Holder*) invalidating Section 5 of the 1965 Voting Rights Act (VRA) also does not appear to result in politically motivated targeting in 2016, despite rampant claims to the contrary (Berman 2016; Insightus 2016; Vasilogambros 2018; Simpson

2016).² Allowing local election officials to make changes without receiving preclearance from the Department of Justice does not appear to produce polling place changes that are more likely to impact opposition voters than the changes occurring in counties that were never subjected to federal preclearance restrictions.

Our article is the first to systematically test whether and how election administrators target these cost-altering changes to voters across an entire state and multiple elections. In doing so, our article makes a contribution to our understanding of partisan discretion and election manipulation, broadly. Our findings also have important methodological implications for election forensics more generally. Polling place changes are an example of election resource allocation decisions—e.g., election workers, voting machines, voting hours, early voting locations—that are exceptionally difficult to interpret in isolation. Because nearly *any* change will impact one group of voters more than another, it is relatively easy to find cases where changes *could* have partisan motivations. Simultaneously, it is also always possible to rationalize why a change was made for reasons *other* than partisanship. As a result, it is exceedingly challenging to prove partisan intent. Studying the effects of polling places in the aggregate, and under different partisan-appointed administrative regimes as we do, however, provides the necessary analytic leverage because the genuine need to move polling places is likely uncorrelated with voter partisanship and partisan administrative control.

Our results also illustrate the difficulty and scientific and journalistic danger of extrapolating from geographically localized analyses. Many election forensic analyses and journalistic accounts focus on a single locality in the jurisdiction of a single election administration entity (Dyck and Gimpel 2005; Gimpel and Schuknecht 2003; Haspel and Knotts 2005; Cantoni 2020; Amos, Smith, and Ste Claire 2017). Our analysis shows that individual counties may present patterns that are hard to interpret absent the larger context. Concluding that a county engages in partisan targeting is difficult when the same election administration regime generates as many counties appearing to target opposition-party voters as appearing to target same-party voters. Although our study is inevitably limited by the fact that it is a single-state study, it provides a

unique and important perspective on cross-county variation that is unavailable in existing work.

THE PARTISAN POLITICS OF LOCAL ELECTION ADMINISTRATION

Election administration in the United States is highly decentralized. Local officials often have significant discretion when implementing state and federal election law and allocating critical election resources—distributing voting machines, setting voting hours, locating polling places, drawing precinct boundaries, and more. Despite widespread claims about the prevalence of partisan-based motivations, the extent to which these decisions are impacted by political motivations is unclear and difficult to persuasively identify.

Two explanations are typically offered for how local officials exercise their discretion over elections. The first explanation is that civil servants are technocratic welfare maximizers who make decisions to ensure elections are run efficiently despite a myriad of constraints (Mladenka 1981). Discretion, in this view, is necessary to allow officials to deal with budgets and personnel constraints, as well as highly idiosyncratic considerations specific to particular times or spaces—e.g., the willingness and ability of a given site to host a polling place may affect where one can be placed or when one has to be moved. A second literature argues that officials' decisions may be subject to personal, including racial, biases (Atkeson et al. 2010; Cobb, Greiner, and Quinn 2012; White, Nathan, and Faller 2015).

²For example, in *The Great Poll Closure*, Simpson (2016) argues: "Numerous reports, such as *Democracy Diminished* by the NAACP Legal Defense and Educational Fund, Inc., (LDF) and *Warning Signs* by The Leadership Conference Education Fund, document the post-*Shelby* resurgence of widespread voting discrimination in formerly covered states and localities. This report describes how some of these same jurisdictions are making voting more confusing and less accessible by engaging in massive reductions in the number of polling places." The Thurgood Marshall Institute (2016) argues: "There have been scores of changes following the *Shelby County* decision, as LDF predicted that there would be during our defense of Section 5 in the *Shelby County* case. Each change potentially impacts thousands of voters." Berman (2016), writing in *The Nation*, simply titles his piece "There Are 868 Fewer Places to Vote in 2016 Because the Supreme Court Gutted the Voting Rights Act."

Partisanship can also play a critical role in shaping the decision making of local officials with direct or indirect control over elections, whether from personal biases or institutional features (Kropf and Kimball 2013; Kropf, Vercellotti, and Kimball 2012; Burnett and Prentice 2018; Mohr et al. 2019; Kimball, Kropf, and Battles 2006). Local election officials in many jurisdictions are explicitly partisan, and their decisions can also have clear partisan implications—the allocation of resources can increase or decrease the costs of voting for different voters, thereby impacting voter turnout and election outcomes (James 2012; Porter and Rogowski 2018).³ In the case of polling places, officials can move polling places to create confusion and increase voters' costs of voting, and those moves can further increase or decrease the travel times for some voters relative to others. Officials can also change precinct boundaries to change the number of voters in a precinct and thus how long individuals may have to wait at the polls to cast their ballot.

Extant research suggests that even a small increase to the cost of voting can affect turnout. The research available to politicians during the period we study finds that changing voters' polling places can decrease turnout by 2% (Brady and McNulty 2011)—a sizable effect given the fact that the 2008 presidential election in North Carolina was decided by roughly 14,000 votes (out of 4.3 million) and the 2016 gubernatorial election was decided by only 10,277 votes (out of 4.7 million). Given that parties attempt to pick up advantages wherever they can—an approach perhaps best illustrated by former North Carolina Governor Pat McCrory's "contest-every-vote" political strategy (Phillips 2016)—it is unsurprising that officials believe that moving polling places and packing precincts can affect voter turnout (Phipps 2014; Vasilogambros 2018). Their ability to do so is facilitated by the fact that partisans tend to sort geographically and racial groups are residentially segregated (Nall 2015; Rothstein 2017), and the fact that officials also have access to detailed voter registration information. As a result, the movement of precincts and polling places can be precisely *targeted* based on the known race and partisanship of voters.

North Carolina presents a particularly compelling case for examining the potential for partisan-motivated behavior. First, North Carolina has been

at the center of numerous recent controversies involving alleged voter suppression (AP 2018; Michaelson 2016; Stern 2018b). Indeed, the allocation of polling places in North Carolina has been singled out as evidence of state partisan politics run amuck (Levitsky and Ziblatt 2018). And state parties have explicitly urged county-level election officials to exercise their discretion to make decisions for the benefit of their party (Campbell 2016a). If election administrators are motivated by partisan considerations, we would expect to find evidence of such behavior in North Carolina given its history of close statewide elections and prevalent claims about partisan election influence.

Second, the election administration institutions of North Carolina empower local partisan election administrators in a way that allows them the necessary discretion to affect voter costs with precinct and polling place changes.⁴ According to North Carolina state law, the allocation of polling places and voter assignment to precincts in North Carolina are made by three-person county boards (NC Gen. Stat. §163-33, 163-30) selected by the five-person State Board of Elections. The State Board is appointed by the governor from a list of nominees submitted by the state party chair of each of the two political parties having the highest number of registered voters (NC Gen. Stat. §163-19).⁵ Decisions at each level are made by majority rule,

³Partisanship of administrators is not necessarily problematic in theory. Indeed it may be normatively desirable to have "representative bureaucrats" who are descriptively aligned with the public (Kropf, Vercellotti, and Kimball 2012).

⁴North Carolina has a very similar election administration structure to eight other states: Hawaii, Illinois, Maryland, New York, Oklahoma, South Carolina, Virginia, and Wisconsin. In each of these states, a statewide board (or commission) oversees elections, with county or sub-state positions being filled by collective decision-making bodies. Appointments to these statewide bodies are usually made by the governor, and the governor's party often controls the statewide board (NCSL 2016). We note that even states without similarly centralized administrative procedures may engage in political targeting because of the discretion given to elected partisans in local government (Kimball, Kropf, and Battles 2006; Amos, Smith, and Ste Claire 2017).

⁵Throughout the article we will use "Republican" and "Democrat" to refer to decisions made by state and county boards that are appointed under governors from each of those parties. The boards are bipartisan in the sense that they are only *majority*-party of the governor, not entirely partisan. But for reasons of space and readability we use the simple partisan attribution to decisions made by the board rather than the more cumbersome "Republican/Democrat-appointed board" or "Republican/Democrat-majority board."

often along party lines (Phipps 2014). Highlighting the perceived political importance of these boards, in 2016 the Republican-led state legislature sought to prevent the newly elected Democratic governor from undoing the previous administration's policies regarding polling locations (Bonner and Blythe 2018; Stern 2018a; Michaelson 2016).

