Does Leader Turnover Degrade Local Government Performance? Evidence from Local Election Officials*

Joshua Ferrer,† *UCLA*

Daniel M. Thompson,‡ *UCLA*

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Abstract

How disruptive are leadership changes in local government? Standard accounts disagree. Some argue that governments perform worse after turnover because officials improve with experience. Others argue that officials work hardest when they are at their most vulnerable early in their career. In this paper, we study the effect of the recent departures of many local officials who conduct elections. We build a large-scale dataset tracing the tenures of elected and appointed chief local election officials in all 50 states from 2000 to 2024, encompassing more than 18,000 officials. Using a variety of panel analyses, we find that losing an election official does not meaningfully affect observable indicators of performance, with the possible exception of polling place wait times. We present suggestive evidence for two explanations for our findings that likely extend across many local government offices: replacement officials are highly qualified and staff maintain office functions through leadership transitions.

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†Ph.D. Candidate, Department of Political Science.

‡Assistant Professor, Department of Political Science. danmckinleythompson@gmail.com

1 Introduction

A growing chorus of public officials, scholars, and journalists have sounded the alarm over high turnover of local government officials.[1] The main reason many are concerned about public official turnover is the fear that it takes time to learn how to lead in a new role and offices will perform poorly while new leaders get up to speed. In a recent interview about administrative errors in Pennsylvania's local election offices, Secretary of the Commonwealth Al Schmidt captures these concerns, saying "[Human errors] occur most frequently, overwhelmingly, when you have new election administrators" (Walker 2023). These concerns are also in line with empirical work finding that governors produce better outcomes, presidents gain better control of the buraucracy, and legislators become more productive over their time in office (Alt, Bueno de Mesquita, and Rose 2011; Krause and O'Connell 2016; Volden and Wiseman 2014; Fouirnaies and Hall 2022).[2] Voters also prefer candidates with experience in office, suggesting there is some value in gaining experience in office (Erikson and Titiunik 2015; Fowler and Hall 2014).

Other public officials and scholars see turnover as an indicator of a healthy institution. As former Fairfax County Registrar Cameron Quinn shared in a recent interview, "You can have officials who are there too long and aren't really up to doing the job" (CBS News 2024). This claim is consistent with findings that government performance improves when incumbents lose power at both the national and local level (Marx, Pons, and Rollet 2022; Bazzi et al. 2025) and the concern that low turnover implies that politicians are not being removed for poor performance (Ebanks, Katz, and King 2023).

Still, turnover may not meaningfully affect performance if the process of selecting local government officials lands on replacements with the skills to keep the office running smoothly. Perhaps because of the way the election and appointment processes work in local governments, people who take over local government executive positions like clerk, police chief, sheriff, and school superintendent often have experience as deputies in the office or in the same field prior to taking the role (Bjork and Kowalski 2005; Johnson 2005; Ferrer, Geyn, and Thompson 2023; Thompson 2020). If this selection is strong enough to result in new leaders already equipped to run the office, turnover

[1] See, for example, reports of turnover of police cheifs (Bennett 2024), school superintendents (Lambert 2023), and the local officials responsible for running elections (The Boston Globe 2022).

[2] One noteworthy exception to this empirical pattern comes from US mayors and city managers where local government experience is not associated with greater managerial effectiveness (Carreri and Payson 2024).

may have little to no effect on performance. Turnover may also have limited effects on performance if staff other than the leader do not need high-quality leadership to perform well. In most bureaucratic settings, lower-level officials are responsible for many of the important decisions that affect performance, and this may mute the effect leaders have on behavior (Brehm and Gates 1999; Lipsky 1980; Wilson 1968; but see Mummolo 2018).

Do local governments perform worse immediately after a leadership transition on average? In this paper, we present findings from a new dataset on election official turnover. Our new data on chief local election officials is the largest collected to date, spanning more jurisdictions and a longer time-span than any previous effort. In total, our data encompasses 18,644 unique elected and appointed chief election officials across all 50 states, 6,290 election jurisdictions, and 13 election cycles between 2000 and 2024, yielding 81,000 jurisdiction-year observations of turnover. We pair this dataset with data on voter turnout, residual vote, and potential reporting errors at the county and municipal level back to 2004. We focus our analyses on these outcomes because they are the most important indicators of voter experience—direct surveys tell us if voters feel the process of voting is worse after turnover while turnout and residual vote tell us if issues in the voter experience are significant enough to shape participation. Panel data allows us to credibly estimate the effect of turnover on election performance using a variety of difference-in-differences and panel matching analyses.

Despite widespread concern that turnover will degrade government performance, we find consistent evidence that performance is similar following a leadership transition. Among officials with authority to administer nearly all aspects of elections in their jurisdiction, we estimate that turnout does not increase or decrease by more than 0.10 percentage points, or 100 votes in a jurisdiction of 100,000 eligible voters. The 95% confidence interval from our least precise estimator implies that the effect of turnover on turnout is likely between -0.36 percentage points and 0.16 percentage points, and we have 80% power to detect effects as small as 0.38 percentage points. We find similar patterns of results when we estimate the effect of election official turnover on the self-reported rate of problems residents face when voting, confidence that the election was administered properly, and the residual vote, a widely used measure of election administration issues (Kropf et al. 2020; Stewart et al. 2020), though we find suggestive evidence for a small increase in wait times at the polls after turnover. We estimate nearly identical effects of turnover in election offices with more and less

authority, when the departing official had more or less experience, for officials departing voluntarily and involuntarily, in large and small jurisdictions, across midterm and presidential years, and in a time of dramatic change and uncertainty like 2020.

As we discussed above, one explanation for these findings is that incoming officials have already developed sufficient experience before entering local leadership positions. We evaluate the plausibility of this explanation by searching for public information on the professional backgrounds of incoming officials. We find that the vast majority of new local election officials have professional experience in the field or a related role prior to taking over the office. While we find that officials without prior professional experience also oversee counties with similar performance, we argue that the substantial experience of incoming officials is consistent with selection based on preparation for the office limiting the harmful effects of transitions.

Another explanation for our findings is that lower-level staff are able to function just as well with good and bad leadership. We investigate this possibility by testing whether voter turnout is meaningfully different under different leaders in the same jurisdiction. We find that leaders in the same jurisdiction oversee similar turnout rates, suggesting either election official leadership has only small effects on performance or the leader selection process constrains the range of performance. Ultimately, we conclude that, while these are both plausible explanations that are consistent with the data and we cannot definitively say that leaders are important, the strong positive selection of local election officials suggests selection may play a role in muting the effects of turnover.

