

REPORT

Blocked at the Ballot Box

Structural Obstacles Depress Turnout, Exacerbate Ballot Rejections Across Racial Lines

HIGHLIGHTS

Effective participation in elections is at the heart of our political system, but not everyone is equally represented. Class and race disparities affect whether a person votes and how likely their ballot is to be counted—and inconsistent and inequitable rules exacerbate these inequities. Groups that experience more institutional barriers throughout the voting process and who are less likely to have their ballots counted are underrepresented in the political process, and public policies are less likely to protect their health, safety, and well-being. It can be difficult to even access clear, usable data about turnout and ballot rejections.

Fortunately, there are active measures we can take to advance racial equity in elections. Better policies for ballot design, including expanding language and disability access, can decrease rejection rates. And more election data transparency—making sure key election data is clear, accessible, and usable—can help us better understand and alleviate these gaps.

Liza Gordon-Rogers

Rose Nafa

September 2025 (corrected March 2026)

www.ucs.org/resources/blocked-ballot-box
es.ucs.org/recursos/barreras-al-voto

<https://doi.org/10.47923/2025.15981.2>

Introduction

Whether an individual has the ability to participate in their political system often depends on three factors: resources, interest, and recruitment. People are more likely to participate when they possess the necessary resources of time, money, information, and skills; when they are interested and motivated to participate; and when they are recruited into the process (Verba, Schlozman, and Brady 1995). Communities deprived of resources or unable to resource-share find it difficult to form strong participatory norms and traditions or create organizations dedicated to mobilizing voters. As a result, members of these communities often cannot participate effectively (Bond et al. 2012; Carlson, Abrajano, and Bedolla 2020; Rolfe 2012; Uhlaner 1989). Existing race and class disparities in the United States mean that these foundations of political participation are not equally distributed across groups (Schattschneider and Adamany 1975; Schlozman, Brady, and Verba 2018).

The structures of our political institutions and electoral system further exacerbate these inequalities, with certain electoral rules creating additional barriers to voting (Burden et al. 2016; Cox 2015; Davidson and Grofman 1994; McDonald et al. 2024; Shino, Suttman-Lea, and Smith 2022). Redistricting rules, registration laws, voting access, and voter identification laws are just a few recent examples of how electoral rules and their implementation can affect whether a person votes and, furthermore, whether their vote is counted (Hajnal, Lajevardi, and Nielson 2017; Hunt 2018; Ritter and Tolbert 2020).

Such electoral rules can, and often do, disproportionately harm traditionally marginalized communities (Brater et al. 2018; Fraga 2016; Fraga and Miller 2022). Political inequality is also geographic. Access and quality of voting locations, for instance, vary significantly—not only across states but also within states (Barreto and Leal 2024; Ritter and Tolbert 2024). For this reason, and because elections are administered primarily at the county level, evaluating the quality of election administration solely at the state level overlooks critical variation (Ritter and Tolbert 2024).

Low-income communities and communities made up mostly of people of color are more likely to have lower-quality voting locations that amplify inequalities. These polling locations are more difficult to find and navigate and are also less stable, meaning they frequently change sites (Barreto and Leal 2024). According to their county election administration (CEA) index,¹ Ritter and Tolbert (2024) found that larger urban counties—such as those analyzed here—have comparatively lower election administration quality. The authors also found significant differences based on the counties' racial composition.²

According to the 2020 election analysis, White people are more likely to live in counties with high or very high election administration performance. Conversely, Black and Latino people are most likely to reside in counties with low or very low election administration performance (Ritter and Tolbert 2024). Asian/Pacific Islanders, Native Americans, and those who identify

¹ The CEA index contains 19 components of election administration, including percentage of mail ballots rejected, percentage of registration forms rejected, disability access as the percentage difference between turnout of voters with disabilities and voters without, and average wait times (Ritter and Tolbert 2024).

² As the authors note, accuracy issues and other challenges are associated with using Election Administration and Voting Survey data, especially when evaluating local-level factors (Ritter and Tolbert 2024).

as Other regarding race are “slightly more likely to live in communities with lower-performing election administration” (Ritter and Tolbert 2024, 270).³

These findings have real-world implications. When members of certain groups are less likely to vote or have their ballots counted when they do vote, they are more likely to be underrepresented or unrepresented altogether by their elected officials and, consequently, are more likely to be disregarded in government policy (Bartels 2008; Franko and Witko 2017; Griffin and Newman 2008).

One way to assess the pervasiveness of racial inequalities in our electoral system is to analyze voter turnout rates. The racial turnout gap measures the difference in voter turnout across racial groups and is used as a common indicator of inequality in elections (Fraga 2018; Morris and Grange 2024). **But examining turnout rates alone is not sufficient to fully capture the relative equality of an election and the inequalities in electoral power.**

Another factor that adds perspective to inequalities is ballot rejection rates. Ballot rejections are a natural and necessary component of elections, but research shows that certain groups, such as inexperienced voters, younger voters, and voters of color, are more likely to have their ballots rejected (Baringer, Herron, and Smith 2020; Cottrell, Herron, and Smith 2021; Shino, Suttman-Lea, and Smith 2021).

Each election, hundreds of thousands of ballots across the country are rejected and thus not counted. In the November 2020 election, a total of 86,537 mail ballots (or 0.80 percent), a number lower than usual, were rejected in the seven states included in this analysis (EAC 2021). In 2016, some 0.77 percent of mail ballots were rejected nationally (EAC 2017). Mail ballots are rejected for a variety of reasons. A nonmatching signature accounted for nearly 30 percent and 33 percent of rejected mail ballots in 2016 and 2020, respectively, and slightly more than 40 percent in 2024 (EAC 2017; EAC 2021; EAC 2025). The second most common reason for rejection in 2016 was late receipt of the mail ballot (about 21 percent), while “other reason given” was the second most common reason for rejection in 2020 and 2024 (EAC 2017; EAC 2021; EAC 2025).

During the first 100 days of the second Trump presidency, the administration and Republican-controlled Congress worked to dismantle prior progress, strengthen existing barriers, and establish new obstacles to public participation. Efforts include President Trump’s rescission of Biden’s Executive Order 14019 Promoting Access to Voting (Cohn 2025), the passage of the Safeguard American Voter Eligibility (SAVE) Act in the House of Representatives (Knutson 2025), the potential repeal of the National Voter Registration Act of 1993 (Gordon-Rogers 2025), the Department of Justice’s abandonment of civil rights and voting rights cases (Cohen 2025), and President Trump’s executive order attempting to institute a proof of citizenship requirement to register to vote (Marley 2025).

Moreover, the Supreme Court could further weaken the Voting Rights Act of 1965 in its current term, depending on its decision in a Louisiana gerrymandering case (Li 2025). Additionally stoking fears about the future of US democracy, President Trump and some of his allies have floated the possibility of a third Trump term (Welker and Lebowitz 2025). In the face of these ongoing threats to democracy, elections, and fair representation, it is important

³ In terms of the relative quality of county-level election administration, Ritter and Tolbert’s (2024) CEA index scores for our sample counties in 2016 range from 44.92 (Columbus County) to 72.16 (Milwaukee County). In 2020, the last general election year for which scores are currently available, election administration quality ranged from 53.41 (Columbus County) to 70.21 (Maricopa County).

now more than ever to create a benchmark for analyzing future elections and determining how these and other policy changes affect voter turnout and ballot rejections.

Research Design

This analysis is part of the final phase of the Center for Science and Democracy's Precinct Analysis Project and is intended to assess precinct-level transparency and election equality in pivotal electoral jurisdictions. The goals of this project include

- increasing awareness and understanding of inequalities in turnout and ballot rejection rates across communities;
- improving capacity to educate the public about how ballots are verified and then scrutinized during counting; and
- identifying best practices for data generation and publication and for the development of procedures to reduce voter and administrative errors in ballot processing.

A precinct-level analysis of the past three presidential elections serves several additional purposes. First, it widens the lens to obtain a broader, more comparative perspective on the status of voter turnout, ballot rejections, and possible cumulative inequalities in our electoral system. Second, studying elections at the precinct level, the smallest geographic unit in US elections, identifies systematic inequalities in political participation, voter engagement, and a variety of other areas (Mac Donald 2008; Murray, Baltz, and Stewart 2023). Third, examining precinct data allows us to observe both if and how changes in election administration and law affect voters as well as test for racial inequality. Fourth, analyzing these data informs improvements and alterations to election administration.

To better visualize the differences between elections, our analysis is facilitated through the development of an ArcGIS StoryMap, a web-based application where users interact with maps alongside narrative text. Our story map compares 2020 and 2024 voter turnout and ballot rejection rates among racial groups as defined by the US Census Bureau.

Our research team identified a sample of battleground counties across multiple states: Allegheny (Pittsburgh) and Philadelphia Counties in Pennsylvania; Columbus, Durham, and Mecklenburg Counties in North Carolina; Cuyahoga (Cleveland) and Lorain Counties in Ohio; Fulton County (Atlanta) in Georgia; Maricopa County (Phoenix) in Arizona; Milwaukee County in Wisconsin; and Wayne County (Detroit) in Michigan.⁴

⁴ The following are racial demographics of the selected counties according to 2024 US Census Bureau (n.d.) estimates. Allegheny County, PA: 79.1% White alone, 13.5% Black alone, 0.2% American Indian/Alaska Native alone, 4.5% Asian alone, and 3.0% Hispanic/Latino; Philadelphia County, PA: 44.4% White alone, 43.0% Black alone, 1.0% American Indian/Alaska Native alone, 8.4% Asian alone, 3.1% Hispanic/Latino; Columbus County, NC: 63.4% White alone, 29.9% Black alone, 3.7% American Indian/Alaska Native alone, 0.6% Asian alone, 2.3% Hispanic/Latino; Durham County, NC: 55.2% White alone, 34.5% Black alone, 1.2% American Indian/Alaska Native alone, 6.1% Asian alone, 15.4% Hispanic/Latino; Mecklenburg County, NC: 56.6% White alone, 32.8% Black alone, 1.0% American Indian/Alaska Native alone, 6.7% Asian alone, 15.9% Hispanic/Latino; Cuyahoga County, OH: 63% White alone, 30.4% Black alone, 0.3% American Indian/Alaska Native, 3.6% Asian alone, 7.2% Hispanic/Latino; Lorain County, OH: 85.4% White alone, 9.1% Black alone, 0.4% American Indian/Alaska Native alone, 11.2% Hispanic/Latino; Fulton County, GA: 44% White alone,

We selected these counties and states based on three criteria. First, they were significant in the outcome of recent presidential elections.⁵ Second, these counties were the focus of voter suppression efforts in 2016 and 2020, including being flash points for election mis- and disinformation, such as drawing allegations of voter fraud (Broadwater and Eder 2023; Brownstein 2020; Eggers, Garro, and Grimmer 2021; Graham 2016). We can contribute to the science dispelling such allegations and demonstrate that ballots were rejected for various reasons by examining those rejections. Third, the counties were selected based on the likelihood they would be pivotal to the outcome of the 2024 election and therefore would continue to be targets of ballot challenges and subversion efforts (Cohen 2024; DD 2024; DD 2025a; DD 2025b; Gordon-Rogers 2024a; Gordon-Rogers 2024b; Latner 2022).

Data Collection and Preparation

The process for obtaining data involved convenings with our Election Science Task Force, which included election administrators, academics, voting rights lawyers, and representatives from community organizations, in addition to independent outreach to election administrators in our target jurisdictions. Due to the highly decentralized nature of US elections, we often conferred with both state-level and local-level administrators to obtain data. In total, the data collection process spanned months. Upon obtaining the data required to complete this analysis, we discovered that files were often in pdf format or, even when they were machine-readable, did not contain any contextual information, such as explanations of coding schemes. Additionally, coding schemes, categories, and naming conventions often varied across years and even, at times, between precincts within counties. These complexities frequently necessitated additional follow-up with administrators for clarification. We acknowledge the possibility that, despite our best efforts, we may not have been able to obtain data that are, in fact, available. This possibility effectively demonstrates the work that still needs to be done regarding election data transparency. Lastly, some precinct-level data were not made accessible to us due to privacy concerns.

Historical election data are from multiple sources. Precinct-level voter registration data from 2016 are derived from historical county or state election results or registration snapshot data. Data also include compiled election and census geographic data from the Voting and Election Science Team at the University of Florida (VEST 2020). Supplemental data collected by those at Dave's Redistricting were joined with 2020 voting tabulation district (VTD) shapefiles, the latter of which were used to project data into digital geographic boundaries, and the L2 voter file data were downloaded from the Redistricting Data Hub (RDH n.d.). L2 files were obtained from the L2 database. The RDH joined the L2 voter file to the 2020 census block assignment file and then aggregated the individual-level voter file to the census-block level.