Most North Carolina counties also have a full-time election director and associated staff to help with the full-time administrative functions of elections (including selecting polling place locations). Critically for our research question, every decision must be approved by the three-person partisan board. The election director and their staff may provide the appointed county board with options, suggestions, and recommendations, but it is the partisan board that ultimately must approve every change (Stern 2018a; Michaelson 2016; AP 2018).⁶

Voters in North Carolina are increasingly choosing to vote early—nearly a third of registered voters voted early in the 2018 midterm election, and conditional on turning out, two-thirds of ballots cast were early—but the prevalence of early voting is not obviously related to whether Election Day polling places are changed in systematic ways. While early voting will decrease the effect of an Election Day polling place change, it is unclear how early voting affects the incentives of elites who may be interested in using the tools of election administration to try to target some types of voters when changing polling place locations. In fact, the rise in early voting may actually make it easier to close Election Day polling places by making it easier for elites to claim that the Election Day polling place is not needed due to early voting. Precisely because more voters are voting early, we may be more likely to observe elites pushing to make Election Day changes that target some voters more than others. If anything, the presence of early voting in North Carolina makes it more important to examine whether Election Day polling places are being systematically changed as the elites are provided some cover to do so because of the rise of early voting.

Another virtue of focusing on North Carolina is that the control of the election administration process changes during the period we study. During the 2008 and 2012 presidential elections, Democrats held a majority on the State Board of Elections (and therefore every county board), and North Carolina expanded early voting and added polling places. Following the 2012 election of Republican

Governor Pat McCrory, however, the Republican-controlled legislature was accused of measures that restricted polling place access, specifically for black voters (Campbell 2016b; Newkirk II 2016). In addition to addressing the substantive question of whether and to what extent polling place and precinct moves differ under Democrats and Republicans, as we describe in the section titled “Characterizing Statewide Polling Place Changes in North Carolina,” this variation also provides crucial analytic leverage to understanding partisan targeting independent of the genuine need to make changes (i.e., for parking, maintenance, disability access, etc.).

If precinct and polling place changes are used as a partisan tool to differentially affect the costs of voting in North Carolina, we would expect to observe specific patterns in the types of voters that are impacted by changes depending on the party controlling the governorship and therefore the county election boards. Democratic-appointed officials should be more likely to move the polling places of Republicans, and conditional on moving them, move them closer to Democrats (i.e., farther from Republicans). They should also be more likely to change precinct boundaries to increase the number of voters per polling place where Republicans vote. We would also expect the reverse to be true under Republican-appointed officials. Our expectations are primarily in terms of partisanship, but race may also play an important role given residential segregation and the geographic specificity of precinct and polling place changes. Therefore, we also investigate whether there are effects of race independent of partisanship, as well as how changes in minority voter protections created by the *Shelby v. Holder* (2013) decision interacted with any race-based targeting.⁷

⁶Personal interviews conducted by the authors with the Wake County Board of Elections confirmed this process.

⁷We might also expect independent racial and partisan effects due to judicial politics. Courts have historically been more likely to intervene when overt attempts to racially target voters have occurred, while showing a greater reluctance to wade into issues of partisan bias in election administration. Because disparate racial impacts are subject to strict scrutiny, courts have historically been especially likely to intervene when policies have disparate racial impacts, while showing a greater reluctance to wade into issues of purely partisan bias in election administration. As a result, we might expect Republicans to strategically target areas with large amounts of white Democrats to avoid the backlash of courts.

DATA ON PRECINCTS, POLLING PLACES, AND VOTERS

To identify whether some voters are more likely to be affected by a polling place change than others depending on the party in charge of those changes, we collect individual-level data on every voter from snapshots of the North Carolina Voter Roll provided by the North Carolina State Board of Elections (NCSBE) between 2008 and 2016.⁸ The voter file contains information on voter registration status, party registration, race, gender, and age, which are then paired with records from the North Carolina State Board of Elections on if and how each voter voted (e.g., Election Day, mail-in, in-person early) in the three presidential elections. We supplement these data with information on precinct boundaries and the location of nearly every presidential Election Day polling place in the state to produce an individual-level dataset that contains demographics, polling places, and voting histories for 2,350,731 unique voters (see Supplementary Appendix A).

We focus our analysis on a balanced panel of voters who are eligible to vote in both 2008 and 2012.⁹ Our balanced panel allows us to track the *the same voters* over time. This is as opposed to an unbalanced panel in which the movement of voters or entry of first-time voters would shift the composition of who we analyze from year to year. Eliminating movers from our analysis may seem limiting, but politicians do not know which voters are likely to move before the voters move, and there is consequently no reason to expect that focusing on non-movers would interact with administrators' choices in ways that would bias the effects we estimate. Crucially, focusing on non-movers ensures that the patterns that we identify are a consequence of changes in election administration rather than changes in which voters are being analyzed.

To identify whether a voter's polling place is changed by the decisions of an election official, we geocode voter addresses using the Geocodio geocoding service, and we link voters to their precincts and Election Day polling places for the 2008, 2012, and 2016 presidential elections.¹⁰ We similarly geolocate polling place locations using the Geocodio geocoding service which we merge with the shapefiles of election precinct boundaries (see Supplementary Appendix B). This spatial information is used to exclude people who move between elections and focus our attention on polling place changes

caused by the decisions made by election administrators. Focusing on non-movers produces our final sample of 2,350,731 individuals; 69.9% of all geocoded, eligible voters with polling places.¹¹

Some may wonder whether focusing on geographically stable voters is substantively consequential. Perhaps election administration officials are more likely to target voters who are less rooted in their communities with polling place changes? It is simply impossible to conduct this individual-level investigation because the effects are completely confounded for such voters. Among voters who move, we know that they are experiencing a polling place change because of that move and it is nonsensical to attribute those effects to administrative actions. Because every voter who moves also necessarily experiences a polling place change, there is no ability to estimate the counterfactual of whether

⁸More specifically, data was downloaded by the authors from the North Carolina State Board of Elections (NCSBE) data site, <<http://dl.ncsbe.gov/index.html>>, in November of 2017. Data for the 2016 presidential election comes from the November 8, 2016 snapshot, data for the 2012 presidential election comes from the November 6, 2012 snapshot, and data for the 2008 presidential election comes from the November 4, 2008 snapshot. All files contain a consistent unique individual identifier that allows us to combine them. Voters are only "missing" if they have been removed from the file as a consequence of multiple consecutive years of inactivity.

⁹These include voters with voter status of "Active," "Temporary," or "Inactive." "Inactive" is a label used by the NCSBE for voters who have failed to vote in several past elections and who *will be* (but are not yet) eligible for removal if they continue to not vote. There are 4,434,125 voters in the voter rolls who meet this qualification. We focus on voters with two years of eligibility because a first-time voter cannot, by definition, experience a *change* in their precinct or polling place location. As the ability to vote in 2012 may impact subsequent eligibility to vote, subsetting for voters who are *also* eligible in 2016 could potentially create bias due to selection after treatment. This post-treatment bias is not possible when conditioning on 2012 eligibility since any polling place change that causes a voter not to turn out to vote would not make the voter "inactive" in the rolls until 2016.

¹⁰This generates a total of 4,253,361 voter-year observations with usable geocodes—95.9% of our eligible voter sample. Our definition of usability requires accurate geocoding scores in two sequential elections. The reasons for failed geocodes—e.g., typos in voter roll addresses—are likely unrelated to turnout decisions once we account for county administrative capacity by using fixed effects in our analysis (Merivaki 2020). In addition, even if it were somehow the case that low capacity counties had voting roll errors but *more* polling place manipulation of those geocode errors (an odd capacity combination), the percentage of geocode failures is small enough that it would be difficult to explain away our results.

¹¹Thus, around 1.85 million people in the rolls move during our period of study.

movers would be more likely to experience a polling place change had they not moved.¹²

These necessary restrictions alter the sample of analyzed voters in predictable ways (see Table A3 in Supplementary Appendix A). Overall, our balanced panel is more white, partisan, and older than the entire pool of eligible voters for the same time period in North Carolina. Although it is well-established that these factors correlate with turnout (Wolfinger and Rosenstone 1980; Leighley and Nagler 2013), it is less clear whether this affects our findings. On the one hand, we might think that given the partisan bias of the sample, we might be more likely to observe partisan targeting than we would otherwise. On the other, we are more than likely providing a conservative estimate of the effect of race in polling place allocations given the white-bias of the panel. Despite such concerns, the leverage gained by holding the pool of voters constant across time makes our design uniquely suited to identify whether elite activity targets some voters more than others when altering the relationship between voters and their polling place.