It is important to note that, while we can rule out turnover systematically producing a substantial number of mistakes that degrade election performance on average, turnover may still increase the probability of rare but important administrative errors. We cannot observe minuscule increases in the probability of such an event, but events like those are still important negative outcomes that any full accounting of turnover should consider.

Beyond the main focus of this paper on turnover in local leadership, this paper also contributes to broader research on local election officials. A growing body of research studies how election official institutions (Burden et al. 2013; Ferrer 2024*b*), managerial capacity (Kropf et al. 2020), communication (Suttmann-Lea and Merivaki 2022, 2023), race and ethnicity (Ferrer 2024*a*), funding (Lal and Thompson 2024; Mohr et al. 2019), party (Ferrer, Geyn, and Thompson 2023; Kimball, Kropf, and Battles 2006; Porter and Rogowski 2018; White, Nathan, and Faller 2015), and imple-

mentation of state law (Atkeson et al. 2010; Bassi, Morton, and Trounstine 2009) contribute to election performance and trust at the local level. Our new findings in this paper suggest that there is not a strong relationship between tenure length and election administration quality.

The paper proceeds as follows. We discuss our reasoning about how turnover may affect performance in Section 2. We then describe our new data on election official turnover in Section 3 and document how turnover has changed over time. In Section 4, we estimate the effect of election official turnover on voter participation and other performance measures and validate our estimates. We evaluate explanations for our findings in Section 5 and discuss their implications in Section 6.

2 Turnover and Local Government Performance

How should we expect turnover to affect local government performance? Across a wide variety of domains, public officials become more effective with experience (see Alt, Bueno de Mesquita, and Rose 2011; Emeriau 2023; Fouirnaies and Hall 2022; Freier and Thomasius 2016; Harris and Sass 2011; but also see Carreri and Payson 2024; Ferraz and Finan 2011). Voters also favor experienced candidates, suggesting that these officials may offer better outcomes for their constituents (Erikson and Titiunik 2015; Ferrer 2024*a*; Fowler and Hall 2014). When experienced officials leave, they take their experience with them, potentially resulting in worse performance. A change in leadership also tends to disrupt the positions of people working for the leader. This disruption can also lead to temporary declines in performance (Akhtari, Moreira, and Trucco 2022).

On the other hand, leader turnover may have a neutral effect on government performance if the local government election and appointment processes tend to select people prepared to lead the office on day one. Elections tend to select candidates with relevant experience or skills for the role and good past performance (see DeLuca 2024; Jacobson 1989; but also see Porter and Treul 2023), and appointment processes likely select leaders based on similar characteristics as well (Rehmert 2022). This may be especially true in local politics where partisan differences in policy between candidates tend to be smaller and the roles involve more implementation (Kirkland and Coppock 2018). If experienced officials are typically replaced with another relatively experienced or skilled official, turnover will not normally result in worse performance.

Beyond these two competing theories, there are other reasons turnover may not degrade performance. First, if institutional knowledge is held by a wide variety of people, lower-level officials and volunteers stay in place following turnover, and street-level officials have independent authority, there is no reason to expect that changing the leader will substantially alter performance (Brehm and Gates 1999; Lipsky 1980; Wilson 1968). Second, turnover may actually improve performance if government officials grow increasingly insulated from accountability the longer they stay in their role (Fiorina 1989). This may be especially true in low-salience offices where voters have less information about the performance of the official and appointing bodies may not feel as much pressure to monitor performance (Ferrer 2024*b*; Hessick and Morse 2019; Olson and Stone 2023; Marx, Pons, and Rollet 2022; Wright 2008; Zoorob 2022). In fact, leader quality has the greatest effect on government performance in autocratic regimes where officials are most insulated from public pressure (Jones and Olken 2005). If public officials are insulated from accountability, bringing in a new leader may improve government performance (Marx, Pons, and Rollet 2022; Bazzi et al. 2025).

Prior to looking at any data, there are plausible arguments for any of these mechanisms to be at work in local government and in election offices in particular. Running elections is a complex, fast-paced job with tight deadlines. It is reasonable to expect that it takes time to learn how to juggle many roles during short, stressful periods. Given the high-stress environment, it is also reasonable to expect that it could take time to adjust to roles that shift after a leadership change. Large incumbency advantages and limited information about performance may also insulate local election officers from accountability. Given the preference voters and appointing bodies have for candidates with experience in local office including in election administration (Ferrer 2024*a*) and the less partisan nature of voting in local races (see Kuriwaki Forthcoming; Thompson 2020; Ferrer, Geyn, and Thompson 2023; but also see de Benedictis-Kessner and Warshaw 2016), it is also likely that election and appointment processes will tend to select experienced officials. Finally, election officials oversee diverse teams of hired and volunteer staff, and these teams are likely to hold institutional knowledge and maintain some independence.

3 New Data on Local Election Official Turnover and Performance

In this section, we describe our new data on election official turnover and the performance measures we study. We then describe the rise in election official turnover, documenting that turnover has increased steadily from 2004 to 2022 with a somewhat faster increase in 2022.

3.1 New Data on Local Election Official Turnover

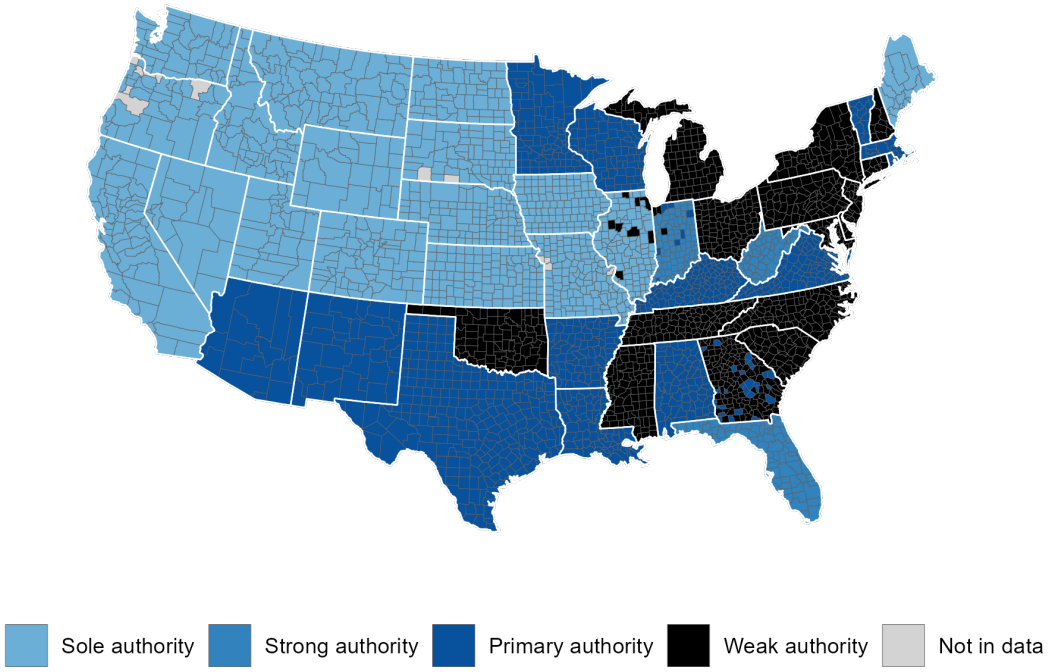
We collect a large-scale panel dataset of chief local election officials across 50 states and 24 years. Our data captures the individual that we understand to have the most responsibility for running each even-year general election between 2000 and 2024 in every local election jurisdiction. For states with multiple individual election authorities at the local level, we capture the individual with primary responsibility for administering elections on Election Day, as defined by Ferrer and Geyn (2024).[3] For states with election boards, we code the statutorily defined individual who handles the day-to-day responsibilities of running elections, which is typically an official appointed by the board.[4] Table A.1 in the online appendix provides a summary of every official included in our data, as well as their selection method and their degree of election administration authority in that state. Table A.2 provides examples of our classification of election officials by their level of authority.