Precinct data from 2024 were obtained through several ways—a formal public records request (Milwaukee County), a Freedom of Information Act request (Wayne County), our connection

45.1% Black alone, 0.3% American Indian/Alaska Native alone, 8.2% Asian alone, 8.2% Hispanic/Latino; Maricopa County, AZ: 81.3% White alone, 6.9% Black alone, 2.9% American Indian/Alaska Native alone, 5.1% Asian alone, 31.4% Hispanic/Latino; Milwaukee County, WI: 63.2% White alone, 27% Black alone, 1.1% American Indian/Alaska Native alone, 5.4% Asian alone, 17.2% Hispanic/Latino; and Wayne County, MI: 54.7% White alone, 38.1% Black alone, 0.5% American Indian/Alaska Native alone, 3.7% Asian alone, 7% Hispanic/Latino.

⁵ The selected counties are generally the most populous in the state, but a small number of more rural counties is included in the sample to account for potential urban-rural disparities in voter turnout and ballot rejections.

to an administrator, often facilitated by our [Election Science Task Force](#) (Allegheny and Philadelphia Counties; Cuyahoga and Lorain Counties; and Columbus, Durham, and Mecklenburg Counties), or publicly available county or state election websites (Fulton and Maricopa Counties).⁶ Although Georgia’s precinct-level voter turnout data were available online, we purchased Fulton County’s voter file to obtain early voting data and data pertaining to absentee ballots cast.⁷

Center for Science and Democracy researchers used the R package *geomander* to aggregate these data to the VTD level for most of the counties. This enabled the team to estimate VTD-level registered voters and Citizen Voting Age Population (CVAP), which in turn was used to approximate the majority racial group for each county. For the 2024 story map projections, we were unable to access block-level census data. The closest available at the level of the block group were 2023 data. To estimate block-level populations, we used the proportion of each block group’s 2020 population that could be attributed to each block and multiplied that proportion by the population of the 2023 block group for each census-defined racial identity (Hawley and Moellering 2005; Lam 1983): non-Hispanic White, non-Hispanic Black or African American, non-Hispanic Asian or Pacific Islander (API), mixed (more than one) race, Hispanic, and Native American.⁸

For 2024, we were not able to match a small number of VTDs with demographic data. For Wayne County, the *geomander* method was not feasible because the resulting table was not joinable to the original voter data. Thus, we utilized the *sf* package to first map the intersections of each precinct and its constituent blocks and then estimate the fraction of the area of each block in each precinct. We then multiplied those fractions by the population of each racial group. For both methods, we visually checked a sample of each county against racial demographics maps and precinct maps to confirm the validity of the assigned majority race.

Of note, the calculated registered turnout of several counties was lower than the estimated CVAP turnout in each election year. Because registered turnout is the percentage of registered voters who cast a ballot and CVAP turnout is the estimated percentage of people of voting age in a geographic area who cast a ballot, this should never occur. We theorize these cases were due to random missingness and reporting errors. To address this issue, we implemented a standardization process that normalized CVAP turnout to county-reported levels.⁹ The standardization process maintains relative inequalities within CVAP turnout. Standardized CVAP rates were then adjusted via denominator inflation to account for precincts with turnouts over 100 percent (Baltz et al. 2022).

This standardization process produced expected results for 2016 and 2020. For 2024, however, the calculated registration turnout rate for some counties is lower than the estimated CVAP turnout rate. We suspect this may be due to our method of estimating population change over time. Using a combination of 2020 and 2023 data to estimate 2024 populations may be imprecise because of the unusual effects of the COVID pandemic on population trends,

⁶ No L2 data were used in the 2016 or 2024 data analysis or story mapping.

⁷ We were unable to obtain 2024 precinct-level election data from Milwaukee County at the time of analysis.

⁸ Throughout this report, we use the racial categories established by the 2020 Census—Asian or Pacific Islander (API), Black, Hispanic, Native American, and White—as these reflect how respondents were asked to self-identify.

⁹ County-level CVAP rates from 2016 were derived from *Proximity One* (2026), 2020 from Clary et al. (2022), and 2024 from *County Health Rankings* (n.d.). Milwaukee County’s 2020 turnout was reported as 24.98 percent, so we used our calculated CVAP turnout instead.

including but not limited to migration and mortality rates during this period (Berube 2024; Frost 2023). These discrepancies bear further investigation.

Election Administration and Law in 2016, 2020, and 2024

In the United States, state and local governments administer elections. The structure of election administration varies greatly by state. In 36 states, county governments hold most of the responsibility of overseeing and implementing elections (Nakintu et al. 2024). Generally, local governments adhere to one of three models of election administration: a single election official model, a local board of elections model, or a hybrid model that splits power between an official and a local election board (NCSL 2025a). Wisconsin is distinct from other states because its town, village, city, and county clerks are involved in election administration and state law requires that cities with large populations (including those of Milwaukee County) create a three-member board of election commissioners (Nakintu et al. 2024).

Arizona has decentralized election administration; elections are administered locally by county recorders and election directors. In Georgia, most counties have a board of elections and registration, while a select number of counties have an election supervisor and registrar. Michigan has highly decentralized election administration—the local election official can be a county clerk, board of county election commissioners, board of county canvassers, city/township clerk, or board of city/township election commission. North Carolina and Ohio have county boards of elections with an appointed director of elections. Pennsylvania, too, has county boards of elections (NCSL 2025a).

Crucially, election administration is generally funded at the state and local levels and supplemented with occasional influxes of federal funding. But federal funding for elections has been on the decline in recent years. In 2020, Congress allocated \$825 million to states to run elections. In the five years since, however, Congress has granted only a total of \$220 million (Williamson 2025). Relatedly, several states have passed laws in recent years prohibiting private funding of elections (NCSL 2025b).¹⁰

Increased funding is likely to help improve election administration performance, which in turn increases turnout via more polling locations (Stanford 2022), increases voter access and equity (Schur, Ameri, and Adya 2017), and improves voter confidence (Mohr et al. 2024). More specifically, the NC Budget and Tax Center found that election administration spending has a positive relationship with voter turnout (Sirota 2023). Financial capacity has been found to have a negative but insignificant effect on the rate of over- and undervotes, and higher levels of management capacity and technology—both likely associated with financial capacity—significantly decrease the number of over- and undervotes (Kropf et al. 2020).

The law and administration of elections have evolved significantly over the past several presidential cycles, with some of these changes perhaps explaining trends in voter turnout and ballot rejection rates in the counties examined in this analysis. Therefore, this section

¹⁰ In 2021, Arizona banned private money, Georgia banned grants or gifts from sources other than the state or federal government, and Ohio banned money from any nongovernmental person. In 2022, Pennsylvania banned contracts, gifts, donations, grants, and funding from nongovernmental people or organizations. In 2023, North Carolina banned private donations or in-kind contributions. In 2024, Wisconsin banned money or equipment donated or granted by any nongovernmental person or entity through a ballot measure (NCSL 2025a).

discusses key legislative and administrative shifts in the 2016, 2020, and 2024 general elections and their potential impact on turnout and rejections.

2016 General Election

According to the Brennan Center (2016), voters in 14 states, including Ohio and Wisconsin, faced new restrictions on the right to vote in the 2016 general election. Even more restrictions would have been in effect if courts had not blocked the implementation of laws in several states, including Georgia and North Carolina. Some of these new laws were permitted only because of the Supreme Court decision in *Shelby County v. Holder* to strike down Section 5 of the Voting Rights Act (Brennan Center 2016). Among the most suppressive laws passed between the 2010 and 2016 elections were strict voter identification laws. Eight states had such laws in place for the 2016 election.

Research suggests that strict voter identification laws decrease turnout among voters of color (Hajnal, Lajevardi, and Nielson 2016). In a survey of registered voters in Milwaukee and Madison Counties, 10 percent of respondents reported they did not possess the required identification or cited the voter identification law as their primary reason for not voting in the 2016 election (DeCrescenzo and Mayer 2019). Some researchers theorize that voter identification laws may actually increase turnout via surges in mobilization efforts by various community organizers (Citrin, Green, and Levy 2014; Valentino and Neuner 2017), but isolating the effect of these laws on turnout is difficult (Highton 2017). In addition, voter identification laws may increase the rates of provisional voting and overall ballot rejections for provisional, mail, and absentee voters who fail to produce the required identification.

Wisconsin's law, for example, permitted voters without the proper identification on Election Day in 2016 to cast provisional ballots that were to be counted only if the voters' identity was proved by the Friday following the election (Brennan Center 2016). More than half of all the identification-related provisional ballot rejections, though, were in counties other than the two most populous, Dane and Milwaukee (DeCrescenzo and Mayer 2019). Similarly, Georgia voters without an acceptable form of identification were permitted to cast provisional ballots under a strict voter identification law in effect by the 2016 election (Brennan Center 2016).

2020 General Election

In response to the COVID-19 global health crisis, many states implemented policies intended to expand voting options prior to the 2020 election (Altamirano and Wang 2022). Nationwide, turnout was 7 percent higher in 2020 than in 2016 (DeSilver 2021). Important to the context of this analysis, voting by mail grew in popularity from 2016 to 2020, partially due to the pandemic (EAC 2021). Nearly every state in our analysis made at least one temporary change to election processes for the 2020 general election, which may have influenced turnout and rejection rates. At the beginning of 2020, no state had a policy of sending a mail voting application to every registered voter, but 12 states implemented this practice before the general election, including 2 states included in our analysis, Michigan and Ohio (NCSL 2023). Overall, the average county-level election administration performance of the 2020 general election was higher than that of the 2016 general election (Ritter and Tolbert 2024).

Despite legal challenges, North Carolina changed the deadline for receiving mail ballots to nine days after Election Day as long as ballots were postmarked by Election Day. It also lowered witness requirements to one person from two (Altamirano and Wang 2022; Hasen 2020; NCSL

2023). Subsequent to a federal court order, the North Carolina State Board of Elections instituted a uniform statewide curing process that has since been enshrined in law (NCSL 2025c; SCSJ 2021).

Pennsylvania, too, extended deadlines for the receipt of mail ballots to November 6 for ballots postmarked by the 3rd, a policy that was unsuccessfully challenged in court (Ballotpedia n.d.-a).¹¹ The Pennsylvania Department of State issued guidance directing counties to not reject mail ballots because of signature mismatches (Couloumbis 2020).¹² In addition, the Pennsylvania state legislature passed Act 77 prior to the 2020 election, which permitted voters to request a mail ballot without providing a reason (Ballotpedia n.d.-a). Wisconsin extended registration deadlines that could have conceivably increased turnout (Oxford 2020), but more flexible registration does not always translate to higher turnout (Merivaki 2021).

Absher and Kavanagh (2023) calculated a measure estimating states' flexibility in election processes, finding that voters in states with higher levels of flexibility were 0.9 percentage points more likely to vote in 2020. Evidence suggests, though, that compared to other racial groups, Black voters were least affected by election flexibility scores (Absher and Kavanagh 2023). Similarly, research shows that voter turnout in the 2020 general election was disproportional across different populations, with the turnout gap between White voters and voters of color widening from 10 points in 2012 to 12 points in 2020 (Morris and Grange 2024).¹³

Before the 2020 election, Arizona passed three restrictive laws that established new voting barriers by making it more difficult to remain on the state's absentee voting list, imposing stricter voter identification requirements for mail voting, and permitting the use of flawed data to conduct voter roll purges (Wilder 2021).

Most states saw a decrease in mail ballot rejections in 2020, with several experiencing a steady decline since the 2016 election. Between the 2016 and 2020 general elections, Georgia had the greatest decrease in rejections. From 2018 to 2020, North Carolina and Pennsylvania also saw a decrease in rejection rates (Altamirano and Wang 2022). The researchers found evidence that states that had adopted more flexible election processes (e.g., ballot curing, drop boxes, ballot tracking) rejected fewer ballots than states that did not (Altamirano and Wang 2022).¹⁴

While many voters relied on voting by mail in the 2020 general election, issues within the US Postal Service resulted in delayed ballot deliveries, which disproportionately affected voters of color (Mackinney et al. 2020; Wilder 2021). A Union of Concerned Scientists study comparing

¹¹ *The US Court of Appeals for the Eleventh District overturned Georgia's attempt to extend receipt deadlines for the 2020 general election (Brumback 2020).*

¹² *This guidance was challenged in court but was permitted to stand by the Pennsylvania Supreme Court (Couloumbis 2020).*

¹³ *Black and White voters used nontraditional methods of voting at nearly equal rates in 2020 at 69.60 percent and 67.50 percent, respectively. Asian (82.4 percent) and Hispanic (76.70 percent) voters used nontraditional means at slightly higher rates (Scherer 2021).*

¹⁴ *Every county in our analysis allows voters to cure ballots (Ballotpedia n.d.-b). What constitutes an error eligible for curing, the methods of curing, and the deadlines to do so, however, vary across state and county. North Carolina law requires that county boards of election determine how voters can cure their ballots (NCSL 2025c). Pennsylvania does not have a statewide curing policy; its county election administrators have the authority to determine if voters can cure ballots (Walker 2024). In 2020, Philadelphia County permitted curing, whereas Allegheny County did not (Farley 2020). In 2024, both Philadelphia and Allegheny Counties had cure policies as well as notice policies (Walker 2024).*

Freedom of Information Act records related to mail delays found that the number of complaints filed per 1,000 residents was 49.44 percent higher in zip codes with higher populations of Black, Latino, Asian, and Native Americans (Mackinney et al. 2020). In Georgia, mail ballots cast by Asian and Latino voters were rejected at twice the rate of those cast by White voters in the state's 2020 presidential primary (Morris 2020). Moreover, the Georgia State Election Board found that absentee voters in Fulton County were the most likely to be affected by delays in ballot processing in the primary election (Wilder 2021).