In addition to identifying whether a voter's polling place has changed between presidential elections, we also measure how far voters have to travel to reach their new polling place to understand if officials move polling places closer to their supporters in an effort to reduce their travel costs. To do so, we use Google Directions API to estimate how long it takes every voter to reach their polling place by car in minutes from the population-weighted centroid of their census block at 10 am on Election Day, Tuesday, November 6, 2018.¹³ Using estimated travel times is important because straight-line distance measures may mask substantial variation in actual travel times depending on road density and traffic congestion. We also use precinct shapefiles to determine how the number of voters per precinct is affected by the changes being made.

We analyze *per se* changes in polling place locations and moves in relation to where voters live (i.e., their residences) because we consider these to be highly salient dimensions that affect costs to voters of turning out. But it is important to contextualize our results in terms of two other important dimensions that we do not have the data to analyze. First, we cannot analyze the change in travel time to a poll relative to a voter's job or other commonly frequented sites (e.g., school, church). We only have data on voters' residences, not their commonly trav-

eled routes during an average day. But given that administrators have only this information as well, we think that this measurement strategy captures an important way that election administrators might try to affect travel costs.¹⁴

Second, we lack systematic data on the characteristics of locations used for polling places (i.e., whether they are schools, community centers, churches, etc.). Even if a polling place is moved farther, on average, from the residence of black voters in a precinct, for example, if it is moved from a race-neutral location to a predominately black location (e.g., a black church), the *effective* travel time change may be smaller. Our analysis cannot account for such a situation in which it appears that the spatial features of the change (dis)advantages a group, but where the nature of the location itself may counteract that effect.¹⁵

To illustrate the type of changes we examine, Figure 1 presents maps of the location of Election Day polling places in 2008 and 2012 (a) relative to those in 2012 and 2016 and (b) for Precinct 22 in central Charlotte. Between 2008 and 2012, the polling place in Precinct 22 was moved to a census block with a higher-than-average percentage of black residents (census block groups are shaded according to their racial composition in the 2010 Census, with darker shades indicating a higher percentage of black residents). In 2016, Republicans moved the location of the polling place back to a part of the precinct with a higher percentage of white voters. Even though everyone in the precinct

¹²It may be possible to do a precinct-level analysis using the percentage of mobile voters—i.e., shift the unit of analysis to a higher level of aggregation—but this would require a massive amount of information and computing to be able to accurately match voter records over time and identify both sending and receiving precincts.

¹³Estimating travel times for census block centroids rather than for each voter's residence is necessary for financial and computational reasons. However, census blocks are extremely small units—between 0.7 and 0.9 of an acre—which minimizes measurement error. We use a future date because Google only provides travel time estimates for future dates.

¹⁴In addition, there would have to be specific correlations between how people travel during a day and a polling place for this to systematically bias (rather than simply attenuate) our results. Finally, *per se* changes still matter in the same way independent of whether we under- or overestimate travel time changes due to using only voter residence information.

¹⁵Again, we also note that *per se* changes are still likely to matter in a very similar way regardless of whether the spatial features of the move are counteracted or enhanced by the characteristics of the polling location itself.

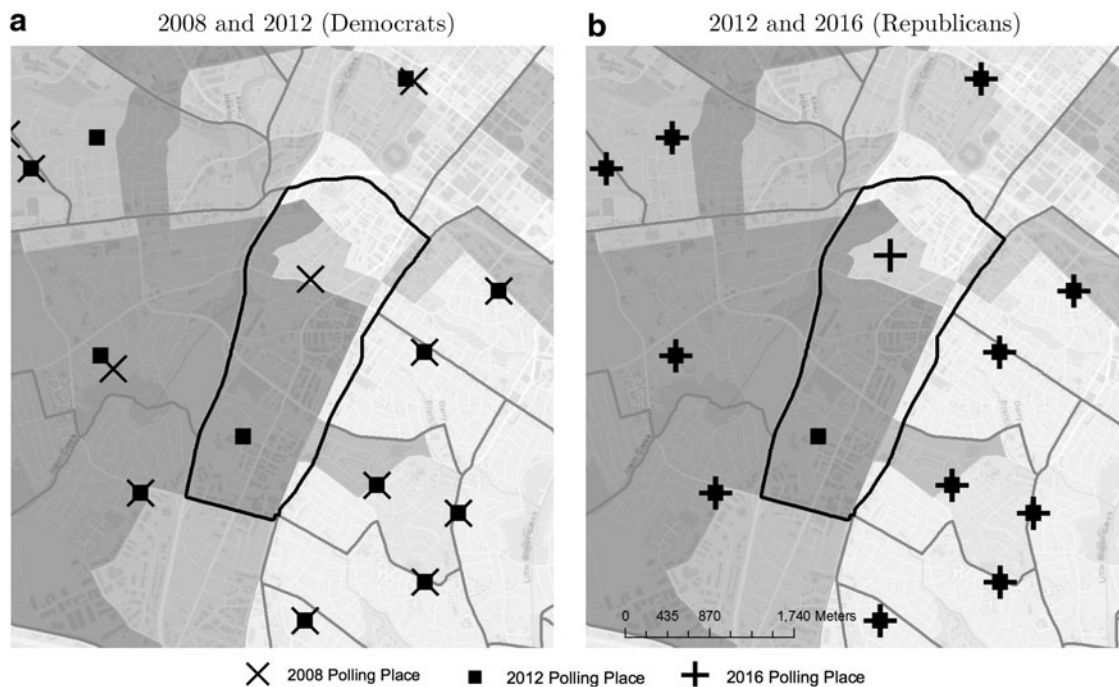


FIG. 1. Polling places in Precinct 22, Charlotte, Mecklenburg County. **(a)** 2008 and 2012 (Democrats); **(b)** 2012 and 2016 (Republicans). *Notes:* The above maps illustrate movement in polling place locations using the example of central Charlotte in Mecklenburg County. Map **(a)** presents the locations of polling places in 2008 (Xs) and 2012 (squares). Map **(b)** presents the locations of polling places in 2012 (squares) and 2016 (crosses). The background is shaded according to the racial composition of census block groups in the 2010 census with darker shades of gray indicating a higher percentage of black residents. Gray boundaries indicate 2016 precinct boundaries with Precinct 22's boundary outlined in bold black.

is affected by the per se change, these changes decreased travel times relative to residences for black voters in 2012 and increased those same travel times for black voters in 2016.¹⁶

The changes depicted in Figure 1 are the changes we would expect if election administrators were engaged in racial or partisan targeting when deciding where to locate polling places. However, observing only individual isolated instances of changes such as this, it's difficult to infer intentional manipulation as compared to genuine need. And even in the case where knowledge of intent were available, it's difficult to know the full extent of manipulation, particularly at higher geographic levels where electoral consequences might obtain—i.e., cities, counties, and the state. Rather than focus on individual instances, therefore, we examine the statewide pattern of changes under the assumption that homogeneity in the partisan motivations across all local election boards would be more likely to result in pervasive (rather than one-off) changes, should they occur at all.

Table 1 shows the scope of the polling place changes made by Democrats and Republicans oc-

curing within our balanced panel. The table summarizes a finding that we confirm using more rigorous statistical analyses below: contrary to what we would expect if election administrators were targeting voters from specific parties, polling place changes impact voters of all types at nearly identical rates. In fact, Democrat-led changes were actually slightly more likely to impact black voters and registered Democrats, whereas Republican-led changes were slightly more likely to impact registered Republican voters. The table shows very little evidence that Democrat-led changes differed from Republican-led changes in either magnitude or who was impacted. Of course, this still leaves open the possibility that the *nature* of polling place changes varies across voters (e.g., administrators

¹⁶Insofar as largely white precincts in the county did not *also* experience similar changes in the county, we would also detect an increased likelihood of a black voter experiencing a polling place change per se given the empirical strategy that we employ. The next section, "Characterizing Statewide Polling Place Changes in North Carolina," provides more details of the specific analysis.

TABLE 1. VOTERS IMPACTED BY POLLING PLACE CHANGES BY PERIOD

	2008–2012		2012–2016	
	# Impacted	Percentage of group	# Impacted	Percentage of group
Registered voters	386,896	16.53%	368,109	15.73%
Black voters	78,153	17.02%	68,303	14.87%
White voters	292,030	16.39%	285,443	16.02%
Democratic voters	178,945	16.88%	156,613	15.31%
Republican voters	129,080	16.01%	133,285	16.44%
Unaffiliated voters	78,539	16.62%	77,836	15.41%

Notes: Absolute number and share of each demographic group impacted by a polling place change in each of the two periods of our analysis. Calculations are based on the sample used in subsequent analyses. See the section titled “Data on Precincts, Polling Places, and Voters” for more details. Percentages are out of total registered voters in a given year. Information on race and party registration are from the official North Carolina Voter rolls and thus refer to voters who are affected, not people more generally.

may move polling places towards their supporters and away from opposition voters), but as we will show in subsequent analyses, we do not find evidence that this is the case.