Figure 1 visualizes our data collection, classifying jurisdictions by the amount of authority the individual captured in our data wields. In light blue jurisdictions, the election official has complete authority over election administration. In medium blue jurisdictions, the official is in charge of most election duties, but a different local authority carries out some election-related duties such as certification of election results. In dark blue jurisdictions, the official undertakes the majority of Election Day responsibilities but is not responsible for at least some substantial duties, such as registering voters or absentee voting administration. In black jurisdictions, the official is not the primary election authority. This is the case either because the majority of election administration duties are undertaken by an election board rather an individual (i.e., Georgia, North Carolina, and

[3]There are two exceptions to this due to data constraints. In Michigan, we code the county clerk instead of the municipal clerk. In New Hampshire, we code the municipal clerk instead of the moderator.

[4]We could not identify a single individual in each election jurisdiction in New York who is in charge of running elections. Instead, we code both the Democratic and Republican co-chairs of each county's election board and weight New York observations by half in our analysis to account for the duplicate entries.

Figure 1: **Map of Local Election Official Authority by County**. This map captures how much independent authority is given to the election official captured in our data. "Sole authority" means the election official has complete statutory election authority. "Strong authority" means that the election official captured is in charge of virtually all voter and registration administration duties. "Primary authority" means that the official captured is in charge of the majority of election administration duties. "Weak authority" means that the official captured is in charge of some election duties but is not the primary authority in their jurisdiction. Connecticut, New Hampshire, Rhode Island, and Wisconsin administer elections at the municipal level but have the same levels authority across all municipalities within each state. Maine, Massachusetts, and Vermont administer elections at the municipal level but have varying levels of authority across municipalities. The modal category is shown, which accounts for 86%, 97%, and 99% of all jurisdictions within each state, respectively. Alaska and Hawaii jurisdictions are both sole authority.



Oklahoma), multiple individuals share the same responsibilities (New Hampshire and New York), or data availability issues prevents us from using the individual with the most election administration duties (Michigan).

We collect the majority of our data from state government websites either through election results for elected officials—building on Ferrer, Geyn, and Thompson (2023)—or from official directories of these officials. Where state-level data is not available, we collect jurisdiction-specific data from past election results, archived website pages, or via direct communication with county offices.[5] We extensively clean the dataset to minimize false positive cases of turnover. When two

[5]The only exception is Massachusetts, where the nonprofit Verified Voting provided their list of election officials to complete our dataset.

officials serving in the same jurisdiction share a last name or a first name, we investigate whether this is the same official with multiple names or two different officials. We also examine rare first and last names in our dataset and conduct character string distance matching within jurisdictions to identify spelling errors. We then create a single standardized version of each official's name to use for the purpose of tracing their service tenure.

Throughout most of the paper, we define turnover as a change in a jurisdiction's chief election official since the November election held two years prior. This ensures that we focus on the periods when we expect the most disruption from turnover—the first general federal election that the new official is responsible for running during this period of their service. When reporting changes in turnover over time, we define turnover as a change in a jurisdiction's chief election official since the November election held four years prior. We use this definition to address the fact that election officials are often elected on a four-year cycle in midterm years. This institutional feature adds a cyclical pattern to the trend in two-year turnover that makes it more difficult to interpret. By defining turnover as a change in leadership over the past four years, we remove this cyclical pattern and can interpret any changes in turnover as arising from factors other than the normal election cycle.

In total, our data encompasses more than 18,000 unique elected and appointed chief election officials across 6,290 counties and municipalities. We have complete lists of names in these counties across 13 election cycles, allowing us to compute turnover rates in the 11 elections from 2004 to 2024 and leaving us with over 80,000 jurisdiction-year observations of turnover.[6]

3.2 Measuring Election Performance

We study four performance measures: turnout, the share of ballots without votes at the top of the ticket (residual vote), reported problems voting, and voter confidence.

3.2.1 Measuring Turnout and Residual Vote

We link our dataset of local election officials with federal and statewide election results as well as adult population estimates. We obtain county- and municipal-level ballots cast and total presi-

[6] Our snapshot of 2024 election officials was captured in the last week of January 2024. As such, it likely underestimates the amount of turnover that occurred between 2020 and Election Day 2024. Therefore, we are cautious about drawing conclusions from this snapshot of data.

dential and gubernatorial vote data from David Leip's U.S. Election Atlas.[7] We use county- and jurisdiction-level Census data on population by age to compute voting-age population over time.[8] Putting together the Census and Leip data, we compute turnout as the total number of votes cast in the presidential or gubernatorial election divided by the voting-age population. We also compute residual vote as the number of ballots cast in a jurisdiction minus the number of votes cast in the race at the top of the ticket, either the presidential or gubernatorial election.

3.2.2 Measuring Problems Voting and Voter Confidence

We measure problems voting using the Survey of the Performance of American Elections (SPAE). The SPAE conducted surveys following the 2008, 2012, 2014, 2016, 2020, and 2022 November general elections. Each survey typically interviews 200 residents of each U.S. state for a total of 10,000 interviews.