Researchers also found that mail ballots of Black voters were rejected more often than those of White voters across the state of North Carolina in September 2020 (Rogers 2020).¹⁵ Despite attempting to decrease racial disparities in rejections by instituting more uniform notice and curing policies, 21 of the 25 most populous counties in the state rejected Black voters' mail ballots 1.8 times more often than White voters' mail ballots, according to an October analysis of election returns (Eberhard, Gustafson, and Norimine 2020). These rejection rates vary significantly across counties. According to Altamirano and Wang (2022), on average, counties east of Charlotte (in Mecklenburg County) saw higher rejections than the rest of the state. Nevertheless, it should be noted that while disparities persist, the adoption of uniform curing policies in the state allowed nearly 20,000 voters—disproportionately, Black voters—to cure their mail ballot or be given enough advance notice to use a different voting method (SCSJ 2021).

According to the Brennan Center, election officials in Georgia conducted a “pattern of aggressive voter purges that disproportionately harm voters of color,” which could have had an impact on provisional vote rates (Wilder 2021, 6). In 2020, Ohio also may have disproportionately purged Black voters after resuming contested voter file maintenance practices (Wilder 2021).

2024 General Election

In Arizona, two new restrictive laws in place for the 2024 election impeded fixing mail ballot signature errors (Carter et al. 2024). In Georgia, a 2021 law substantially affected mail voting by shortening the time voters had to request ballots, requiring counties to wait longer before sending out ballots, prohibiting election administrators from sending a ballot to voters who did not request one, and creating new identification policies. The same law further restricted provisional voting by instituting rules making it more difficult for ballots cast at the wrong precinct to be counted (Carter et al. 2024).

North Carolina passed a law that moved up the deadline for receiving mail ballots and required election officials to reject ballots associated with an address verification notice returned as undeliverable, though the state was ordered by a federal judge to notify such voters and provide them the opportunity to address the error. Moreover, the 2024 election was the first under North Carolina's 2018 photo identification law, which requires voters without an acceptable form of identification to cast provisional ballots that are counted only if voters verify their identity within 10 days (Carter et al. 2024). Voters are permitted to submit an ID

¹⁵ North Carolina (along with New York, Kentucky, Arkansas, and Mississippi) was among the states with the highest rate of rejections from 2016 to 2018 (Altamirano and Wang 2022).

Exception Form alongside their provisional ballots if they have “a reasonable impediment” preventing them from showing acceptable photo identification (NCSBE n.d.)¹⁶

Despite these changes, disruptions to election administration in North Carolina due to Hurricane Helene led to the institution of several alterations to the 2024 election that may have affected turnout and rejections—extended voter registration deadlines, modified voting hours and locations, expanded access to absentee voting through the acceptance of ballot requests by email or fax, and permission to return ballots to any state county board or voting site (Slattery, Holland, and Oliphant 2024). Absentee ballot rules were also updated to permit voters to return ballots to counties other than their residential county (PD 2024). Mecklenburg County is the only North Carolina county in our analysis included in the federal disaster declaration (FEMA n.d.).

A 2023 Ohio law instituted new requirements for acceptable identification for voting in person, applying to vote by mail, and voting by mail. It requires in-person voters without proper identification to cast provisional ballots and shortens mail ballot return and curing deadlines (VRL 2023).

Conversely, Michigan passed a battery of expansive voting legislation following the 2020 election. Several new rules expanded access to voting by mail, including establishing a curing process and a permanent mail voting option (Carter et al. 2024). Wisconsin made minimal election changes, largely because of a series of gubernatorial vetoes in the years between the 2020 and 2024 general elections.

For each state in our analysis, we examined Cost of Voting Index (COVI) values,¹⁷ a measure calculated using a variety of variables to estimate the relative costliness of exercising the right to vote in each state. Arizona had the lowest cost among the states in our 2024 sample at 0.31 (Pomante 2025). Pennsylvania had a COVI value of 0.49; North Carolina, 0.66; Georgia, 0.95; Ohio, 1.35; and Wisconsin, 1.37. For context, the state with the highest cost to vote was Mississippi with a value of 1.94, while Oregon had the lowest value at -2.46. From 2020 to 2024, North Carolina underwent the steepest increase in voting difficulty (Pomante 2025).

Voter Turnout

There are multiple ways to calculate turnout. States—and the media—often report turnout as a percentage of registered voters who voted in an election (MEDSL 2021; H. Smith 2015). This method, however, is affected by state-specific registration laws and voter file maintenance processes (H. Smith 2015). For this report, we rely on registration numbers as reported by counties and turnout calculated using CVAP data for a comparison of approaches.¹⁸

¹⁶ Reasonable impediments include lack of transportation, disability or illness, lack of necessary documents to obtain a photo identification, conflicting work or school schedule, family responsibilities, lost or stolen identification, and waiting for an identification (NCSBE n.d.).

¹⁷ The Cost of Voting Index value includes the following issue areas: registration deadlines, registration restrictions, preregistration laws, automatic voter registration, voting inconvenience, voter identification laws, poll hours, early voting days, and absentee voting (Pomante 2025).

¹⁸ Turnout results in this report vary slightly compared to an earlier version of this report due to the addition or correction of certain data. Moreover, in all election years, there were several precincts with voter turnout reported at 100 percent or higher. We removed the former for being extreme outliers and the latter for

We include the two approaches for several reasons. First, both are somewhat common, though used by different people and entities for different purposes, as explained previously. Second, presenting both ways showcases the great variation that can occur between turnout rates depending on the chosen calculation measure and how, due to this variation, election administrators, state governments, the media, and scholars can be evaluating very different figures. Because of variances in election procedures and voter file maintenance practices, we use CVAP turnout in plots throughout the report.

2016 General Election

As shown in Table A1 in the appendix, voter turnout varied across jurisdictions in the 2016 general election. Using registration numbers to calculate,¹⁹ average turnout was highest in Milwaukee County, Wisconsin, and Fulton County, Georgia, at 77.48 percent and 73.25 percent, respectively.²⁰ Conversely, overall registered voter turnout rates were lowest in Mecklenburg County, North Carolina, at 61.77 percent, and Philadelphia County, Pennsylvania, at 64.42 percent.²¹ According to turnout calculated using CVAP data, average turnout was highest in Durham County, North Carolina (66.34 percent), and Allegheny County, Pennsylvania (64.82 percent). Average CVAP turnout was lowest in Maricopa County, Arizona (51.30 percent), and Wayne County, Michigan (55.41 percent).²²

As seen in Table A2 in the appendix, average registered voter turnout in majority-White precincts was 75.49 percent in the 2016 general election. Majority-Black precincts had the highest rates of turnout among groups of color at 64.60 percent, followed by majority-Hispanic (63.04 percent), plurality precincts (62.44 percent), and majority-API (58.76 percent).²³ Our results indicate that majority-Native precincts had the lowest average turnout, 47.66 percent, though there are only a few such precincts in our sample (8 precincts).²⁴

CVAP turnout, too, showed majority-White precincts to have the highest average turnout in 2016 at 62.35 percent (see Figure 1). Similar to the mean registered turnout by precinct majority racial group, majority-Black precincts had the highest CVAP turnout among groups of color at 59.15 percent. Majority-Native precincts had the lowest average CVAP turnout at 30.01 percent, followed by majority-Hispanic precincts at 37.52 percent.

representing impossible values. Precincts with such turnout values occur for various reasons, including having a small population or being assigned mail or early voting. Moreover, precincts with 0 percent reported turnout were also excluded due to concerns that such values may reflect reporting or technical errors.

¹⁹ Voter registration data from 2016 for Wayne County, Michigan, were available only in an image-based pdf, which prevented us from calculating registered voter turnout.

²⁰ Statewide CVAP turnout in Wisconsin was nearly 70 percent in the 2016 general election, while Georgia had an average turnout of nearly 60 percent (McDonald 2023a). Interestingly, Milwaukee County had the highest-quality election administration of the counties in this analysis in 2016, according to data from Ritter and Tolbert (2024). Fulton County, however, was ranked 8th of the 11 counties—though it did have higher-quality election administration relative to many other counties that year (Ritter and Tolbert 2024).

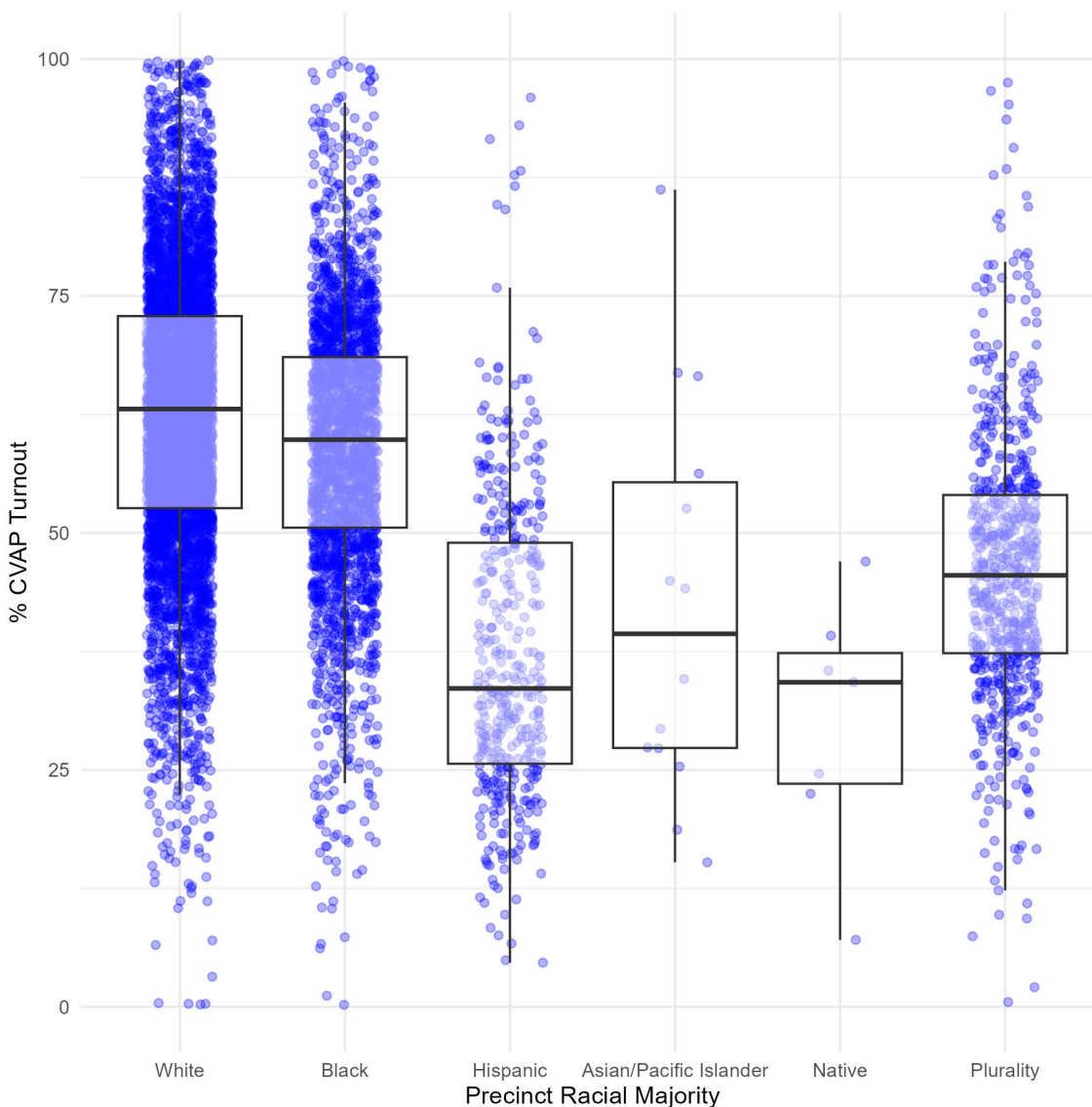
²¹ North Carolina's average voting-eligible population (VEP) turnout in 2016 was 64.72 percent, while Pennsylvania's was 64.21 percent (McDonald 2023a).