CHARACTERIZING STATEWIDE POLLING PLACE CHANGES IN NORTH CAROLINA

We begin by analyzing whether voters are more or less likely to be impacted by precinct and polling place changes depending on their partisanship and race. To do so, we focus on whether voters from the party *not* in control of election administration—Republican voters in 2012 and Democratic voters in 2016—are (a) more likely to experience polling place changes, (b) more likely to have polling places moved farther from their residence, and (c) more likely to have more voters assigned to their polling place. In addition to estimating the average effect using our full 2008–2016 panel, we also estimate the separate effects for each partisan regime to determine if Republicans or Democrats are more or less likely to target opposition voters.

For each investigation, we estimate a variant of the following linear probability model:¹⁷

$$\begin{aligned}
 Pr(\Delta \text{Polling Place}_{i,t,c}) = & \alpha_c + \gamma_t + \alpha_c \times \gamma_t \\
 & + \beta_1 \text{Opposition}_{i,t} + \beta_2 \text{Unaffiliated}_{i,t} \\
 & + \beta_3 \text{Age}_{i,t} + \beta_4 \text{Age}_{i,t}^2 + \epsilon_{i,t}
 \end{aligned}
 \tag{1}$$

applied to our full panel, as well as separately for 2012 (when changes were made by Democrats) and 2016 (when changes were made by Republicans). $\Delta \text{Polling Place}_{i,t,c}$ is an indicator variable for whether voter i in county c in presidential election

year t experienced a polling place change from the previous presidential election; α_c captures county fixed effects; γ_t captures year fixed effects (for the pooled analysis); $\alpha_c \times \gamma_t$ is an interaction between county and year fixed effects (for the pooled analysis) to account for whether some counties are on different trends in terms of polling place changes.¹⁸ We also analyze models that rely on *across*-county variation rather than *within*-county variation to look for evidence that differential targeting is a county-level rather than a within-county phenomenon—i.e., partisan elites target voters of particular groups in only a few counties rather than target precincts of opposition voters statewide. Our balanced panel of stationary voters further ensures that our results are not a function of changes in the composition of the electorate between elections, nor of voters moving into a precinct or selecting into a polling place change. Because polling place changes are made at the county level, we cluster our standard errors by county.¹⁹

To identify whether Democrats target Republican voters with polling place changes and vice versa for Republicans, we indicate whether voter i is a

¹⁷We use a linear probability model rather than a logit or probit for ease of interpretation and also because the inclusion of fixed effects means that the logit and probit estimates are inconsistent because of the incidental parameters problem for non-linear models.

¹⁸We also analyze the dependent variable of voters-per-precinct. Precincts can be consolidated in such a way as to increase the number of voters that are assigned to a given polling place, potentially increasing wait times.

¹⁹Clustering the standard errors by county effectively reduces our (cross-sectional) sample size to 100 counties. However, as this is the geographic aggregation at which political decisions are made, we think this conservative strategy makes sense. We pay particular attention to the magnitude of our effects, recognizing that this clustering strategy may be too conservative.

member of the opposing party of the governor and consequently the partisan-appointed county election board (*Opposition*).²⁰ Given the change in partisan control, *Opposition* takes a value of 1 for Republican voters in 2012 when Democrats were in charge (0 for Democrats), and a value of 1 for Democrat voters in 2016 when Republicans were in charge (0 for Republicans). We also control for linear and quadratic age.²¹

To examine the separate effects of race we augment specification 1 using:

$$\begin{aligned} Pr(\Delta \text{PollingPlace}_{i,t,c}) = & \alpha_c + \gamma_t + \alpha_c \times \gamma_t \\ & + \beta_1 \text{WhiteOpposition}_{i,t} + \beta_2 \text{BlackOpposition}_{i,t} \\ & + \beta_3 \text{OtherOpposition}_{i,t} + \beta_4 \text{WhiteUnaffiliated}_{i,t} \\ & + \beta_5 \text{BlackUnaffiliated}_{i,t} + \beta_6 \text{OtherUnaffiliated}_{i,t} \\ & + \beta_7 \text{Age}_{i,t} + \beta_8 \text{Age}_{i,t}^2 + \epsilon_{i,t}. \end{aligned} \quad (2)$$

The coefficients of interest on each of our indicator variables in equation 2 reflect the average probability that a voter of that demographic or social group experiences a polling place change relative to the base category; a co-partisan of the governor (and therefore local election administrators) of *any race*.²² We do not estimate the coefficients on base categories for each race (which would capture the differential effects of a given race for a *co-partisan* of the governor) because we don't have theoretical priors about how or why administrators would differentially change the polling places of their own supporters differently because of their race. Statistically significant and/or substantively large coefficients for voters of a particular race or partisanship provide evidence consistent with possible strategic targeting for electoral gain because they indicate that the group of voters is more likely to be affected by a polling place change than voters associated with the party in control of election administration.

Of course, strategic partisan targeting is not the only reason that polling places might be moved. There may sometimes be a genuine technocratic need to move a polling place—e.g., for reasons of cost, disability access, parking, or other relatively mundane non-strategic reasons. Were it the case that the incidence of genuine need were related to the partisanship or race of voters within a given precinct, then our estimates of targeting would be confounded. However, we have no evidence to suggest

that such a correlation between factors of genuine need and the partisanship and race of nearby voters exists. Furthermore, and even more compellingly, we have no reason to think that the genuine need to move a polling place is related to the *opposition status* of voters, and thus, which party is in charge of making changes. We do not expect greater need in Democratic areas when Republicans are in charge nor greater need in Republican areas when Democrats are in charge. We therefore do not expect that the genuine need for change confounds our estimation of partisan targeting.

Table 2 begins by presenting the estimated effects of a voter's partisanship and race on the likelihood that they experience a polling place change. Models 1–5 present the results for party only using equation 1; models 6–8 estimate equation 2 examining differential changes by both party and race. Columns 1, 2, 3, and 5 present the results for the full panel and provide a sense of the overall likelihood of a non-co-partisan or nonwhite voter being affected by a change regardless of the party in control.²³

Across our models, we see no evidence that voters of the opposition party nor black voters are more likely to be impacted by polling place changes, *on average* across all voters and, thus, all counties in the state. Column 1 reports the basic panel correlation of the average probability of an opposition voter being targeted statewide across the time period absent controls. If widespread targeting occurred only in specific *counties*—for instance, in counties with a large number of opposition voters—this specification would detect changes affecting opposition voters within those *particular* counties. The resulting naive correlation in Column 1

²⁰Note that while claims of manipulation have been leveled at the local county board of elections, who have the closest knowledge of their counties and precincts, our empirical approach is actually agnostic about whether it is the county boards, state boards, or governor who is responsible for targeting, were it to occur.

²¹Age might be related to geographic clusters of renting or homeownership which could conceivably be related to some geographic patterns of genuine need for polling place changes. Some news reports have contended that young voters have sometimes been targeted with early voting polling place changes (Roth 2015).

²²For ease of exposition, Libertarians have been dropped (only 0.1% of voters are Libertarian).

²³Caution should be used in interpreting the *BlackOpposition* category in column 6, as the population of black Republicans is extremely small in North Carolina (96.6% of Republicans identify as white).

TABLE 2. THE PROBABILITY OF EXPERIENCING A POLLING PLACE CHANGE

	<i>Pr</i> (Δ PollingPlace)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Opposition</i>	-0.0083 (0.0055)	0.0030 (0.0021)	0.0028 (0.0025)	0.0031 (0.0047)	0.0020 (0.0046)			
<i>WhiteOpposition</i>						0.0016 (0.0023)	0.0033 (0.0050)	-0.00035 (0.0030)
<i>BlackOpposition</i>						0.0061 (0.0092)	0.0012 (0.0063)	0.0054 (0.010)
County FE		✓	✓	✓	✓	✓	✓	✓
Year FE		✓	✓			✓		
Ct. x Yr. FE		✓	✓			✓		
Controls			✓	✓	✓	✓	✓	✓
Year sample	Panel	Panel	Panel	2012	2016	Panel	2012	2016
Observations	4,677,529	4,677,529	4,677,529	2,338,992	2,338,537	4,677,529	2,338,992	2,338,537
Mean of DV	0.16	0.16	0.16	0.17	0.16	0.16	0.17	0.16
SD of DV	0.37	0.36	0.36	0.35	0.34	0.36	0.35	0.34

Notes: Coefficients are from estimating Equation 1 (Columns 1–5) and Equation 2 (Columns 6–8). The unit of analysis is the voter-election in the panel models and the voter in the cross-sectional models. In all models, the reference (excluded) category is a voter of the same party as the governor. Supplementary Appendix C reports coefficient estimates including those for unaffiliated voters. The SD of the DV is the average of the within-*i* standard deviations of the outcome variable for the full panel. Standard errors clustered at the county level. No coefficient above has a *p* value < 0.1.

is substantively small (about 1 percentage point) and statistically indistinguishable from zero. Including fixed effects and controls (models 2, 3, and 5) fails to change the substantive conclusion. Opposition voters appear to be *slightly* more likely to experience polling place changes under both partisan regimes on average, but the magnitude of the effect is statistically and substantively insignificant—non-co-partisans of the election board majority are less than a quarter of one percentage point more likely to experience a polling place change than a co-partisan of the board's majority party.