Across all six waves, the SPAE asked respondents if they had any difficulty finding their polling place or a problem with their voter registration, voting equipment, getting their mail ballot, or marking their mail ballot. We code a respondent as having a problem voting if they say they experienced any of these issues. Only people who cast a vote can say they experienced a problem voting. We supplement this with an additional variable that combines voters and non-voters. We count a non-voter as having experienced a problem if they say at least one election administration issue was a major reason they did not vote: they requested but did not receive an absentee ballot, they had a problem with their voter registration, the polling place location or hours were inconvenient, the line at the polling place was too long, they did not know where to vote, or they did not receive a ballot in the mail in time to vote.

We also use the SPAE to measure how long people wait to vote. The options are "not at all", "less than 10 minutes", "10 to 30 minutes", "31 minutes to 1 hour", and "more than 1 hour".[9]

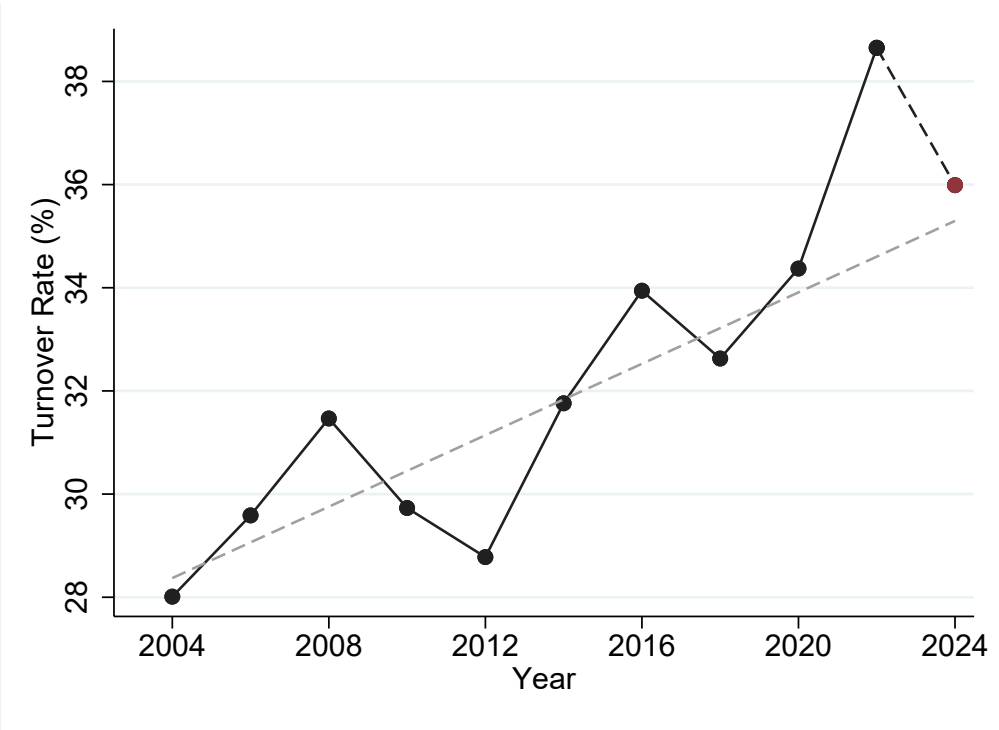
Finally, we use the SPAE to measure how confident citizens are in the election. We construct two simple binary measures of confidence, one capturing whether a respondent was very confident

[7] Leip's atlas does not contain municipal-level election results for Wisconsin. We fill this gap using data from the Wisconsin state legislature.

[8] We rely on estimates from the National Cancer Institute's Surveillance, Epidemiology and End Results Program available at `https://seer.cancer.gov/popdata/singleages.html`.

[9] Chen et al. (2020) report that these survey-based measures of polling place wait times correlate remarkably highly with estimates based on cell phone tracking data.

Figure 2: **Increasing Local Election Official Turnover Rates, 2004-2024**. The share of counties with a new chief election official since the election held four years prior has increased steadily from 2004 to 2020 with a modest additional increase in 2022. The dashed line comes from a linear regression of turnover rate on year holding out 2022 and 2024. This plot includes data from 5,928 jurisdictions in 49 states, excluding Massachusetts. The 2024 dot is red to indicate that this data was updated in January 2024 and does not reflect all turnover prior to the November 2024 election.



that their vote was counted and another capturing whether a respondent was very confident that the votes of others in their city and county were counted.

3.3 Election Official Turnover Increased from 2004 to the Present

The main concern motivating the recent attention to local election official turnover is that officials are leaving the job in large numbers after 2020. Figure 2 provides the data necessary to evaluate the scale of the problem, capturing how turnover has changed over time. Each point represents the average turnover rate across all jurisdictions in the 49 states we study from 2004 to 2024.[10] The dotted gray line plots the fitted line from a regression of turnover on time. The regression line is fit only using data from 2004 to 2020 as a tool for predicting turnover in these years if the existing trend had continued into 2022.

[10]Massachusetts is excluded because we lack a full panel of data for this state.

Local election official turnover gradually increased from 28% in 2004 to 34% in 2020. Every two years between 2004 and 2020, the turnover rate increased by four-fifths of a percentage point. From 2020 to 2022, turnover increased by over 4 percentage points to 39%. This is the largest single-cycle increase in turnover among the 11 cycles in our data, but only by a modest margin. Turnover increased by almost 3 percentage points between 2012 and 2014.

4 Election Official Turnover Does Not Noticeably Degrade Performance

In this section we study the effect of local election official turnover on election performance. We begin by describing our empirical approach including a brief discussion of our choice to highlight turnout as a measure of election performance. Next, we present graphical evidence that election official turnover does not reduce participation. We then report formal estimates of the effect of election official turnover on participation and we show that the effect is not larger in midterm elections, when a more experienced official leaves, or when we exclude cases where officials are forced out of office. We also present evidence that turnover does not noticeably increase the rate of problems at the polls and does not make election offices more error prone but may modestly increase wait times. Finally, we document that turnover does not have larger effects even in times of policy uncertainty and disruption.

4.1 Studying the Effect of Election Official Turnover on Performance

The main empirical challenge in studying the effect of election official turnover on participation is that the jurisdictions that experience turnover may have different levels of turnout and are possibly on different turnout trajectories. To overcome these challenges, we adopt two approaches for estimating the effect of election official turnover on election performance.