²² In 2016, Arizona's VEP turnout was 64.21 percent, while Michigan's was 65.54 percent (McDonald 2023a).

²³ Table A2 in the appendix lists the average registered and CVAP turnouts for each racial majority.

²⁴ There was also a small number of majority-API precincts, only 13.

Figure 1. 2016 Precinct Turnout by Census-Defined Racial Group



The plots show CVAP turnout estimates. The groups that constitute a majority of CVAP within a precinct, as defined by the US Census Bureau, are Asian (Asian and Pacific Islander), Black/African American, Hispanic/Latino, American Indian/Alaska Native (Native), White, and plural, wherein there is no majority race. The black lines inside boxes represent mean turnout within a group, and boxes represent one standard deviation from the mean. Each dot represents an individual precinct.

Analyses of 2016 registered voter turnout (Table A2) show that differences in average turnout between majority-White precincts and majority-Black, -Hispanic, -API, -Native, and racially plural precincts are statistically significant. According to our baseline analysis of registered voter turnout,²⁵ residing in a majority-Black precinct was associated with an estimated 10.89

²⁵ Full results are shown in Table A3 in the appendix.

percentage-point decrease in registered voter turnout in 2016 compared to living in a majority-White precinct. Living in majority-Hispanic, -API, -Native, and plurality precincts was associated with even lower registered turnout compared to majority-White precincts. The most substantial disparity was the nearly 28 percentage-point difference in registered voter turnout between majority-Native precincts and majority-White precincts.

To account for state-level variables such as geography and socioeconomic status, we conducted an additional analysis including state-level fixed effects.²⁶ In this second model, significant racial disparities persisted. The predicted registered voter turnout was significantly lower in each precinct made up of a majority of a group of color than in majority-White precincts. After controlling for state-level factors, majority-Black precincts showed lower registered voter turnout by nearly 11 percentage points compared to majority-White precincts.

Like model 1, majority-Native precincts in model 2 had the lowest registered voter turnout, showing a 26 percentage-point difference in voting relative to majority-White precincts. Georgia and Wisconsin were significant with positive coefficients, indicating that these states had significantly higher turnout than the reference category, Arizona.

Additional analyses of 2016 CVAP voter turnout show that differences were statistically significant between majority-White precincts and those of majority groups of color. According to the baseline analysis of CVAP turnout, living in a majority-Black precinct was associated with an estimated 3.20 percentage-point decrease in CVAP turnout compared to living in a majority-White precinct (see Table A2). Majority-Native and majority-Hispanic precincts showed the largest decrease in CVAP turnout compared to majority-White precincts, with a difference of slightly over 32 percentage points and nearly 25 percentage points, respectively.

As with our examination of registered voter turnout, to account for state-level factors, we conducted an additional analysis on CVAP turnout that included state-level fixed effects. In this model, also, racial disparities persisted. Predicted CVAP turnout was significantly lower in precincts of majority groups of color than in majority-White precincts.

Together, results from 2016 suggest that systemic racial disparities in voter turnout exist, as precincts with a majority group of color had significantly lower turnout than majority-White precincts.

2020 General Election

In 2020, average registered voter turnout rates, as shown in Table A4 in the appendix, were highest in Maricopa (82.49 percent) and Milwaukee (79.12 percent) Counties. Conversely, Wayne (62.69 percent) and Fulton (63.75 percent) Counties had the lowest average registered voter turnout.

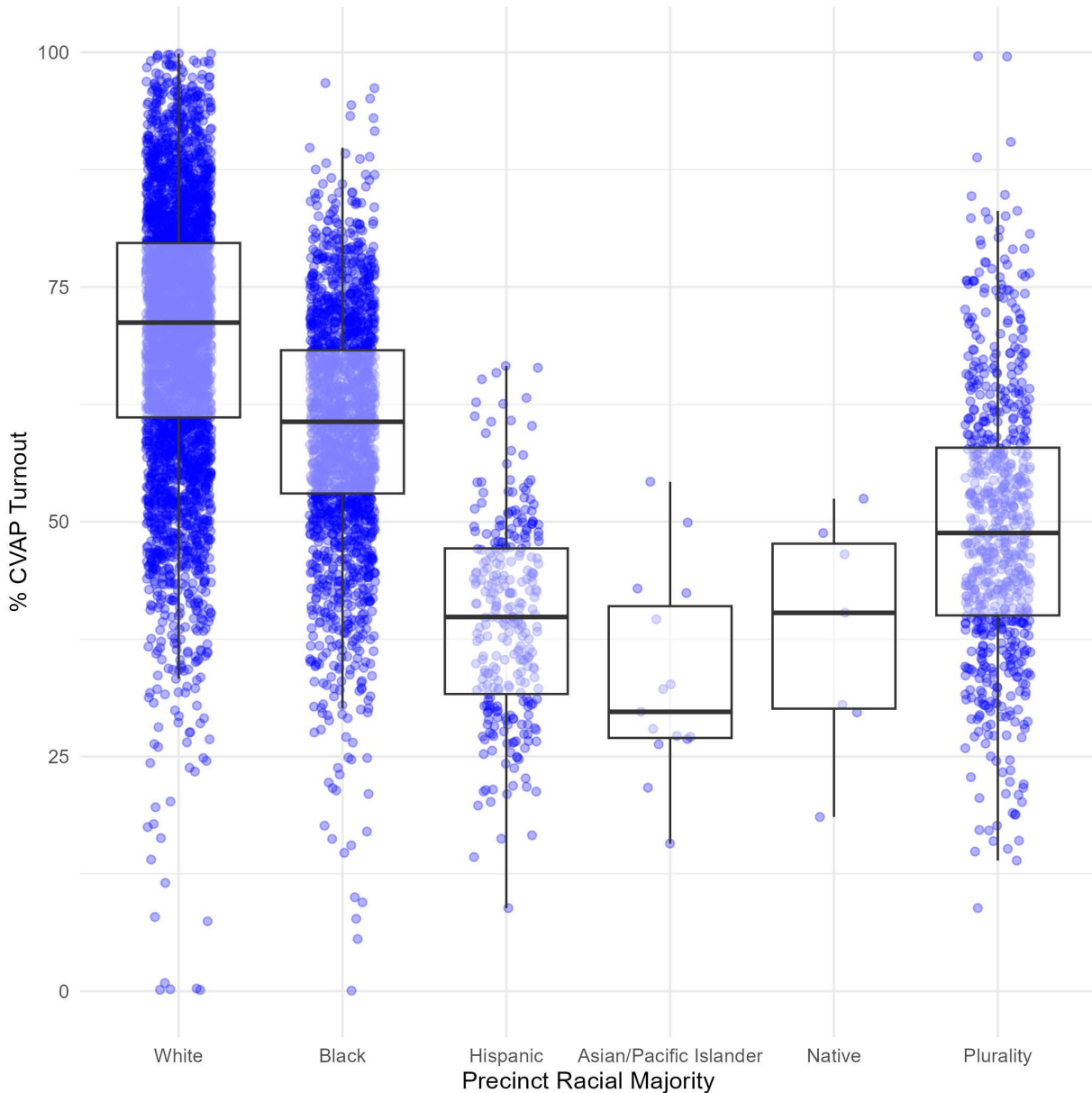
According to voter turnout rates calculated using CVAP data, Allegheny County had the highest level of turnout (70.44 percent), followed by Durham County at 69.57 percent and Mecklenburg County at 67.46 percent.²⁷ Philadelphia County had the lowest CVAP turnout

²⁶ *There was insufficient variance between counties to include county-level effects.*

²⁷ *North Carolina's statewide VEP turnout was 71 percent in the 2020 general election, and Pennsylvania's was nearly 70 percent (McDonald 2023b).*

(60.16 percent), followed by Fulton County at 60.61 percent.²⁸ For context, national turnout was about 66 percent (Hartig et al. 2023).

Figure 2. 2020 Precinct Turnout by Census-Defined Racial Group



The plots show CVAP turnout estimates. The groups that constitute a majority of CVAP within a precinct, as defined by the US Census Bureau, are Asian (Asian and Pacific Islander), Black/African American, Hispanic/Latino, American Indian/Alaska Native (Native), White, and plural, wherein there is no majority race. The black lines inside boxes represent mean turnout within a group, and boxes represent one standard deviation from the mean. Each dot represents an individual precinct.

²⁸ Georgia's statewide VEP voter turnout in 2020 was 67.06 percent (McDonald 2023b).

As expected, we observe substantial racial disparities in 2020 general election voter turnout. As shown in Table A5 in the appendix, registered voter turnout rates were highest in majority-White precincts (79.15 percent) and lowest in majority-Hispanic precincts (58.19 percent). Majority-Black and racially plural precincts fared only marginally better, with average registered voter turnout rates of about 60.72 and 65.59 percent, respectively. Majority-API and majority-Native precincts, both small in number, had estimated average turnout rates of 62.70 and 69.57 percent, respectively.

Examining racial group CVAP turnout, disparities remain. Once again, majority-White precincts had the highest average turnout, 69.86 percent, while majority-API had the lowest with an average of 33.10. Majority-Native and majority-Hispanic precincts had the next-lowest average CVAP turnout at 38.12 and 39.65 percent, respectively. Finally, plurality precincts had an average CVAP turnout of 49.59 percent, and majority-Black precincts had an average CVAP turnout rate of 60.04 percent—still nearly 10 percentage points lower than CVAP turnout in majority-White precincts. Figure 2 shows these relationships graphically.

According to our analysis,²⁹ living in majority-Hispanic precincts was associated with the largest estimated difference in registered voter turnout in the 2020 general election compared to living in majority-White precincts, with 20.96 percentage points from the reference category of majority-White precincts. Living in a majority-Black precinct showed the second highest estimated gap in registered voter turnout rates compared to majority-White precincts, at 18.43 percentage points. Living in majority-Native and majority-API precincts showed a 9.58 percentage-point gap and a 16.45 percentage-point gap in registered voter turnout, respectively, relative to majority-White precincts. As with 2016, racial inequalities in voter turnout in 2020 remained highly significant even in a mixed effects model. In fact, disparities increased in model 2 between majority-White precincts and both majority-Hispanic and majority-Native precincts.

Running the same analyses on turnout calculated with CVAP data, the relationship between residing in majority-Black precincts compared to majority-White precincts remains negative and significant at 9.83. Living in majority-API precincts was estimated to have the largest effect on turnout compared to majority-White precincts, lowering turnout by nearly 37 percentage points. Living in majority-Native and majority-Hispanic precincts compared to majority-White precincts was estimated to lower 2020 CVAP turnout from the majority-White reference by 31.74 percentage points and 30.21 percentage points, respectively. Finally, living in racially plural precincts was predicted to decrease turnout by 20.27 percentage points. Estimated effects differ only slightly in model 2 and remain negative and significant after accounting for state-level factors.

Overall, the persistence of substantive and significant racial differences in analyses on registered voter turnout and CVAP turnout in models controlling for state-level effects suggests that state-level factors, such as voter access, electoral competition, and other variables that commonly influence turnout, do not alone explain these differences. Instead, they are in part a result of the types of communities where people reside, as discussed in the introduction. It is important to note that low- and high-turnout precincts exist within each racial majority group. For example, many majority-Black precincts and precincts without a racial majority had higher levels of turnout than majority-White precincts in the 2020 general

²⁹ Table A6 in the appendix contains full results of analyses.

election, and some majority-Hispanic precincts had turnout averages close to those of majority-White precincts.

2024 General Election

In 2024, average registered turnout rates, as shown in Table A7 in the appendix, were highest in Maricopa County, Arizona (79.24 percent),³⁰ and Allegheny County, Pennsylvania (74.50 percent).³¹ Conversely, Wayne County, Michigan, had the lowest average registered turnout at 55.52 percent.³² Average CVAP turnout was highest in Durham County, North Carolina (75.16 percent), and Mecklenburg County, North Carolina (72.80 percent).³³ CVAP turnout was lowest in Cuyahoga County, Ohio (59.28 percent), and Wayne County, Michigan (61.28 percent).³⁴ Nationwide, about 64 percent of eligible voters voted in the 2024 general election (McDonald 2024).

As in both 2016 and 2020, the 2024 average registered turnout rate in majority-White precincts (75.35 percent) was higher than in precincts with a majority group of color.³⁵ (See Table A8 in the appendix.) Majority-Native precincts had the lowest average registered turnout (51.09 percent), though there were only five such precincts in our 2024 data. Majority-Hispanic and majority-Black precincts also had an average registered turnout rate in the 50 percent range, at around 53 and 56 percent, respectively. Racially plural (61.26 percent) and majority-API precincts (61.10 percent) had slightly higher average CVAP turnouts in 2024.