To determine whether these effects vary between Democrats and Republicans, we use the same specification (absent year fixed effects) to estimate the effects separately for each partisan regime. This analysis is motivated by the fact that most media coverage of polling place changes in North Carolina has suggested that such changes are primarily a strategy used by Republicans. Decomposing the pooled estimates of models (1, 2, 3, and 5) by party reveals similar near-zero effects. Model 4 shows that under Democratic control in 2012, Republican voters appear to be roughly a third of a percentage point more likely to experience a polling place change overall. Model 5 shows that under Republican control in 2016, opposition voters were even less likely to experience polling place changes—Democratic voters were only approximately 0.2 percentage points more likely than Republican voters to experience a change.²⁴

Allowing the probability of experiencing a polling place change to vary by both partisanship and race for the full panel (model 6), for Democrat control (model 7), and for Republican control (model 8) reveals a similar lack of effects consistent with intentional targeting. Despite widespread journalistic accounts to the contrary, the results fail to detect dramatic differences in the probability of experiencing a polling place change by race when Republicans were in control. Black Democrats are more likely than white Democrats to experience a change in model 8, but the effect is only about half of one percentage point and statistically indistinguishable from zero.

In concluding that there is no evidence of strategic targeting of polling place changes for partisan gain on average, we emphasize the small magnitudes we detect—less than half of one percentage point in all relevant cases. Although our county-level clustering limits the precision of our estimates, even if we were somehow able to increase our statistical power and reject the null hypothesis that these effects were exactly zero, the magnitudes would remain substantively minuscule; the estimated effects

²⁴Although we focus on the substantive magnitude of that effect given what we've previously noted about our conservative standard error clustering choice, we note that the effect would have to be about 0.5 percentage points (an estimated coefficient of 0.0049 approximately) for us to reject the null hypothesis that the point estimate is zero.

amount to just 2% of one standard deviation of the outcome.

In addition to determining whether opposition voters are more likely to experience a polling place change, it is also important to determine the type of change they experience. While polling place changes are generally seen as raising costs to voters, it seems plausible that election administrators could believe that reducing travel times may have a *net* positive effect on turnout by making it easier to vote. If so, the lack of effect in Table 2 could reflect the fact that although both co-partisan and opposition voters were equally impacted by polling place changes, the changes moved polling places closer to co-partisan voters and farther from opposition-party voters.

Table 3 evaluates whether our previous results are hiding important variation in *where* polling places are moved relative to voters of a particular party or race. We estimate the relationship between voter partisanship, race, and the probability of having a polling place *moved farther away* using the set of voters who experience a polling place change. To do so, we re-estimate our specifications (equation 1 and equation 2) with the inclusion of an indicator, *PollingPlaceMovedFarther*, for whether the voter had their polling place moved farther away (as measured by drive time) relative to the last presidential election. (Using more precise measures based on the change in drive time produces similar estimates.) The excluded category is having a polling place moved closer.

Table 3 reports the results. In no model is there a meaningful difference in how polling places are moved for opposition voters relative to voters aligned with the party in control. In every specification—including both cross-sectional and panel models—we estimate extremely small relationships (less than 1.5 percentage points) between partisanship and the change in distance to a polling place. Moreover, none of the changes are statistically distinguishable from zero. Because the results of Table 3 condition on voters who experience a polling place change, a point estimate of 0.67 percentage points (model 3) does not imply opposition voters are three-quarters of a percentage point more likely to have their polling place moved away from them than non-opposition voters; rather it says that *among the ~16% of voters who experience a polling place change*, opposition voters are 0.67 percentage points more likely to have their polling place moved away from them. There is no effect for the

other 84% of voters. Consequently, the overall potential electoral implications of these estimates are even smaller than they may initially appear.²⁵ Allowing the effects to vary by race reveals a similar lack of detectable differences—black Democrats are more likely to have their polling place moved farther away relative to white Democrats (model 8), but the estimated difference is very small both substantively (about one percentage point) and statistically.²⁶

In addition to controlling where polling places are located, local election officials can also change the boundaries of electoral precincts that determine which polling places are used by which voters.²⁷ Unlike some states, North Carolina does not have a legal maximum precinct size; thus election officials are not constrained in how many voters they can assign to a given polling place. As a result, officials can increase the cost of voting at a polling place by re-precincting a polling place to serve more voters even without moving the polling place itself. Including more voters in a precinct can increase the likelihood that voters in the precinct would have to wait in longer lines to cast their ballots. We investigate whether partisan election officials re-precinct in a way that increases the number of voters at a given polling place by the race or partisanship of voters. For the sake of space, Supplementary Appendix D reports the results of estimating equation 1 and equation 2 for the outcome $\Delta \text{VotersPerPrecinct}$.²⁸ Consistent

²⁵ Again, our conservative standard error clustering may make the statistical tests more conservative than usual, but the small point estimates suggest that, on average, election administrators are unlikely to be moving polling places farther from opposition voters (or, conversely, closer to their supporters) statewide.

²⁶ Given our standard error clustering choice and the use of a 95% confidence interval, the effect of opposition targeting of moving a polling place farther would need to be about two percentage points (a point estimate of 0.017) to statistically distinguish it from zero.

²⁷ Our measure of polling place changes already captures changes that are a function of precinct boundary changes—that is, because $\Delta \text{PollingPlace}$ is measured at the voter level, we code a voter as experiencing a polling place change even if that change has occurred because that voter was assigned to a new precinct. Thus, measuring a change in precinct alone does not give us additional analytic leverage beyond our measure of polling place change.

²⁸ Note that this measure is at the level of the voter and that voters may see the number of *other* voters registered at their polling place change even if their own polling place assignment does not (if new voters are assigned to said voter's polling place).

TABLE 3. THE PROBABILITY OF EXPERIENCING A POLLING PLACE CHANGE MOVED FARTHER

	<i>Pr(PollingPlaceMovedFarther)</i>							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Opposition</i>	0.0036 (0.0094)	0.0071 (0.0075)	0.0067 (0.0088)	0.0066 (0.011)	0.0066 (0.011)			
<i>WhiteOpposition</i>						0.0043 (0.0052)	0.0062 (0.011)	0.0047 (0.0077)
<i>BlackOpposition</i>						0.014 (0.022)	0.015 (0.014)	0.012 (0.023)
County FE		✓	✓	✓	✓	✓	✓	✓
Year FE		✓	✓			✓		
Ct. x Yr. FE		✓	✓			✓		
Controls			✓	✓	✓	✓	✓	✓
Year Sample	Panel	Panel	Panel	2012	2016	Panel	2012	2016
Observations	754,298	754,298	754,298	386,564	367,734	754,298	386,564	367,734
Mean of DV	0.55	0.55	0.55	0.53	0.57	0.55	0.53	0.57
SD of DV	0.50	0.48	0.48	0.47	0.47	0.48	0.47	0.47

Notes: The table presents coefficients from estimating Equation 1 (columns 1–4) and Equation 2 (columns 5–7), conditional on having had a polling place changed. The excluded category for the outcome is having had a polling place moved closer. The unit of analysis is the voter-election in the panel models, and the voter in the cross-sectional models. Our controls are linear and quadratic *Age*. See Supplementary Appendix C for the full set of coefficient estimates. The SD of the DV is the average of the within-*i* standard deviations of the outcome variable for the full panel models. Standard errors robust to 100 clusters at the county level. No coefficient above has a *p* value < 0.1.

with the findings reported above, we find no evidence that voters are differentially impacted by changes in the number of voters per precinct.