First, we estimate fixed effects regressions of the form

$$Y_{it} = \beta Turnover_{it} + \alpha_{ic} + \gamma_{st} + \varepsilon_{it}$$

where Y_{it} is turnout in jurisdiction i in year t, $Turnover_{it}$ is a binary variable indicating whether the election official has changed since the election held two years earlier, β is our estimate of the effect of turnover on turnout, α_{ic} is a jurisdiction-by-election-type fixed effect,[11] γ_{st} is a state-by-year fixed effect, and ε_{it} is the residual. Under the assumption that turnout is on the same trend in counties that experience turnover and those that do not (Angrist and Pischke 2008) and that turnover does not have effects on turnout beyond the first election cycle (Goodman-Bacon 2021), β is an unbiased estimator of the causal effect of turnover on election performance.

While this approach produces precise estimates of the effect, both assumptions necessary to ensure the effect estimates are unbiased seem unlikely to hold in this case ex ante: local election officials may be more likely to leave after a bad or great performance and the effect of turnover could persist due to election officials learning on the job. We overcome the weaknesses in this approach using a matched difference-in-differences design akin to Imai, Kim, and Wang (2023) and closely related to recent developments in synthetic control (Arkhangelsky et al. 2021; Hazlett and Xu 2018). This approach demands more out of the data and produces less precise estimates, but it is also relies on the weaker assumption that jurisdictions with turnover would have, in the absence of turnover, seen the same change in turnout as other jurisdictions in their state with similar turnout and turnover patterns in previous cycles.

In our matching approach, we focus on even-year general elections from 2012 to 2022 one by one. For each of the six elections between 2012 and 2022, the analysis proceeds in three steps. First, for each county where the election official leaves office before the given election, we identify all jurisdictions in the same state that have the exact same turnover history but did not change their election official immediately before the election. We then compute the Euclidean distance between pre-election turnout for each jurisdiction experiencing turnover and their control pool and select as the matched control the control jurisdiction that is closest to the treated unit. Formally, we select match

$$j_i^* = \text{argmin}_{j_i \in J_i} \sum_{t=1}^{T_{pre}} (Y_{it} - Y_{j_i t})^2$$

[11] We have two election types in our analyses: presidential elections held in November every four years and midterm elections held in November in every even year not divisible by four.

where j_i^* is the index for the selected matched control, j_i indexes the set of allowable matches J_i for treated unit i, t indexes elections in the pre-treatment period ending at T_{pre}, and Y_{kt} is turnout in jurisdiction k and election t. Finally, we estimate regressions nearly identical to those above but replacing state-by-year fixed effects with matched-pair-by-year fixed effects.[12]

Throughout this section, we focus on turnout as our primary measure of election performance. We do so for four reasons. First, more than 60% of local election officials say in surveys that increasing participation is one of their objectives.[13] Second, misadministration can make it harder for people to vote and is unlikely to increase the number of people who vote. Third, reducing participation through misadministration of an election is among the most important plausible consequences of election official turnover. Fourth, turnout is widely available and reliably estimated. Put together, studying turnout offers a reliable, important, and convenient way to assess the effects of turnover on election performance.

We also use residual vote as an outcome. Residual vote has been widely used as a measure of election quality (Brady et al. 2001; Kropf et al. 2020; Stewart 2020). While it has important drawbacks—for example, residual vote may reflect dissatisfaction with the candidates running at the top of the ticket rather than administrative error—it should tend to correlate with bad ballot design, faulty equipment, and poor voter assistance among other failures of election administration. We follow Stewart et al. (2020) in adjusting for jurisdiction and year fixed effects in our analysis of residual vote to ensure we are not simply picking up on a widespread increase in abstention or longstanding cross-jurisdiction patterns of abstention.

In some analyses, we subset to the states and jurisdictions where the local election official captured in our dataset is in charge of all ("sole authority"), virtually all ("strong authority"), or the majority ("primary authority") of voter and registration administration duties (see Ferrer, Geyn, and Thompson (2023) and Ferrer and Geyn (2024) for a discussion of a similar categorization). In these analyses, we exclude jurisdictions where election duties are divided between multiple officials and where the chief election official is the chair of an elections board. If higher local election official

[12] While the regression appears similar, one important distinction is that β is now an estimate of the effect of turnover from 2012 and 2022, not in any other period. If the average effect of turnover is changing over time, estimates from these two strategies may differ for reasons other than random noise and bias from unmet identification assumptions.

[13] 2023 EVIC/Reed College Survey of Local Election Officials. Available at `https://evic.reed.edu/wp-content/uploads/2023/11/crosstabs.html`

turnover causes lower voter participation, we would be most likely to observe this effect in these jurisdictions with a strong individual local election official.

To validate our matching approach, we present three complementary analyses in Section A.3 in the online appendix. First, we show that the matching procedure successfully balances the average turnout rate across treatment and control jurisdictions in all pre-treatment periods. We then show that the distribution of pre-treatment turnout is similar in treated and matched control jurisdictions. Finally, we present a placebo analysis where we hold the election immediately preceding treatment out of the matching procedure then evaluate balance in that pre-treatment period. We find that treated and control jurisdictions have similar changes in turnout in the held out election prior to the treatment period. This supports the sequential ignorability assumption that justifies our matching approach.

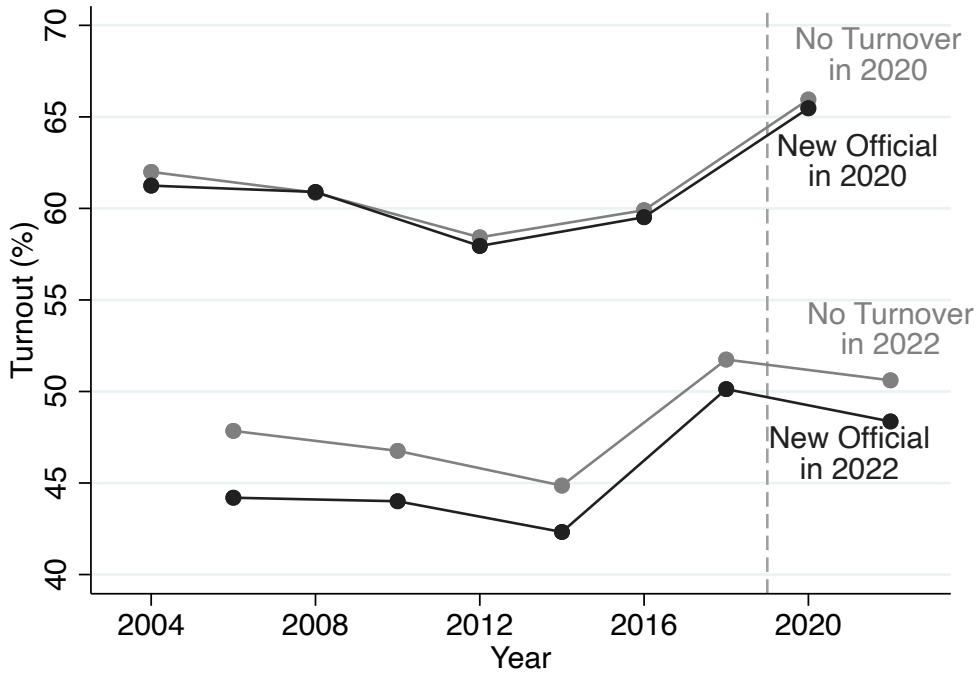
4.2 Graphical Evidence that Election Official Turnover Does Not Reduce Participation