Similarly, our analysis of CVAP turnout in the 2024 election reveals racial disparities. Majority-White precincts were estimated to have a CVAP turnout of 69.99 percent. As seen in Figure 3, like registered turnout, majority-Native CVAP turnout was the lowest at 31.64 percent. Majority-Hispanic and majority-Black precincts had CVAP turnouts of 46.81 percent and 58.56 percent, respectively. In fact, majority-Black precincts had the highest estimated CVAP turnout among groups of color in 2024. Still, this turnout rate is nearly 12 percentage points lower than the majority-White turnout estimate.

Our baseline analysis shows that these racial disparities in registered voter turnout are statistically significant.³⁶ Living in a majority-Hispanic precinct was associated with an estimated nearly 22 percentage-point decrease in registered voter turnout compared to majority-White precincts. Living in a majority-Black precinct was associated with about 20 percentage points lower in registered turnout relative to living in a majority-White precinct. These racial disparities remain after controlling for state-level factors.

In a state-level random effects model, the substantial and significant registered voter turnout disparities between majority-White and all other majority-race and racially plural precincts suggest that state-level factors alone do not explain these differences. That is, these racial disparities cannot be explained merely by what is happening at the state level but are a result of something more systemic. Moreover, the estimated gap in turnout relative to majority-

³⁰ Arizona's statewide average VEP turnout was 63.60 percent in the 2024 general election (McDonald 2024).

³¹ Pennsylvania's statewide average VEP turnout was 71.43 percent in 2024 (McDonald 2024).

³² Michigan's statewide average VEP turnout was 74.64 percent in 2024 (McDonald 2024).

³³ North Carolina's average VEP turnout was 70.32 percent in 2024 (McDonald 2024).

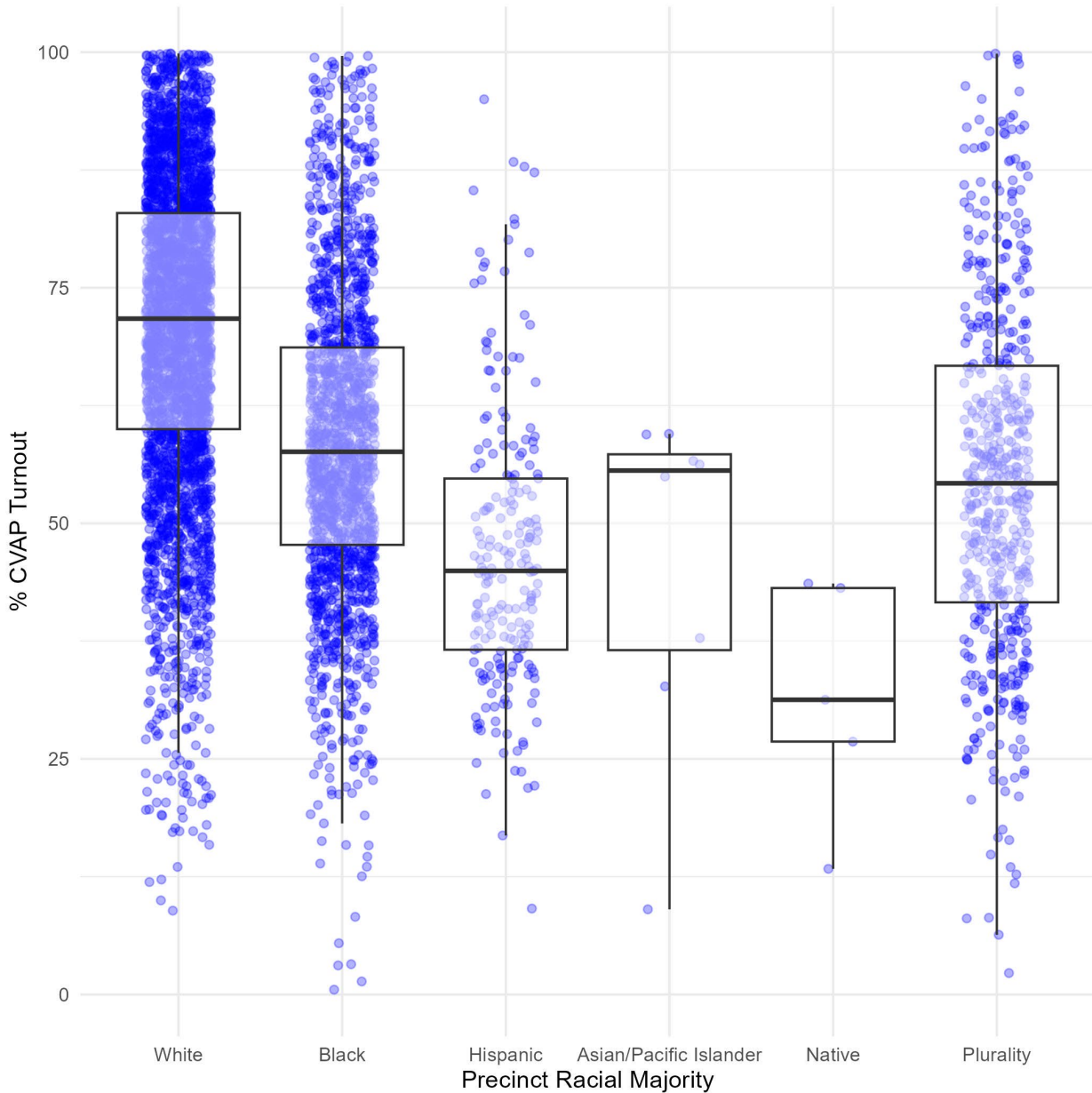
³⁴ Ohio's average VEP turnout in 2024 was 65.39 percent (McDonald 2024).

³⁵ Table A8 in the appendix lists average registered and CVAP turnouts by racial majority for the 2024 general election.

³⁶ Table A9 in the appendix contains the results of full analyses.

White precincts increases in this mixed effects model for majority-Hispanic, -API, -Native, and racially plural precincts.

Figure 3. 2024 Precinct Turnout by Census-Defined Racial Group



The plots show CVAP turnout estimates. The groups that constitute a majority of CVAP within a precinct, as defined by the US Census Bureau, are Asian (Asian and Pacific Islander), Black/African American, Hispanic/Latino, American Indian/Alaska Native (Native), White, and plural, wherein there is no majority race. The black lines inside boxes represent mean turnout within a group, and boxes represent one standard deviation from the mean. Each dot represents an individual precinct.

The baseline analysis of CVAP turnout also finds racial disparities. Living in majority-Black precincts was associated with an estimated nearly 12 percentage-point decrease in CVAP turnout compared to living in majority-White precincts. Living in majority-Hispanic, -API, -Native, and racially plural precincts was associated with even larger differences in CVAP turnout in 2024. Model 2, which includes county-level mixed effects, reverts back to a baseline OLS due to the small amount of county-level variance (Demidenko, Sargent, and Onega 2012). We similarly found significant racial differences. The effect of living in majority-Black, -Hispanic, -API, and racially plural precincts is slightly larger in model 2.

Ballot Rejections

While the Constitution establishes two requirements to vote—being a US citizen and at least 18 years old—many states have erected additional restrictions on the right to vote. States’ additional requirements range from registration deadlines, voter identification laws, and, more recently, redundant proof of citizenship laws (NCSL 2024; NCSL 2025e; Underhill 2025).³⁷ Additionally, there are a wide range of methods used to verify and process ballots, to determine which ballots are to be rejected, and, for voters, to correct ballot errors.³⁸ Consequently, comparing ballot certification and ballot rejection rates across jurisdictions is difficult.³⁹

Arizona, Michigan, and Ohio require signature verification of mail ballots, whereas Georgia, North Carolina, Pennsylvania, and Wisconsin do not (NCSL 2025d). In signature verification states, the ballot envelope signature is compared to the signature(s) on the voter’s registration record, and if the signatures do not match, it is rejected. Georgia requires voters to sign an oath under penalty of false swearing and provide an accepted form of identification. North Carolina mail ballots must be signed by either two witnesses or a notary public in addition to the voter, who must also provide a copy of an accepted form of photo identification or an exemption form. Pennsylvania’s mail ballot envelope includes a statement that must be signed by the voter under penalty of unsworn falsification, and the county board “verifies the proof of identification and compares the information . . . with the information in the ‘registered absentee voters file’” (NCSL 2025c). Wisconsin requires a single witness’s signature along with the voter’s signing under penalty for making a false statement (NCSL 2025d).

We considered provisional or absentee ballots rejected if they were cast but not counted because of clerical error, such as incomplete notary or witness information; voter error, including rejections pending a cure, which is notifying and allowing a voter to correct a ballot error; late return, with the deadline often being prior to Election Day; unmatched or invalid signature; failure to provide proof of citizenship; or being recorded as “spoiled” or “other,” which are often the largest categories of rejection.⁴⁰ In other words, we calculate rejection rates as the number of absentee and/or provisional ballots not counted over the number of

³⁷ At the time of analysis, the federal government was also considering instituting a law for proof of citizenship to vote, the Safeguard American Voter Eligibility (SAVE) Act (Cassidy 2025).

³⁸ For more information on state curing processes and verification practices, see NCSL (2025c) and NCSL (2025d), respectively.

³⁹ For context, Oregon, which had the highest COVI value in 2016 and 2020, rejected 0.69 percent of absentee ballots in 2016 and 0.70 percent in 2020 (COVI n.d.; EAC 2017).

⁴⁰ We included provisional ballots in our calculations (where these data were available) because it is possible for these ballots to be cast but not counted if voters do not produce the required information to prove their eligibility within set deadlines. A previous version of this analysis calculated rejected ballots as the ballots rejected over ballots counted and therefore included in-person ballots. Based on feedback from community partners, we changed this calculation to be the total ballots rejected over total absentee and/or provisional ballots cast.

absentee and/or provisional ballots cast. This way, we are examining the subpopulation of overall ballots that are at risk of being rejected and not the entire population of cast ballots.

Importantly, our previous report combines rejected ballots (either absentee, mail, or provisional) with any provisional ballot cast to create a measurement of ballot problems (Gordon-Rogers, Latner, and Williams 2024b). As noted, the current report evaluates only those absentee and provisional ballots that were rejected. We did this to have a more precise definition of ballot rejections due to limitations in the available data. But in doing so, we recognize the possibility that our findings actually underestimate racial differences in voting by not accounting for the broader problems people of color face while casting ballots that often result in the need to cast provisional ballots.

For 2016, we obtained ballot rejection data from 6 of our 11 sample counties. We were unable to secure data from the Pennsylvania counties, Ohio counties, or Milwaukee County, Wisconsin. For 2020, we calculated ballot rejection data for all jurisdictions except Allegheny County, Pennsylvania, and Milwaukee County, Wisconsin, from which we did not receive the necessary data. For 2024, we were only able to secure ballot rejection data from Cuyahoga County, Ohio and Philadelphia County, Pennsylvania.

Maricopa County, Arizona, Fulton County, Georgia, and the three North Carolina counties provided reasons for 2016 ballot rejections (see Tables A12–A15).⁴¹ Just five of the counties in our analysis—Philadelphia County, Pennsylvania, Fulton County, Georgia, and all three North Carolina counties—provided data on reasons for 2020 ballot rejections (see Tables A18–A22). For 2024, we obtained the percentage of rejected ballots and the reasons for their rejection from three of our target counties—, Cuyahoga County, Ohio, Philadelphia County, Pennsylvania, and Wayne County, Michigan (see Tables A25–A27).⁴² Table A10 specifies the combination of data (absentee, preprocessed absentee, and provisional) we received and analyzed from every jurisdiction in each election year.

We then used the available data for each county to rank into lower, middle, and upper thirds the frequency of provisional voting events (i.e., supplemental provisional ballots cast or “no-identification” affidavits signed) and the total ballot rejections recorded as a percentage of ballots cast. This process standardized the scale of rejections, making it possible to compare high-incident precincts (those in the upper third) to other precincts and to analyze the properties of high-incident precincts across jurisdictions while considering all the legal, administrative, and behavioral differences that generate variability in ballot rejections across precincts.⁴³ Finally, a note on the presentation of findings: Although we discuss rejection rates county to county, it is important to remember that due to substantial differences in dimensions such as administrative practices, rejection codes, and curing policies, we cannot and should not directly compare rejection rates between states.

2016 Ballot Rejections

Table A11 shows that 2016 general election ballot rejections were highest in Durham County at 6.76 percent (or 1,037 ballots) followed by Columbus County (4.48 percent, or 128 total ballots)

⁴¹ We do not include a table detailing reasons for rejection for Fulton County in the 2016 election, as data show that only one ballot was rejected that year.

⁴² See the discussion section for more on the availability of ballot rejection data.