CHARACTERIZING COUNTY-LEVEL CHANGES

Although we do not find evidence that partisan local election administrators moved polling places—either in general, or more specifically, farther away from opposition voters (or, closer to their own supporters)—nor changed precinct boundaries in a manner consistent with strategic manipulation for partisan electoral gain statewide, it is possible that the average null statewide effects mask strategic targeting occurring in particular counties. To determine whether some counties—i.e., some specific election officials—engage in targeting, we estimate equation 1 separately for each of the 100 counties in North Carolina under each partisan regime to determine the probability of each type of voter experiencing a change in each county. In so doing, we (robustly) cluster our standard errors by precinct assignment history since polling place and precinct boundary changes are a common shock to a given precinct.²⁹

Figure 2 plots the likelihood of experiencing a polling place change for voters of the opposition in each county in the state (i.e., the estimate $\hat{\beta}_1$ from equation 1). Point estimates plotted as solid di-

amonds are statistically different from zero at the 5% level after multiple test corrections (Benjamini, Krieger, and Yekutieli 2006), while standard error bars show naive 95% confidence intervals (i.e., standard errors prior to multi-test corrections).

Figure 2 indicates that even though there is no evidence of targeting statewide, the differential incidence of polling place changes varies substantially across counties. Moreover, the effects we detect in individual counties are often at levels that would appear statistically significant in a single-county analysis. In a single-county analysis, for example, we would estimate a statistically significant increase in the probability that Republican voters experienced a polling place change under Democrat-appointed local election administrators in Bladen and Duplin Counties in 2012. In 2016, we would similarly conclude that Democratic voters in Cabarrus, Duplin, and Rockingham Counties were more likely to be targeted by Republican administrators.

²⁹Precincts are not stable over time; therefore we use the group formed by a common history of precinct assignments (whether a non-moving voter was ever part of the same precinct as another non-moving voter in our sample) as our clustering unit. In other words, for 2012 analyses, all voters assigned to the same precinct in 2008 and the same precinct in 2012 form a cluster group; for 2016 analyses, voters with the same assignments in 2012 and 2016 form a cluster group; for panel analyses voters that share assignments in 2008, 2012, and 2016 form a cluster group.

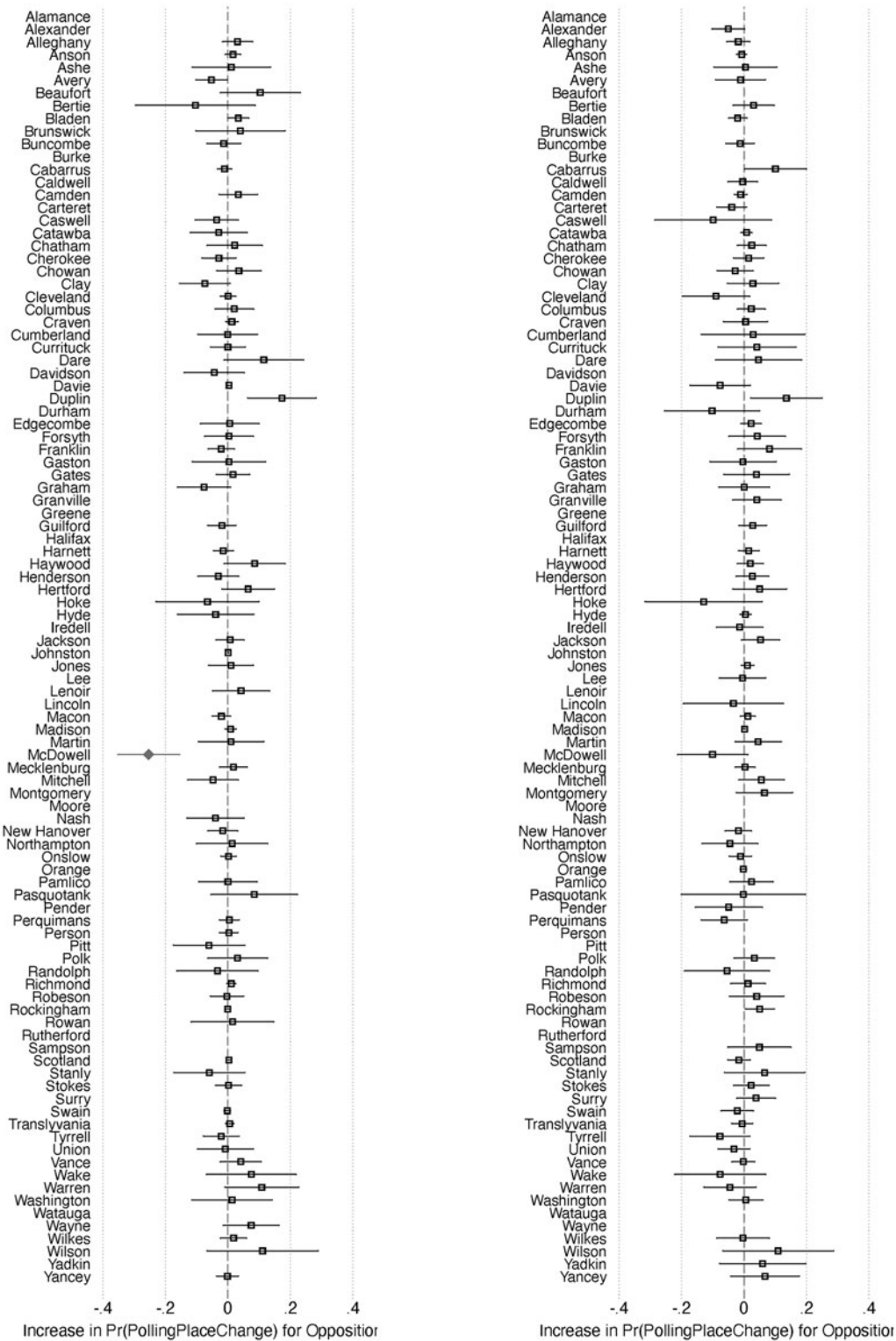
a Democrat-Appointed Officials (2012)**b** Republican-Appointed Officials (2016)

FIG. 2. County-specific estimates of the probability of an opposition voter experiencing a polling place change by year. **(a)** Democrat-appointed officials (2012); **(b)** Republican-appointed officials (2016). *Notes:* The above plot presents estimates of the increase in the probability of experiencing a polling place change for voters of the opposition party to the governor (and thus local election officials) (β_1) from equation 1 for each county individually. Standard errors are clustered by precinct-assignment history. Estimates are plotted with naive 95% confidence intervals. Red estimates (diamond points) are statistically significant after applying the Benjamini, Krieger, and Yekutieli (2006) multiple test correction with a False Discovery Rate limit of 0.05; insignificant estimates are black hollow squares. Coefficients for some counties cannot be estimated because no precincts in those counties experienced a polling place change.

If the researcher chose not to cluster their standard errors, they would find even more statistically distinguishable effects.

Critical for the interpretation of these as evidence of targeting is the fact that for every county in which polling place changes appear to fit a partisan narrative, a counter example can be identified. There are just as many counties where parties' polling place changes appear to have disproportionately negatively impacted *their own* partisans as opposition-party voters. Moreover, when we apply multiple test corrections to account for the fact that we are analyzing the effects in every county in which a change occurs, only McDowell County shows statistically significant evidence of differential targeting. In addition, our estimate actually suggests Democrats are targeting their *own* voters with polling place changes. Supplementary Appendix E examines the variation in estimated county-level effects further to show that there is no evidence that these differences are correlated with county demographics nor the "swing" status of counties where there might be an additional incentive to target opposition voters to improve outcomes in local races.

Figure 3 plots the distribution of the county-specific estimates alongside a standard normal probability density function (PDF). Under both partisan regimes, the distribution of estimated effects is centered around a mean of zero (reflecting the estimates from our statewide regression analysis) and the distribution is remarkably symmetric. The distribution

for 2016 under Republican appointees in particular is remarkably close to normal (formal standardized normal probability plots can be found in Supplementary Appendix F).

The similarity between the distribution of county-level effects, $\hat{\beta}_1$, and the standard normal PDF in Figure 3 suggests that counties with statistically significant relationships between polling place changes and partisanship are unlikely to be engaged in partisan targeting. If the variation in these county-level estimates were generated by county-specific, unobserved characteristics—e.g., variation in the willingness of partisan-appointed local officials to manipulate polling places for partisan purposes—the distribution of county-level estimates should reflect the distribution of those characteristics across counties. It seems extremely unlikely that the resulting distribution of omitted county-level differences—like the willingness to use polling place changes to try to influence turnout—would be so symmetric and so closely approximate normality.