Figure 3 presents simple averages from our raw data that mimics our analysis of the effect of election official turnover on voter participation. The plot has four lines: the two lines at the top of the plot correspond to our analysis of the effect of turnover between the 2018 and 2020 presidential elections on turnout in the 2020 presidential election. The black line reports the turnout rate for jurisdictions where the election official left office between 2018 and 2020. The grey line reports the turnout rate over time for jurisdictions where the election official serving in 2018 also served in 2020. The bottom two lines report the same analysis but using gubernatorial elections on midterm cycles where the jurisdictions experiencing turnover are those where the election official changed between 2020 and 2022.

The plot suggests that election official turnover did not substantially affect participation. We can see this by focusing our attention on the gap between each black line and its nearest grey line. The differences are relatively stable before and after 2018, implying in both cases that election official turnover did not noticeably alter turnout.

Figure 3 has two main weaknesses: First, it does not account for the expectation that turnover in 2020 or 2022 may be associated with a particular historical pattern of turnover that could have affected voter turnout in previous periods. Second, places with turnover in 2020 and 2022 tend to

Figure 3: **Election Official Turnover Does Not Noticeably Reduce Turnout**. The black line near the top of the plot represents turnout rates over time in jurisdictions that experience turnover between 2018 and 2020, and the grey line near the top of the plot represents the turnout rate for jurisdictions that did not experience turnover in this period. The black line near the bottom of the plot represents turnout rates in jurisdictions that experienced turnover between 2020 and 2022, and the grey line near the bottom of the plot represents the turnout rate for jurisdictions that did not experience turnover between 2020 and 2022. The dotted vertical line in 2019 splits the pre-treatment and post-treatment periods. The plot only uses jurisdictions where the local election official oversees nearly all or all election administration duties.

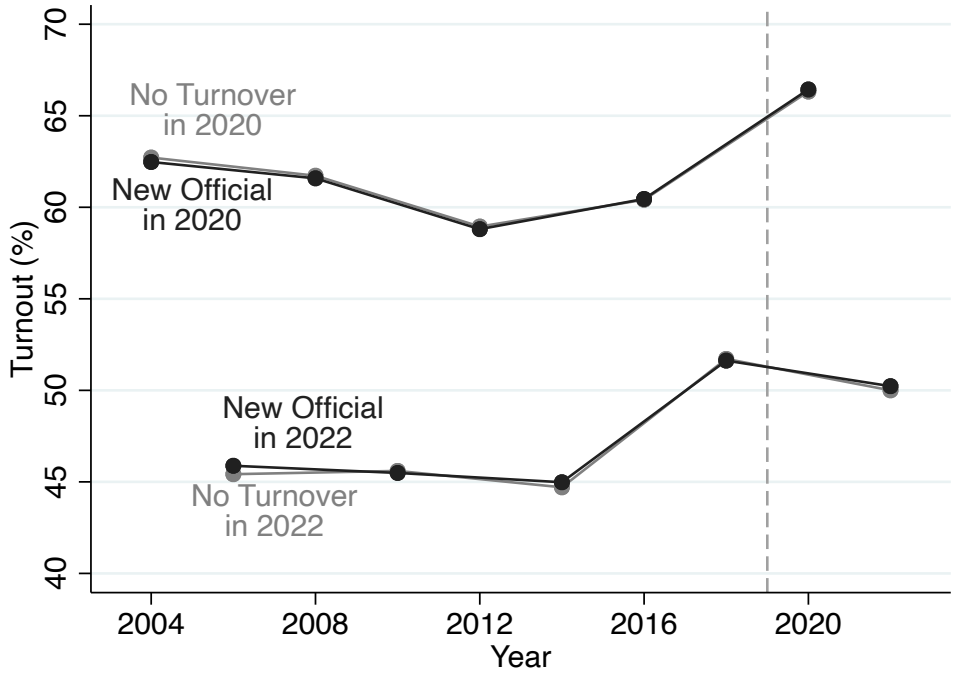


have lower voter turnout than places without turnover in those years. While this is not a violation of the difference-in-differences identifying assumption per se, it is easier to believe that two groups that are similar on average in the past will continue to be more similar in the future than to believe that two different groups will continue changing in the exact same manner.

We address these concerns by matching each jurisdiction with turnover in 2020 or 2022 to a jurisdiction in the same state without turnover in 2020 or 2022 but with an identical turnover history and the most similar voter turnout history available.[14] Figure 4 graphically captures this analysis. The plot has four lines: the top two lines correspond to our analysis of the effect of turnover between the 2018 and 2020 presidential elections on turnout in the 2020 presidential election. The black

[14]We discuss this strategy at length in Section 4.1.

Figure 4: **Election Official Turnover Does Not Noticeably Reduce Turnout, Matched Analysis**. The black line near the top of the plot represents turnout rates over time in jurisdictions that experience turnover between 2018 and 2020, and the grey line near the top of the plot represents the turnout rate for their matched controls. The black line near the bottom of the plot represents turnout rates in jurisdictions that experienced turnover between 2020 and 2022, and the grey line near the bottom of the plot represents the turnout rate for their matched controls. The dotted vertical line in 2019 splits the pre-treatment and post-treatment periods. The plot only uses jurisdictions where the local election official oversees nearly all or all election administration duties.



line reports the turnout rate for jurisdictions where the election official left office between 2018 and 2020, and the grey line reports the average matched control unit. The two lines at the bottom of the plot report the same analysis but using gubernatorial elections on midterm cycles where the jurisdictions experiencing turnover are those where the election official changed between 2020 and 2022. Here again, the black line reports average turnout over time in jurisdictions with an election official change between 2020 and 2022, and the grey line reports its average matched control.