⁴³ Since most precincts in Wayne County, Michigan, had rejection rates of 0 percent in 2020, each of the terciles contain some 0 percent precincts.

and Mecklenburg County (4.46 percent, or 2,057 ballots). For all three North Carolina counties, we were able to obtain data on absentee and provisional ballot rejections in 2016.⁴⁴ The counties also provided reasons for rejection data, as shown in Tables A12–A14. The most commonly recorded reason was lack of a record of registration, accounting for over 70 percent of rejections.

Maricopa County, Arizona, rejected 1.79 percent (or 33,274 total ballots) of absentee and provisional ballots.⁴⁵ Like the North Carolina counties, Maricopa County provided rejection codes in the 2016 data (see Table A15), the primary reasons being unregistered individuals (25.45 percent) and missing signatures (23.44 percent). Conversely, Fulton County had the lowest rate of rejection at 0.0004 percent.⁴⁶

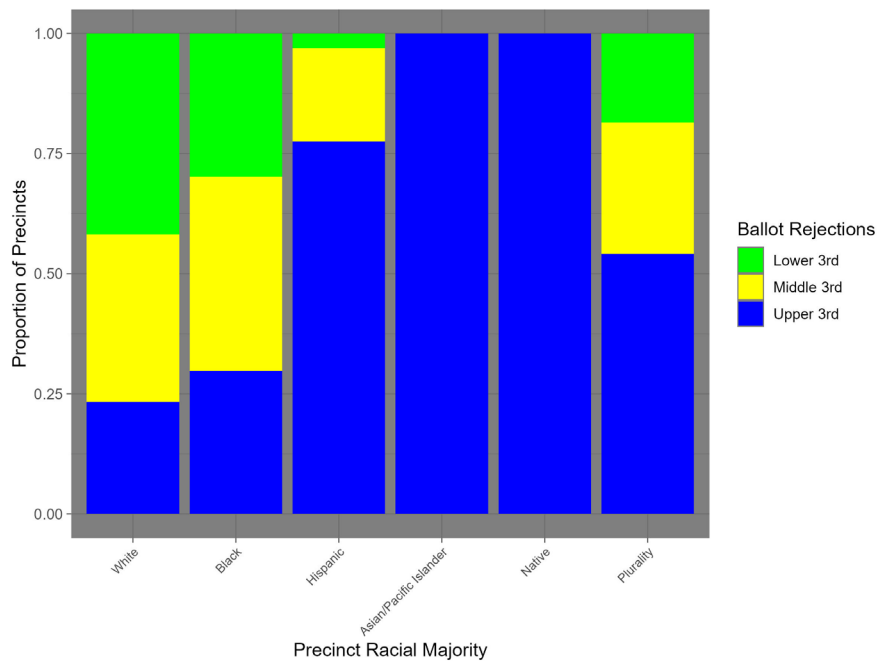
Figure 4 shows the proportion of precincts for each ballot rejection category in the 2016 general election. Majority-White precincts had a lower proportion of precincts in the high-incident category, with just under 25 percent of precincts in the upper-third tercile of ballot rejections. Comparatively, nearly 30 percent of majority-Black and about 50 percent of racially plural precincts were in the high-incident rejection category. About 75 percent of majority-Hispanic precincts were in the high-incident rejection category, while the small number of majority-API and majority-Native precincts in our sample were in the upper-third category. These results suggest that identified ballot problems, and consequently ballot rejections, were more concentrated in precincts with majority populations of color in the 2016 general election.

⁴⁴ Statewide, North Carolina rejected 0.71 percent of absentee ballots in the 2016 general election (EAC 2017).

⁴⁵ Statewide, Arizona rejected 0.43 percent of absentee ballots in 2016 (EAC 2017).

⁴⁶ Statewide, Georgia rejected 5.77 percent of absentee ballots in 2016 (EAC 2017). That there was only one ballot rejected in Fulton County in 2016 indicates there may be issues within the data.

Figure 4. Proportion of Precincts in Each Ballot Rejection Category 2016



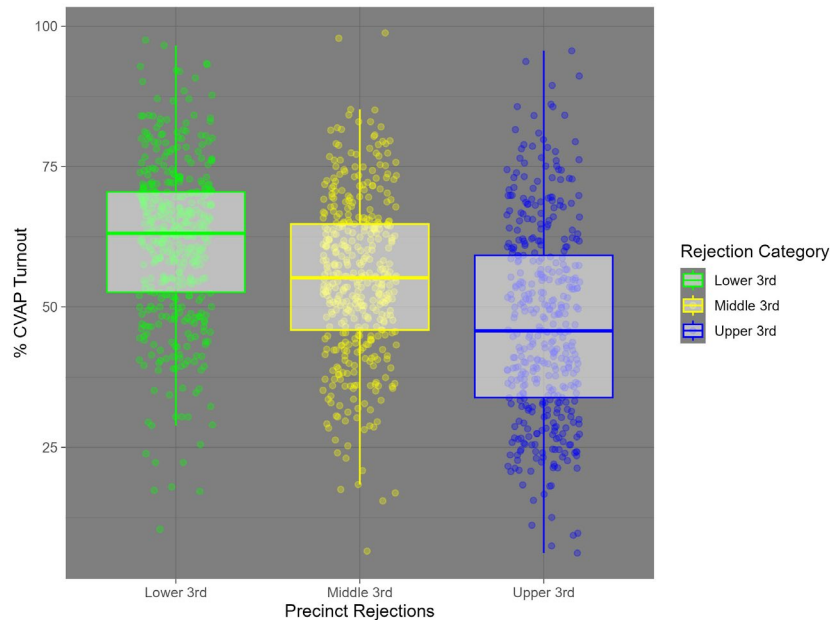
This figure shows the proportion of precincts for each ballot rejection category in the 2016 general election.

The relationship between ballot rejections and voter turnout in 2016 is shown in Figure 5. Precincts in the lower third, or the low-incident category, had the highest turnout rates, with a median rate of about 70 percent. Precincts in the middle third had a median turnout rate of around 65 percent. And precincts in the high-incident category, or those with the most ballot problems, had a median turnout rate of 60 percent. These results indicate that as ballot problems increase, turnout rate decreases. Moreover, combined with Figure 4, our analysis points to the potential of existing cumulative inequalities in these communities. Not only are the communities deprived of the resources necessary for effective political participation, but when they do manage to overcome these barriers, the votes of their residents are more likely to go uncounted.

Our baseline multivariate analysis of rejection rates indicate that living in a majority-Black precinct increased the rate of rejections by 0.17 percentage points compared to majority-White precincts in the 2016 general election, but this relationship was not substantially or statistically significant.⁴⁷ Living in a majority-Hispanic precinct was estimated to significantly increase rejections by 1.08 percentage points compared to living in a majority-White precinct. Residing in majority-Native precincts was found to significantly increase the rate of rejection by an estimated 8.57 percentage points. Finally, the baseline model found that living in a racially plural precinct increased rejection rates compared to living in a majority-White precinct by 1.75 percentage points. In a mixed effects model, the effect of living in a majority-Hispanics precinct compared to majority-White increased slightly.

⁴⁷ Results of full analyses are shown in Table A16 in the appendix.

Figure 5. 2016 CVAP Turnout by Ballot Problem Terciles



This figure shows the relationship between ballot rejections and CVAP voter turnout in the 2016 general election.

2020 Ballot Rejections

Table A17 displays average ballot rejection rates by county in the 2020 general election. Cuyahoga and Lorain Counties in Ohio, which rejected 12.64 and 12.26 percent of provisional ballots, respectively, had the highest rates of rejection.

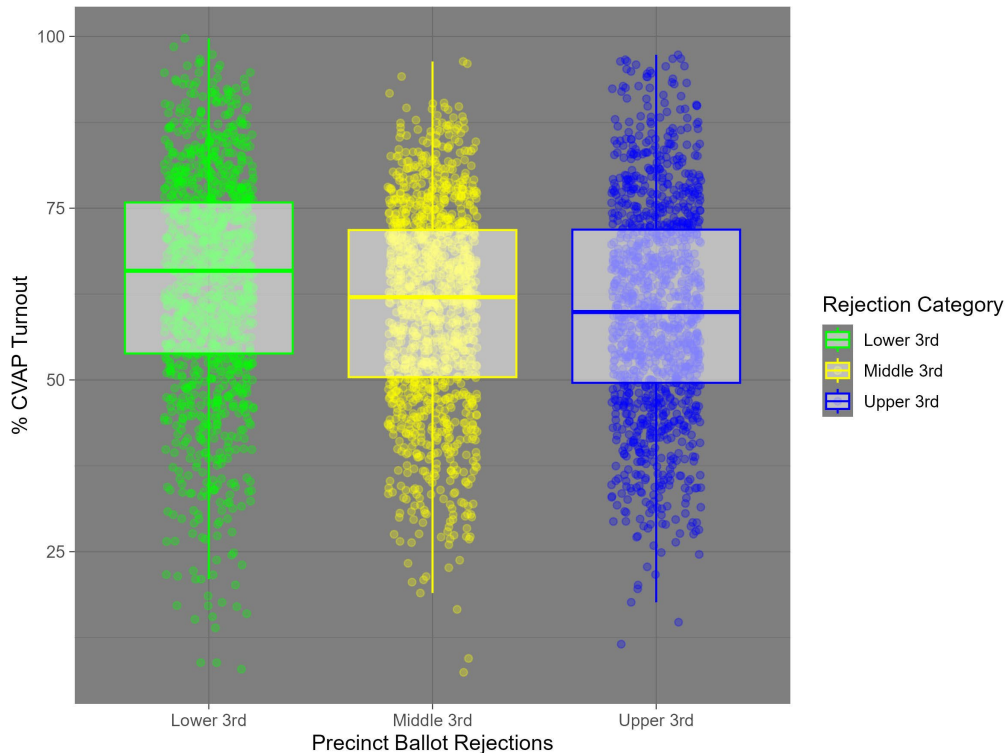
Durham and Columbus Counties in North Carolina had average ballot rejection rates of 4.38 percent (or 1,246 total ballots) and 3.30 (about 290 ballots), respectively, while Mecklenburg County rejected 2.21 percent (or about 1,500 ballots).⁴⁸ In both Mecklenburg and Durham Counties, most rejected ballots were cast by someone who was not registered to vote. Philadelphia County rejected 1.90 percent (or about 4,170) of ballots. Importantly, most of these rejections, too, were cast by people not registered to vote.

Maricopa County, Arizona, had the second-lowest rejection rate (0.64 percent). The lowest rejection rate was had by Fulton County, Georgia, with an average of 0.19 rejection percent (or 750 ballots) of absentee ballots, mostly due to missing signatures.⁴⁹

⁴⁸ Statewide, North Carolina rejected 0.70 percent of mail ballots in the 2020 general election (EAC 2021). Tables A20–A22 show the counties’ reasons for rejections in the 2020 general election.

⁴⁹ Table A18 in the appendix shows Fulton County’s reasons for rejection. Statewide, Georgia rejected 0.40 percent of mail ballots in the 2020 general election (EAC 2021).

Figure 6. 2020 CVAP Turnout by Ballot Problem Terciles

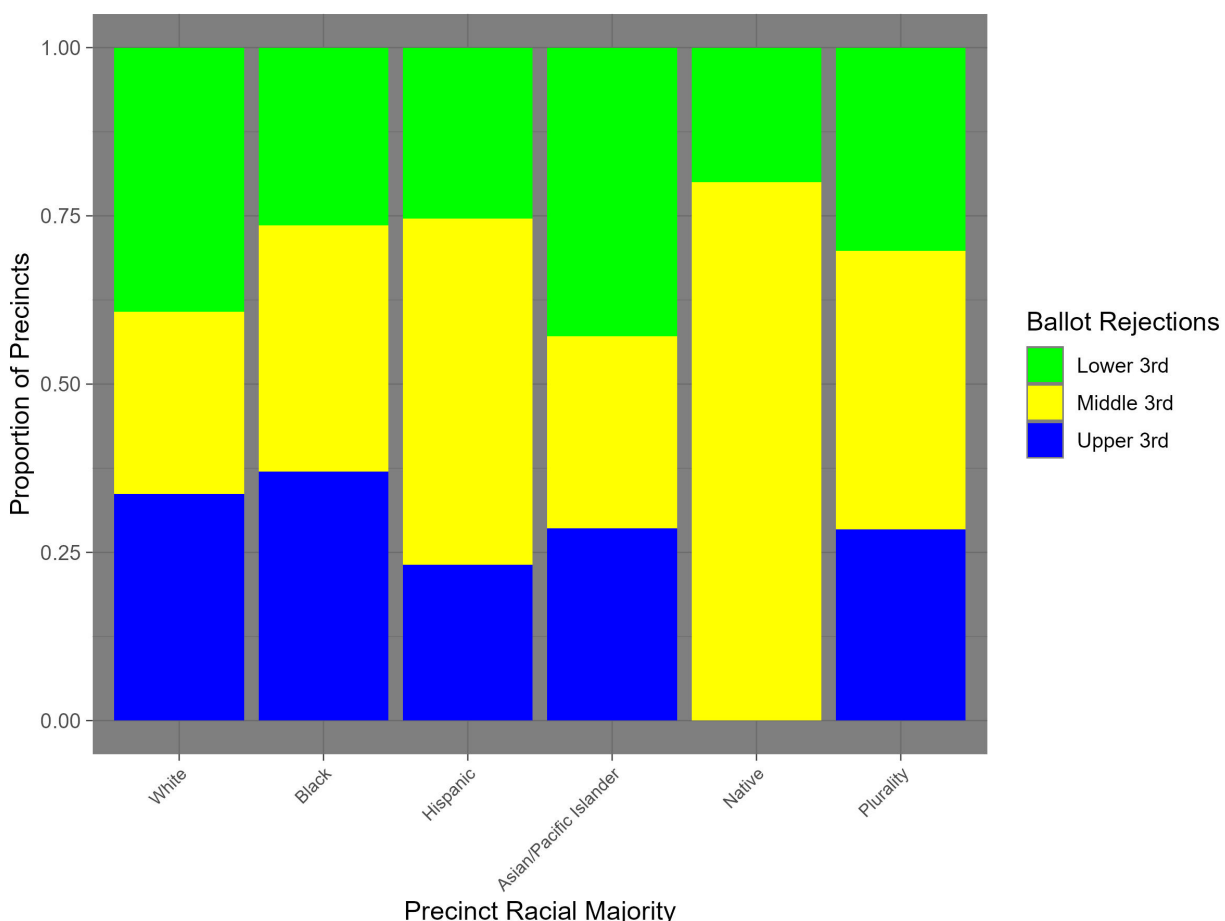


This figure shows the relationship between ballot rejections and CVAP turnout in the 2020 general election.