However, if the cross-county variation in our estimates of β_1 instead results from voter-level (unobserved) characteristics, then the averaging of these voter-level shocks into each of our county-level effects would result in a distribution of county-averages that converges to normality as the number of counties goes to infinity (by the Central Limit Theory). The fact that the distribution of county-level effects we estimate so closely approximates a standard normal distribution—especially in

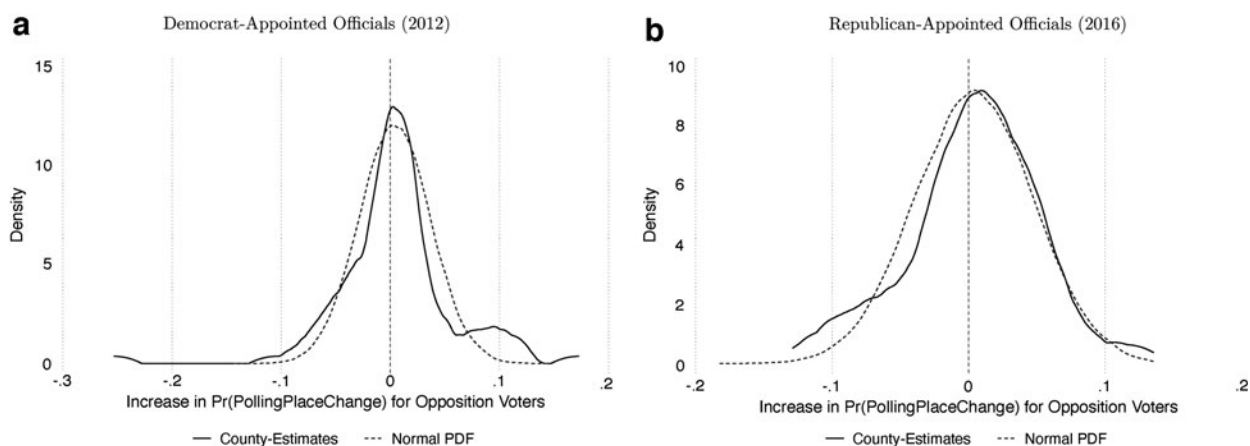


FIG. 3. Distribution of county-level estimates of targeting (a) Democrat-appointed officials (2012); (b) Republican-appointed officials (2016). *Notes:* The above plot presents the distribution of the estimates of the increase in the probability of experiencing a polling place change for voters of the opposition party to the governor (and thus local election officials) ($\hat{\beta}_1$) from estimating equation 1 for each county individually. Some county estimates are omitted because they cannot be estimated because no precincts in those counties experienced a polling place change. Normal distributions are simulated.

2016—suggests that the variation in county-level effects plotted in Figure 3 is more likely the result of aggregating voter-level independent and identically distributed (i.i.d.) shocks rather than variation in county-level election administrator characteristics or other county features that make some counties better settings to affect change with precinct and polling places.³⁰

PRECINCT AND POLLING PLACE CHANGES AFTER THE REMOVAL OF SECTION 5

Although the distribution of county-level effects does not suggest a pattern in which some counties are differentially targeting opposition voters with precinct and polling place changes, we probe the possibility that other county-level characteristics might reveal systematic targeting. Specifically, we evaluate whether the removal of minority voting protections—specifically, Section 5 of the 1965 Voting Rights Act (VRA)—by the 2013 *Shelby County v. Holder* Supreme Court decision allowed Republican local election officials to target black and Democratic voters in 2016 in a manner that officials could not previously do. The removal of Section 5 has been popularly cited as unleashing a torrent of voting changes aimed at minority voter suppression, including polling place changes (Knafo 2013; Berman 2016; Graham 2016; Brennan Center for Justice 2018).

To investigate the effect of removing the necessity of obtaining federal preclearance before making changes to precinct and polling places, we estimate equation 2 separately for the 40 counties formerly covered by Section 5 and the 60 counties that were not.³¹ We restrict our analysis to 2016, the presidential election year post-*Shelby* for which we have data. This allows us to describe whether, on average, counties that were formerly covered by Section 5 show differential evidence of racial or partisan targeting relative to counties that were never covered. Using county fixed effects and thus leveraging within-county variation in potential targeting ensures that detected differences are related to former Section 5 coverage rather than any other fixed county-level characteristics. Were the *Shelby* decision to have resulted in more opportunities to move the polling places of minority (and likely Democratic) voters, we

would expect to find that these groups experience significantly more changes in formerly covered counties as compared to those never covered.

This descriptive investigation cannot tell us the causal effect of Section 5 removal because we lack the appropriate conditions to estimate the counterfactual of how precinct and polling places *would have* been changed absent the *Shelby* decision. Because we only observe Democratic control of election administration prior to *Shelby* and Republican control after *Shelby*, we cannot do a difference-in-difference analysis (as there are effectively two distinct but empirically inseparable post-2013 treatments that we would expect to interact with former Section 5 coverage status).

Polling place changes made by Democrats prior to 2016 are highly unlikely to be affected by Section 5—black voters are likely to be Democrats in North Carolina, and Democrats are unlikely to have wanted to change precincts or polling places of blacks in a way that would have failed preclearance by the Department of Justice. Moreover, if Republicans are as likely to target black voters in any county, regardless of *former* Section 5 coverage status controlling for county fixed effects that account for stable county features like the percentage of the county population that is black, a difference-in-differences design would not provide evidence of a differential pre-post *Shelby* change between covered and uncovered counties. Trends in changes to precincts and polling places made between pre-*Shelby* Democratic officials (2012) and post-*Shelby* Republican officials (2016) in uncovered counties do not represent the relevant counterfactual of how covered counties would have behaved had coverage remained, but we present these trends in Supplementary Appendix H.³²

³⁰In Supplementary Appendix G we conduct an analysis in which we effectively select on the dependent variable—that is, we classify counties based on whether journalists and activists made a public claim about a politically motivated change in election administration. Even still, we cannot find evidence consistent with partisan targeting for electoral gain. That is, these “politically responsive counties” are no more likely, on average, to target opposition voters with precinct and polling place changes than other counties.

³¹We do this simply because we consider the split sample analysis easier to interpret than the triple interaction term.

³²In settings where partisan control of election administration does not change coincident with Section 5 removal, however, such a design could be used.

TABLE 4. EVIDENCE OF TARGETING IN 2016 BY PRE-SHELBY V. HOLDER SECTION 5 COVERAGE

	<i>Pr</i> (Δ PollingPlace)		<i>Pr</i> (PPMMovedFarther)		Δ VotersPerPrecinct	
	(1) Section 5	(2) Non-Section 5	(3) Section 5	(4) Non-Section 5	(5) Section 5	(6) Non-Section 5
<i>WhiteOpposition</i>	0.0057 (0.0053)	-0.0030 (0.0037)	0.0037 (0.011)	0.0053 (0.010)	-2.04 (3.47)	3.45 (2.52)
<i>BlackOpposition</i>	0.0082 (0.011)	0.0041 (0.016)	0.020 (0.042)	0.0051 (0.023)	1.82 (10.4)	0.23 (5.81)
Controls	✓	✓	✓	✓	✓	✓
County FE	✓	✓	✓	✓	✓	✓
Observations	772,614	1,565,923	124,691	243,043	772,532	1,565,759
Mean of DV	0.16	0.16	0.56	0.58	40.2	28.8
SD of DV	0.34	0.34	0.46	0.47	220.0	194.0
County Clusters	40	60	33	50	40	60

Notes: The table presents coefficients from estimating equation 2 for 2016 under Republican-appointed local officials. The unit of analysis is the voter. Our controls are linear and quadratic Age. Full regression results can be found in Supplementary Appendix H. Estimates of targeting for *Pr*(PPMMovedFarther) are conditional on experiencing a polling place change, accounting for the different sample sizes. Standard errors clustered at the county level. No coefficient above has a *p* value < 0.1.

We expect our cross-sectional comparison to provide an *overestimate* of targeting behavior because the cross-sectional estimates will be confounded by both county differences that are a function of why some counties were covered in the first place, as well as differences due to the removal of coverage itself. This analysis will be therefore biased in favor of finding evidence consistent with partisan-motivated targeting.³³

Table 4 presents the results of our descriptive analysis. Models 1 and 2 begin by considering differences in the probability of voters experiencing a polling place change by race in 2016 between covered counties (model 1) and uncovered counties (model 2). We focus on the racial interaction terms since Section 5 was designed to protect minority voters from discriminatory voting changes (see Supplementary Appendix C for full results).

Model 1 shows no evidence that coverage is associated with differential Republican targeting of black Democrats with polling place changes as compared to white Democrats. While the estimate on *BlackOpposition* is larger for covered counties than uncovered counties, when we estimate an interacted model, we cannot reject the null hypothesis that there is no differential impact of polling place changes on black Democrats in covered as compared to uncovered counties.