The fact that the black and grey lines in the top and bottom of the plot are nearly identical before 2020 implies that the average matched control jurisdiction closely resembles the average turnover jurisdiction. Turning to the post-treatment period, we see that in 2020 and 2022 the grey and black lines continue to look similar, meaning that local election official turnover did not lead

Table 1: **Effect of Election Official Turnover on Turnout and Residual Vote.**

	Turnout (0-100%)				Residual Vote (0-100%)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Turnover	-0.08	-0.12	0.01	-0.10	0.01	0.04	0.05	0.01
	(0.06)	(0.09)	(0.07)	(0.13)	(0.04)	(0.04)	(0.03)	(0.06)
# Jurisdictions	4,060	3,200	1,179	981	1,834	1,596	966	871
# Obs	28,250	22,584	9,675	6,996	15,030	11,230	8,095	5,978
Outcome Mean	59.45	59.85	56.05	56.76	1.38	1.37	1.66	1.63
Min Detectable Effect	0.16	0.27	0.19	0.38	0.10	0.13	0.08	0.16
Strong Official Only	No	No	Yes	Yes	No	No	Yes	Yes
Matched Sample	No	Yes	No	Yes	No	Yes	No	Yes
Juris-by-Elec Type FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State-by-Year FE	Yes	No	Yes	No	Yes	No	Yes	No
Pair-by-Year FE	No	Yes	No	Yes	No	Yes	No	Yes

Robust standard errors clustered by jurisdiction reported in parentheses. Data is limited to jurisdictions with one primary official in charge of the majority of election administration responsibilities. Strong official only indicates jurisdictions where one official is responsible for directing nearly all aspects of election administration. Matched sample limits data to jurisdictions that experienced turnover between 2012 and 2022 and a set of matched control jurisdictions from the same state with the same history of turnover and the most similar levels of the outcome in all prior elections using 1-to-1 matching with replacement. Turnover refers to a change in the election official since the election two years prior. Turnout is measured as the share of voting-age residents who cast a vote in the presidential race for presidential years and the gubernatorial race for midterm years. Residual vote is measured as the share of ballots cast without a vote for president in presidential years and for governor in midterm years. Regressions on unmatched data include jurisdiction-by-election cycle (presidential or midterm) fixed effects and state-by-year fixed effects. Regressions on matched data include jurisdiction-by-election cycle fixed effects and matched pair-by-year fixed effects. Min detectable effect refers to the minimum effect that a two-sided test with a 0.05 alpha would have 80% power to detect.

to substantially lower citizen participation on average. We report formal estimates of this effect in the remaining subsections of Section 4.

4.3 Formal Evidence that Election Official Turnover Does Not Degrade Performance

Table 1 presents formal estimates of the effect of turnover on turnout and residual vote. The first column presents our two-way fixed effect estimate of the effect of turnover using all instances of turnover from 2004 to 2022 and all jurisdictions with a single election official who oversees at least a majority of election administration tasks. The second column presents our matching-based estimate of the effect on turnout still including all jurisdictions with a single election official overseeing a majority of election administration tasks. The third and fourth columns repeat the first and second columns but limit data to jurisdictions with election officials who are responsible for all or nearly

all election administration in the jurisdiction.[15] Columns 5 through 8 repeat columns 1 through 4 but study residual vote as the outcome.

The two-way fixed effect analyses reported in odd-numbered columns are more precise but are more likely to be biased. The matching analyses reported in even-numbered columns overcome the main potential threats to the two-way fixed effects analyses but are less precise. Similarly, our estimates in columns three, four, seven, and eight, using only jurisdictions with a single individual responsible for overseeing all aspects of election administration, are noisier, but these analyses may be more likely to detect effects if they exist given the greater authority of election officials in this subset.

Across all eight estimates, we find consistent evidence that local election official turnover does not meaningfully affect citizen participation or residual vote. Our point estimates imply that turnover did not decrease voter turnout by more than an eighth of a percentage point and did not increase voter turnout by more than one one-hundredth of a percentage point. Our point estimates also imply that turnover did not increase the residual vote rate by more than one tenth of a percentage point and did not decrease the residual vote rate. Across all eight columns, we cannot reject the null hypothesis that turnover has no effect on turnout or residual vote. Focusing on our preferred approach which uses matching and zooms in on jurisdictions where the chief election official has all or nearly all authority over election administration (presented in column 4), the bottom end of our 95% confidence interval is still less than a two-fifths percentage point effect on turnout. Our analysis is powered to detect very small effects on voter turnout. We have 80% power to detect effects as small as the effect of adding a day and a half of early voting (Kaplan and Yuan 2020), one-eighth the effect of a get-out-the-vote ad campaign for young people Green and Vavreck (2008), one-eighth the effect of switching to universal vote-by-mail (Gerber, Huber, and Hill 2013; Thompson et al. 2020), and one-half of the effect of sending a single postcard to everyone encouraging them to vote (Gerber et al. 2017). The effects we estimate on residual vote using our matching approach are similarly small.

Put together, Table 1 suggests that local election official turnover does not substantially decrease turnout or increase residual vote.

[15] We include "strong authority" and "sole authority" officials. In Table A.4 in the online appendix, we present estimates for each level of authority independently.

4.4 Minimal Average Effects on Turnout Do Not Mask Substantial Heterogeneity

While the analysis above rules out large negative average effects on turnout, these analyses could be misleading if turnover has meaningful negative effects in a substantial share of cases but small or even positive effects in others. We investigate this in five supplementary analyses. Across all of these analyses, we reach the consistent conclusion that election official turnover does not substantially reduce turnout.

First, in Section A.5 in the online appendix, we document that the effect of turnover on turnout is similar in presidential, when turnout and interest in elections is at its highest, and midterm elections, when interest is turnout and interest are lower. This suggests that the effect is not limited to settings where interest is very high. Second, we present evidence in Section A.6 in the online appendix that the effect of turnover is similar when the outgoing official had many or few years in office prior to their departure, suggesting that our average effect is not masking a large negative effect when people with many years of experience leave. Third, in Section A.7, we show that the effects on turnout are minimal even when we subset to cases where the official left voluntarily. Fourth, in Section A.8, we document that the effects are similar in jurisdictions where officials are elected versus appointed. Finally, in Section A.9, we present evidence that the effects are minimal in jurisdictions with large and small populations where we expect the staffing and duties of the leader to be quite different.

Put together, we take this as evidence that most cases of election official turnover do not substantially reduce turnout.

4.5 Turnover Does Not Make Residents Noticeably More Likely to Report Voting Issues but May Modestly Increase Wait Times

Might new officials perform worse than their predecessor without decreasing turnout or increasing residual vote? While unnecessarily preventing an eligible person from voting is among the most important mistakes an election official can make, it may be hard to see this kind of mistake if voters find ways to vote despite the barrier placed in their path.