Figure 6 shows that in 2020, average turnout was highest in the precincts with the lowest ballot incident rates and lowest in those with the highest ballot incident rates. Comparing low-incident and high-incident ballot rejection precincts, as shown in Figure 7, we found evidence of racial inequalities in rates across precincts of different racial majorities. Approximately 30 percent of majority-White precincts were in the high-incident category (the upper-third tercile of ballot problems), but around 35 percent of majority-Black precincts were in the high-incident category. Majority-White precincts did not have the lowest proportion of precincts in the upper third of ballot rejections—that status was held by majority-Native precincts, which had no such precincts in our analysis given their limited number, followed by majority-Hispanic—but they did have the second-highest proportion of precincts in the lower third of rejections.⁵⁰

⁵⁰ The fact that our earlier study of 2020 ballot problems, which combined provisional ballots and ballot rejections, found greater racial disparities between these categories seems to support our point that this study may underestimate racial inequalities. In that study, we found that 40 percent of majority-Black and majority-Hispanic precincts were in the high-incident category for ballot problems compared to less than 20 percent of majority-White precincts (Latner and Gordon-Rogers 2024).

Figure 7. Proportion of Precincts in Each Ballot Rejections Category 2020



This figure shows the proportion of precincts in each ballot rejection category in the 2020 general election.

Our baseline analysis of ballot rejections by racial majority in the 2020 general election found that living in a majority-Black precinct increases ballot rejection rates compared to majority-White precincts by about 0.71 percentage points.⁵¹ Living in a racially plural precinct instead of a majority-White precinct was actually estimated to decrease ballot rejections by 0.27 percentage points. Residing in a majority-Hispanic precinct was associated with an estimated 2.30 percentage-point decrease in ballot rejections over that of majority-White precincts. In model 1, majority-API and majority-Native precincts were the only racial groups of color not having a statistically significant higher rate of rejection relative to majority-White precincts.

In model 2, a mixed effects model that controls for county-level effects, we found significant racial disparities. Compared to residing in majority-White precincts, living in any other racial majority precinct or racially plural precinct increased rejection rates. The greatest increase in

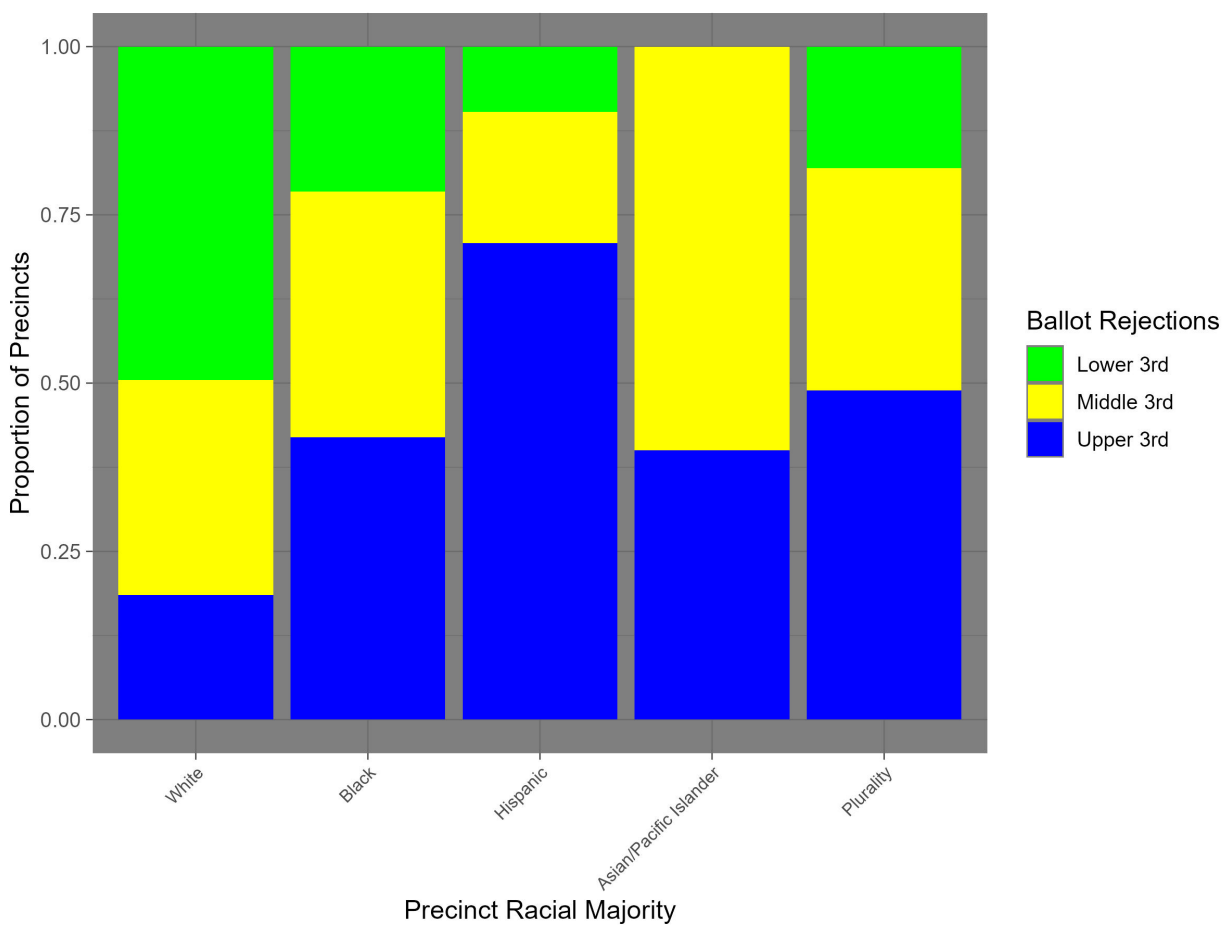
⁵¹ Results of full analyses are shown in Table A23.

ballot rejections was estimated in majority-Black (1.88 percent) and majority-Hispanic (1.86 percent) precincts.

2024 Ballot Rejections

Philadelphia County, Pennsylvania, had an average rejection rate of 1.11 percent (or 13,236 ballots), and Cuyahoga County, Ohio, had an average of 0.43 percent (or 3,087 ballots), as shown in Table A24.⁵² In Cuyahoga County (see Table A25), nearly 60 percent of absentee ballots were rejected because of an unregistered voter. The second most common reason for rejection (14 percent) was the voter having no acceptable identification.

Figure 8. Proportion of Precincts in Each Ballot Rejections Category 2024



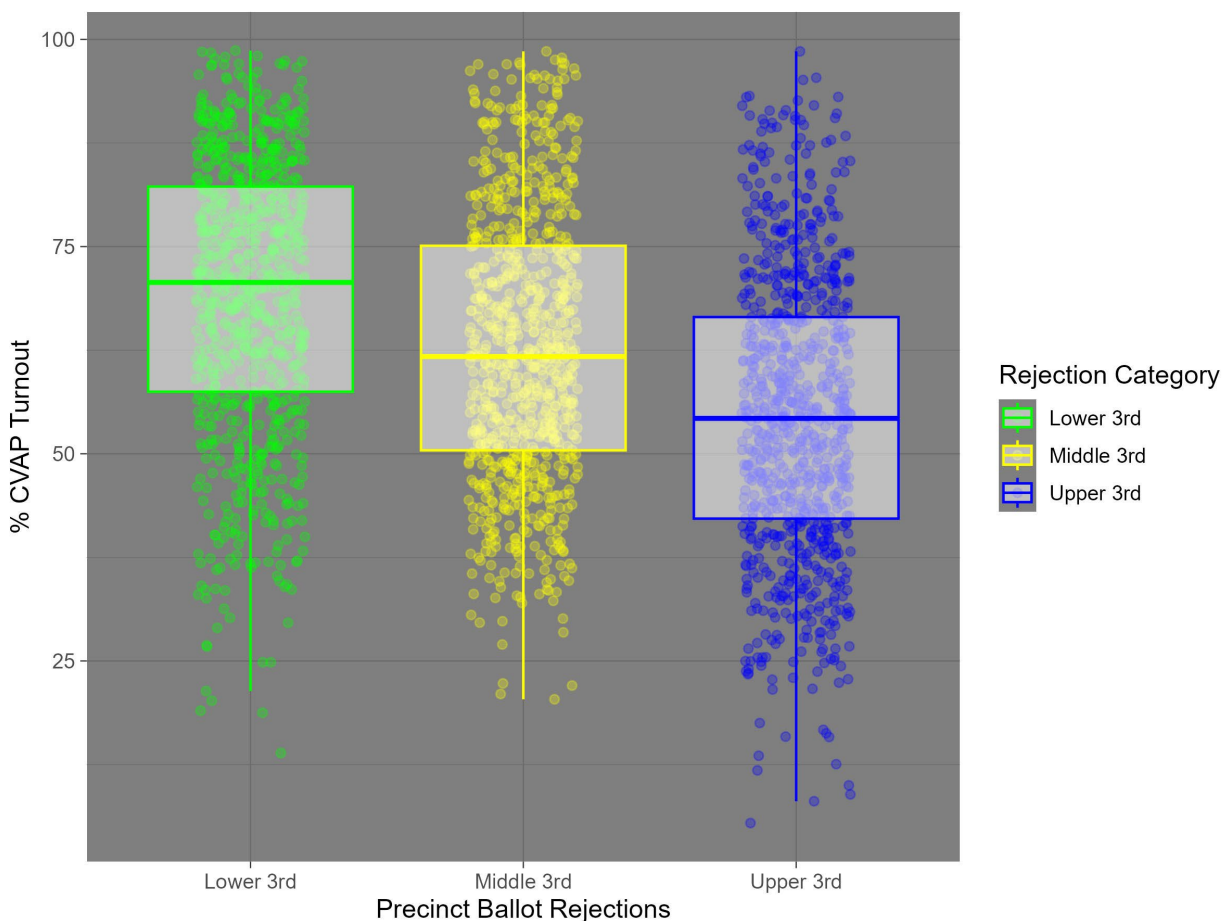
This figure shows the proportion of precincts in each ballot rejection category in the 2024 general election.

⁵² Pennsylvania rejected 1 percent of mail ballots in the 2024 general election, and Ohio rejected 0.8 percent of mail ballots (EAC 2025).

According to the rejection data shown in Table A26, the most common reason for ballot rejection in Philadelphia County was the return of the absentee ballot to the election offices as undeliverable (27.2 percent). The second most common reason was a missing signature (23.3 percent), and another 16 percent were rejected for arriving after the return deadline.

While we were unable to calculate precinct-level rejection rates for Wayne County, Michigan, we were able to obtain reasons for rejection data, as seen in Table A27. The most common reason was that the voter had already voted at an early voting site or previously on Election Day, which accounted for about 66 percent of rejected ballots.⁵³ The second most common rejection reason was the voter moving to another jurisdiction (10.72 percent), followed by late return of the ballot (6.28 percent). Nationally, the most common reason mail ballots were rejected in the 2024 general elections was a missing or nonmatching signature, accounting for slightly over 40 percent of rejections (EAC 2025).