Models 3 and 4 provide limited evidence that travel times increased differentially for black Democrats who had their polling place changed in formerly covered counties, but the estimated effects are substantively and statistically indistinguishable

from zero. While the coefficient in model 3 associated with a polling place being moved farther away is larger for *BlackOpposition* than *WhiteOpposition*, the difference is quite small—being a black Democrat makes you two percentage points more likely to have your polling place moved farther in a formerly covered county than a Republican of any race. Models 5 and 6 of Table 4 present our results for voters per precinct to reveal that black Democrats in formerly covered counties experienced re-precincting that increased the number of voters per polling place by less than two voters on average. Black Democrats in formerly covered counties did experience a larger increase in voters per precinct relative to uncovered counties, but the difference is essentially just one voter.

Given that our empirical design likely overestimates differences by former coverage status, it is hard to find evidence consistent with the claim that the removal of Section 5 coverage by the *Shelby* decision resulted in Republican-appointed local election administrators increasing polling place changes for black Democrats or re-precincting black Democrats into larger precincts. Of course, this does not mean

³³Additionally, former coverage may influence need-based polling place changes. If the onerous preclearance process resulted in counties forgoing genuine need-based changes prior to 2013, then the removal of Section 5 may have resulted in an increase in changes to address disability access, parking and the like. Again, we note that we have no evidence to suggest that need-based changes would be correlated with the use of a given polling place by voters of particular partisanship or race.

that the removal of Section 5 of the VRA did not have an impact on *other* aspects of election administration in North Carolina, or that the removal of Section 5 coverage may not have resulted in targeted changes in polling places in other states. Our results do suggest, however, that popular concerns about an increase in post-*Shelby* voter targeting by Election Day polling place manipulation in North Carolina are not supported by the data.

DISCUSSION

In theory, the discretion of partisan local election officials can be used to impose costs on opposition voters in an effort to keep them away from the polls. Precinct and polling place changes—which can increase wait times at the polls, confusion about where to vote, and travel times to cast a ballot—are a tool local officials could wield against opposition voters. Despite many claims about the occurrence of such activity, evidence documenting its existence has proven elusive due to the difficulty of inferring partisan intent and the scope of data required to make such an inference.

Using novel data on voters, polling place locations, and precinct boundaries that we collect across the 2008, 2012, and 2016 presidential elections in North Carolina, we provide the most systematic and extensive examination of the extent to which election officials change Election Day polling places in ways consistent with partisan-motivated targeting. North Carolina is an ideal focus for our investigation not only because of data availability, but also because statewide elections have been decided by razor-thin margins (even small turnout effects could prove pivotal), local election officials have been politicized in making other discretionary decisions, the historical legacy of race-based disenfranchisement is long, lawsuits alleging partisan voter suppression abound, and journalists and activists have continuously raised the alarm about election manipulation for partisan gain (Jacobs 2018). Finally, the unique variation *within* North Carolina over time in the VRA's Section 5 coverage allows us to evaluate the consequences of the *Shelby v. Holder* (2013) decision more systematically than the literature has yet been able to do.

Nevertheless, despite our theoretical priors, we do not find evidence consistent with the movement

of precincts or polling places for partisan gain. Not only are we unable to reject the null hypothesis of no targeting, but our estimates of the impact by race and partisanship are also exceedingly small in magnitude. A black Democrat is *less than 1 percentage point* more likely, on average, than a Republican of any race to have experienced a polling place change made by Republican-appointed election administrators. We don't suggest that small effects are normatively acceptable, but the effects are considerably smaller than what might be expected given widespread claims.

We *do* find variation in the racial and partisan impact of precinct and polling place changes when we compare counties to one another. However, the between-county variation that we identify does not relate to the party in control of decision making as we predicted—as many counties appear to, on average, target same-party voters more with changes, as counties that target opposition-party voters. Moreover, the variation in county effects does not appear to be the result of removing minority voting protections provided by the VRA, despite popular concerns to the contrary. The distribution of our county-level estimates more likely results from the aggregation of random *voter-level* shocks than the differential willingness or ability of officials to engage in manipulation.

Our results therefore suggest that in North Carolina, in the years we study, it is unlikely that precinct and polling place changes were systematically and widely used as a tool designed to suppress voter turnout amongst voters of particular partisanship or race. To be clear, this does not mean that this type of manipulation was not attempted or that it wasn't used in particular instances. Our study shows that it was not successfully implemented in a systematic fashion. Nor does this mean that it has not been used as a tool of voter suppression in other jurisdictions or in other years. Nor is it impossible that the lack of manipulation in the spatial distribution of polling places that we find was not made up for in the strategic selection of polling places with characteristics designed to favor voters of a particular race or partisanship (e.g., black churches or majority-white schools). Our results do not speak to whether partisan officials in North Carolina or elsewhere might employ these tools in the future in an attempt to maintain their party's political power. Indeed, reports in which precinct and polling place manipulation seemingly designed to

disenfranchise minorities was defeated before being implemented suggest that public vigilance may play an important role in ensuring that our null results remain true in the future (Blackwell, Sayers, and Kirkland 2018).

Given the extreme challenge of determining the intent of local administrators, our results do not identify *why* we do not observe this type of partisan electoral manipulation despite our theoretical predictions to the contrary. Answering this question remains a fruitful avenue for future research. Although we lack the research designs to evaluate them, we nevertheless propose a number of possible explanations. First, the lack of partisan manipulation may be a consequence of officials who are highly motivated to fulfill their official duty to administer elections fairly (or institutionally constrained from doing otherwise).³⁴ Even if local officials have the explicit legal authority to make discretionary precinct and polling place changes, the individuals who put themselves forward for these administrative positions may be highly civic-minded. The institutional structure of North Carolina election administration—in which appointed partisan officials with the legal authority to make precinct and polling place changes work in tandem with longer-serving election directors—may also create social pressures that push election officials towards nonpartisan choices. That said, anecdotal evidence cuts slightly against this explanation. Even though the use of administrative discretion to manipulate early voting hours and locations has not yet been systematically tested in the literature, accounts abound that those decisions—made by the same boards, potentially checked by the same directors—have indeed been politicized (Campbell 2016b, a).

It is also possible that we do not observe precinct and polling place manipulation because officials did not consider these changes a sufficiently (cost) effective strategy to affect turnout. But, while the turnout effects that officials could have expected from polling place changes given the evidence available at the time (Brady and McNulty 2011) were not enough *on their own* to change any of the statewide election results of which we are aware, it is *also* true that other electoral manipulations were unlikely *on their own* to be decisive. Given uncertainty in the effectiveness of electoral manipulation strategies, and the small margins in statewide elections, our expectation would be that willing administrators would pursue as many strate-

gies available to them as possible and thus “contest-every-vote” (Phillips 2016; Jacobs 2018). Still, the high percentage of early voting in the state may have focused resource-constrained officials’ attention on that area (or others) for potential manipulation, leaving Election Day voting decisions to be made for technocratic rationales. Whether manipulation occurred in other realms of local discretion is an important question for future research.

While there are features of North Carolina that make it both a substantively and analytically ideal case to study, as with any case selection, there are also features unique to North Carolina that condition the scope for generalizability. In particular, since the majority of North Carolina voters use early voting, which may once again limit the attention and resources officials give to Election Day voting, our results seem most likely to generalize to states with high proportions of early or convenience voters, a large and growing number of states. Finally, the results are best thought of as generalizing to states that have somewhat similar institutional structures at the local level.³⁵

Our results also highlight an important methodological issue for studies of election forensics broadly. The fact that we find sizable effects at the county level that are likely attributable to idiosyncratic voter differences rather than partisan targeting highlights a real danger for work that attempts to make inferences about *widespread* electoral manipulation from a single locality. Our results show how the interpretation of a locally estimated effect depends critically on the larger context of effects. Although the time and effort required to collect the data on polling places and precincts for further state-level, cross-county investigations are substantial, the value of such investigations to our understanding of whether and how local discretion may influence the most basic practices of U.S. democracy we believe is commensurate with that difficulty.

³⁴For instance, Kropf, Vercellotti and Kimball (2012) note an increasing professionalization of bureaucrats. “Such professionalization,” they write, “promotes norms and values, such as efficiency, fairness, and transparency, that could mitigate against the influence of partisanship.”

³⁵Variation in institutional structures across states represent a fruitful avenue for additional research.

SUPPLEMENTARY MATERIAL

Supplementary Appendix A
 Supplementary Appendix B
 Supplementary Appendix C
 Supplementary Appendix D
 Supplementary Appendix E
 Supplementary Appendix F
 Supplementary Appendix G
 Supplementary Appendix H

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