Figure 9. 2024 CVAP Turnout by Ballot Problem Terciles



This figure shows the relationship between ballot rejections and CVAP turnout in the 2024 general election.

⁵³ Table A27 lists the reasons for rejection and their percentage of occurrence in Wayne County, Michigan.

Comparing ballot rejections of low-incident and high-incident precincts (see Figure 8), we again see evidence of substantial racial disparities. Under 25 percent of majority-White precincts are in the high-incidence category, while approximately 70 percent of majority-Hispanic, 50 percent of racially plural, 30 percent of majority-Black, and 30 percent of majority-API precincts were in the upper third of ballot rejections. Figure 9 shows that precincts in this upper-third, high-incidence category—or those with a higher rate of ballot rejection—were also those with the lowest average turnout.

Baseline analysis of ballot rejections by racial majority, as shown in Table A28, found that majority-Black, -Hispanic, -API, and racially plural precincts had significantly higher ballot rejection rates than those of majority-White precincts. Majority-API and -Hispanic precincts had the greatest estimated impact on ballot rejection rates, with the former estimated to see a 1.96 percentage-point increase in rejections and the latter, 1.25 percentage points. In an analysis controlling for county-level effects, racial disparities in ballot rejections between majority-White precincts and those with a majority group of color remained significant.⁵⁴

Discussion

In our analysis of voter turnout and ballot rejections in battleground counties in the 2016, 2020, and 2024 general elections, we found evidence of what we refer to as electoral cumulative inequalities. For each of those years, majority-White precincts had significantly higher turnout than precincts of a majority group of color or racially plural precincts—those with no majority race. While average registered turnout in majority-White precincts was higher in 2024 compared to 2016 (peaking in 2020), average registered turnout in majority-Black and -Hispanic precincts decreased from 2016 to 2024. In majority-Black precincts, average registered turnout fell from 64 percent in 2016 to 56 percent in 2024. In majority-Hispanic precincts, average registered turnout decreased from 61 percent in 2016 to 53 percent in 2024.⁵⁵

According to turnouts estimated using CVAP data, average turnout in majority-White precincts increased from 2016 to 2024 while turnout in majority-Black precincts remained relatively stable at about 59 percent in 2016, 60 percent in 2020, and 59 percent in 2024. Average CVAP turnout rate in majority-Hispanic precincts increased over time but remained substantially below turnout in majority-White precincts. In 2024, for example, majority-Hispanic CVAP turnout was the highest of all three election years, analyzed nearly at 47 percent, 23 percentage points below that of majority-White precincts that year.

Further, in analyses controlling for state and county effects, the negative effect on registered turnout of residing in a majority-Black or -Hispanic precinct increased over time. Living in a majority-Black precinct was estimated to decrease registered voter turnout by almost 11 percentage points in 2016 compared to living in a majority-White precinct, controlling for state-level factors. In 2024, that figure was about 17 percentage points. Living in a majority-Hispanic precinct, controlling for state-level effects, was estimated to decrease registered

⁵⁴ Model 2 is a mixed effects model with random effects for counties to account for unobserved differences between counties. This model does not include state-level effects due to insufficient variance within states.

⁵⁵ Though making up a relatively smaller number of precincts in our analysis due to county selection, racially plural, majority-Native, and majority-Asian precincts saw mild to moderate increases in turnout from 2016 to 2020. Racially plural precinct average turnout increased from 58 percent in 2016 to 61 percent in 2024, peaking at 69 percent in 2020. Average turnout in majority-Native precincts increased from 40 percent in 2016 to 51 percent in 2024, with a high of 67 percent in 2020.

voter turnout by nearly 14 percentage points in 2016; in 2024, that figure rose to nearly 24 percentage points.

According to analyses on the impact of residing in majority-Black precincts compared to majority-White precincts on CVAP turnout rates, which included controls of state-level factors, living in a majority-Black precinct was estimated to decrease turnout by about 3 percentage points in 2016 and nearly 13 percentage points in 2024. Living in a majority-Hispanic precinct was estimated to decrease CVAP turnout rates by nearly 24 percentage points in 2016 and about 25 percentage points in 2024.

Racially plural precincts and those with higher Black, Hispanic, and racially plural populations were estimated to have higher rates of ballot rejections than majority-White precincts in 2016 and 2024.⁵⁶ Moreover, we found that voters living in low-turnout precincts were estimated to have higher ballot rejection rates in the 2016, 2020, and 2024 general elections. **These findings suggest that ballots not cast and ballots cast but not counted are correlated and concentrated in certain precincts. That is, communities with lower rates of turnout also experience higher rates of ballot rejections, and as a result, these communities' political representation is diminished compared to those communities with high turnout and low rejection rates.**⁵⁷

From 2016 to 2024, the percentage of majority-White precincts in the high-incidence category of ballot rejections remained fairly stable—a little under 25 percent. In 2020, however, this number was around 30–35 percent. The percentage of majority-Black precincts in the high-incidence category was about 30 percent in 2016, increased to about 35 percent in 2020, and fell again to 30 percent in 2024. The percentage of majority-Hispanic precincts in the high-incidence category increased from 2016 to 2024—from about 75 percent in 2016, to below 25 percent in 2020, and finally, to 70 percent in 2024.⁵⁸

These racial disparities in voter turnout and ballot rejections—which are symptoms of systematic inequities in our electoral processes and political institutions—accumulate in the underrepresentation of the interests, needs, and preferences of communities in Black, Hispanic, Native, API, and racially plural precincts and the overrepresentation of the interests, needs, and preferences of communities in majority-White precincts. As a result, decisions made by elected officials are less likely to reflect the interests of these communities of color, and public policies are less likely to protect their health, safety, and well-being.

Several explanations are possible for the observed racial disparities in rejection rates. There are two general theories. One is the voter-centric perspective that suggests that voter demographics affect a voter's ability to correctly complete a ballot due to flawed ballot design and higher signature fluidity (Alvarez, Hall, and Sinclair 2008; Cottrell, Herron, and Smith

⁵⁶ Our analysis of rejection data also supports the various research that debunks mass voter fraud allegations—including the conspiracy theories of illegal voting specific to the counties in this analysis—by serving as evidence of the rigorous process ballots undergo before being counted and demonstrating the various reasons ballots are rejected each election cycle (Cottrell, Herron, and Westwood 2018; Eggers, Garro, and Grimmer 2021; Levitt 2007).

⁵⁷ Researchers have found evidence suggesting voters whose mail applications or mail ballots are rejected are less likely to vote for at least two years afterward (Morris and Grange 2025).

⁵⁸ The percentage of majority-API precincts in the high-incidence category was 100 percent in 2016, around 20 percent in 2020, and about 45 percent in 2024. We had rejection data for majority-Native precincts only for 2016. The proportion of racially plural precincts in the high-incidence category remained fairly stable over time.

2021; Darcy and Schneider 1989; Kimball and Kropf 2005; Kimball, Owens, and Keeney 2004; Knack and Kropf 2003; Norden 2012; Norden and Iyer 2011; Sinclair and Alvarez 2004; Tomz and Van Houweling 2003).

Conversely, the administrative-centric perspective suggests that disparities in rejection rates can be attributed to the discretion of local-level election administration through the neutral application of policies that happen to have unequal effects on different groups of people or through the implicit biases of election workers and administrators (Cottrell, Herron, and Smith 2021; Eberhardt 2019; Greenwald and Banaji 1995; Kimball and Kropf 2006; Kimball, Kropf, and Battles 2006; D. Smith 2018; White, Nathan, and Faller 2015). In reality, it is likely that rejection rate disparities are explained by all of the above.

Fortunately, there are ways to reduce current racial inequalities in elections and work toward a multiparty and multiracial democracy wherein multiple parties effectively represent citizens of diverse racial and ethnic backgrounds. More equitable ballot design, including redesigning mail and provisional ballots to be more user-friendly and expanding language and disability access, can increase turnout and decrease rejections among marginalized groups (Gordon-Rogers, Latner, and Williams 2024a). Increasing election data transparency, including adopting new voter file maintenance practices and expanding curing opportunities and outreach, can increase rates of participation and reduce the number of rejected ballots (Gordon-Rogers, Latner, and Williams 2024b). Right now, we are actively advocating for these and other science-based policies in the areas of ballot design and election data transparency. While important, such policy recommendations focus on election administration and do not rectify larger inequalities inherent in our electoral system. For that reason, UCS is also working on increasing fair representation. Communities must have the power to elect the candidates they choose to represent their interests.

The process of working with election administrators to collect the data necessary for this analysis highlights two elements critical to the study of election administration in the United States. First, election administrators are dedicated public servants who are deeply committed to administering accessible, secure, and fair elections but face considerable impediments to achieving that mission, including but not limited to barriers to collecting, securing, and disseminating precinct-level election data. We are not the first and will likely not be the last to acknowledge these barriers (Willis, Merivaki, and Ziogas 2022).

Second, the lack of comprehensive precinct-level data—such as 2024 ballot rejection data for many of our sample counties—is indicative of its widespread inaccessibility (Baltz et al. 2022). Both availability and quality of election data are indispensable to the study of elections. Without access to these data, researchers are constrained in their ability to identify issues within the administration of elections or to develop solutions to overcome these challenges (Murray, Baltz, and Stewart 2023; Willis, Merivaki, and Ziogas 2022). While our analysis is rigorous, our research and the resulting report—as well as the research of others in the field of election science and administration—would be improved with better data. This unavailability also illustrates the continuing importance of our work in the area of election data transparency, such as our development of election science recommendations for improving current levels of transparency (Gordon-Rogers, Latner, and Williams 2024b).

Despite its associated challenges, the examination of precinct-level election data is an area ripe for further research. Among the potential areas of study is whether the most common reasons for rejection vary based on the racial composition of precincts, similar to what is proposed in the state-level report by the Center for Inclusive Democracy and the Elections and

Voting Information Center (CID and EVIC 2024). Another avenue for future research is to examine turnout and rejection rates using precinct-level estimates of the percentage of voters with disabilities or with limited English proficiency. Further study should explore precinct-level ballot rejections in other jurisdictions, such as those that are smaller or outside of battleground states. Moreover, our selected counties have a relatively small number of majority-API and -Native precincts. Continued analysis of counties with higher populations of API and Native residents would improve the reliability of findings regarding voter turnout and ballot rejection rates for these communities.

During post-publication review, we identified some issues affecting the specificity of turnout and rejection calculations, which we have addressed. Although none of these changes altered the core findings of the report, they do refine our calculations and improve the overall precision of the analysis. In addition to these specific changes, the revised report contains a modestly expanded discussion of the challenges of this type of data collection, formatting, and processing. The errata can be found at www.ucs.org/resources/blocked-ballot-box.

Authors

Liza Gordon-Rogers is a research officer in the Center for Science and Democracy at the Union of Concerned Scientists. **Rose Nafa** is a PhD candidate at the University of North Texas.

Acknowledgments

This report was made possible through the generous support of the Bernard F. and Alva B. Gimbel Foundation, Democracy Fund, Orchard Foundation, Weissman Family Foundation, and UCS members.

We want to thank all the UCS staff who contributed to and provided feedback for this project. We also want to express our gratitude to Dr. Joseph Anthony, assistant professor of political science at the State University of New York at Cortland; Mitchell Brown, Senior Voting Rights Counsel at the Southern Coalition for Social Justice; Sharon Dolente at Promote the Vote Michigan; and Dr. Adrienne Jones, assistant professor of political science at Morehouse College, for reviewing our analysis. Additionally, we thank the Science Network members who provided essential support to this analysis.

We also wish to express our gratitude to the member of our Election Science Task Force, especially Secretary Benson and her staff, Andrea Benjamin, Kathy Boockvar, Derek Bowens, Sharon Dolente, Jo Lukito, Jennifer Morrell, Tammy Patrick, Alec Ramsey, Scott Seeborg, and Thomas Whitaker, for their expertise, valuable input, and assistance obtaining election data.

To the individuals, administrators, and election officials who helped us obtain the data used in this analysis—Seth Bluestein, Mariska Bodison, Natasha Bull, Tim Fergus, Aidan Ferrell, Lewis Friedland, Sherri Hines, Peter James, Eric Kapenstein, Dave Stambol, Aaron Ockerman, David Voyer, Courtney Weiss, DeLorean White, Nadine Williams, those on the Fulton County’s Open Records team, at the Lorain County Board of Elections Records Office, and at the Maricopa County’s Public Records Office—we thank you for your hard work and patience.

Finally, this project would not have been possible without the vision and support of Dr. Michael Latner.

Organizational affiliations are listed for identification purposes only. The opinions expressed herein do not necessarily reflect those of the organizations that funded the work or the individuals who reviewed it. The Union of Concerned Scientists bears sole responsibility for the report's contents.

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