Table 2: **Effect of Election Official Turnover on Share of Voters Reporting Problems Voting.**

	Reported Problem Voting {0,1}			
	(1)	(2)	(3)	(4)
Turnover	0.002	0.002	0.002	0.001
	(0.005)	(0.004)	(0.004)	(0.004)
# Counties	1,030	1,030	1,029	905
# Respondents	24,737	24,737	24,650	24,526
Outcome Mean	0.041	0.041	0.041	0.041
Min Detectable Effect	0.013	0.012	0.011	0.012
Strong Official Only	Yes	Yes	Yes	Yes
State-by-Year FE	No	Yes	Yes	Yes
Individual Controls	No	No	Yes	Yes
County Pop Control	No	No	Yes	No
County FE	No	No	No	Yes

Robust standard errors clustered by county reported in parentheses. Data is limited to counties where only one official is responsible for directing all or nearly all aspects of election administration. Each observation is one respondent to the Survey of the Performance of American Elections who reported voting. Observations are weighted according to the weights provided by the survey team. Turnover refers to a change in the election official since the election two years prior. The outcome is a dummy variable with value 1 for respondents reporting a problem with the registration or the voting equipment, an issue obtaining or completing their mail ballot, or difficulty finding the polling place. Individual controls are gender, race, years of education, and party ID fixed effects as well as age included as a single covariate. County pop control is the natural logarithm of voting-age population. Min detectable effect refers to the minimum effect that a two-sided test with a 0.05 alpha would have 80% power to detect.

To evaluate whether turnover makes it harder for people to vote without affecting turnout, we turn to the Survey of the Performance of American Elections (Stewart 2023). The survey interviewed 200 or more residents of every US state following every even-year general election between 2008 and 2022, with the exception of 2010 and 2018. We measure someone as having had a problem voting if they report that they had a problem with their voter registration, a problem with voting equipment, a problem getting a mail ballot, a problem marking their mail ballot, or difficulty finding their polling place. We then match respondents to the counties where they live and run repeated cross-sectional regressions to isolate the effect of election official turnover on reported problems voting.[16]

[16]In all analyses, we weight our regressions by the survey weights provided by the survey team.

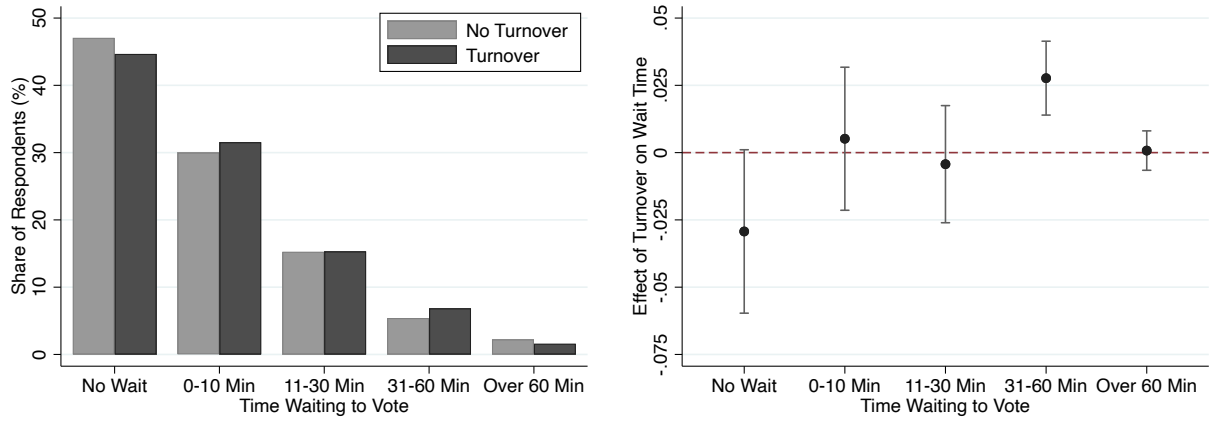
We find that turnover does not substantially increase the share of voters who say they had a problem while trying to vote. Table 2 presents our results. Colum 1 presents the simple difference in the share of people who had an issue voting in counties with turnover vs. those without turnover, finding that people living in counties with turnover were 0.2 percentage points more likely to report a problem. In columns 2, 3, and 4, we adjust for factors that may be different in jurisdictions with turnover from those without and that may affect the tendancy of a respondent to experience or report a problem. Across all four columns, we find consistent evidence that turnover does not substantially increase the share of people reporting a problem trying to vote.

In a complementary analysis, we evaluate whether turnover leads to longer wait times at the polls. A significant part of the job for election officials is overseeing a logistically complex event, and having run a prior election may help officials carry it out more effectively and reduce wait times. Figure 5 presents our results. In the left panel, we present the distribution of wait times in jursidictions and years with election official turnover next to the distribution of wait times in jurisdictions and years without turnover. While the distributions are similar, there is a modest shift towards longer wait times in jurisdictions experiencing turnover. Fewer people experience no wait and more people experience wait times between 30 minutes and an hour in jurisdictions and years that the election office changed hands.

Election official turnover is more common in certain types of jurisdictions and years than others. For example, turnover is much more common before presidential elections than midterms and more common in densely populated places than in suburbs. If wait times are systematically worse in these types of counties and periods, we may incorrectly conclude that wait times are higher because of turnover when it is simply a coincidence about the timing and location of turnover. To assess this possibility, we estimate the effect of turnover on the probability a resident falls in each wait time category adjusting for state-year fixed effects, county-level covariates, and respondent-level covariates.[17] We present our effect estimates in the right panel of Figure 5. We find that turnover increases the share of residents experiencing a wait time between 30 minutes and an hour by about 2.5 percentage points and reduces the share experiencing no wait time by a similar amount. In

[17] We use county-level log population as our county-level covariate. Our individual-level control variables are gender, race, educational attainment, and party identification. We include all individual-level covariates as categorical variables, converting them into dummy variables for each value.

Figure 5: **Election Official Turnover May Modestly Increase Wait Times**. The left panel presents the distribution of wait times in jurisdictions and years with chief election official turnover compared to those without turnover. The right panel presents estimates of the effect of turnover on the share of probability a resident experiences a given wait time. The estimates in the right panel come from separate regressions of a dummy variable for each category of wait time on a dummy for turnover, state-year dummies, county-level log population, and individual-level control variables including gender, race, educational attainment, and party identification. Both plots rely on data from the Survey of the Performance of American Elections and are weighted using the weights constructed by the survey team.



Section A.12 in the online appendix, we document that this finding is robust to other plausible regression specifications.

We take this as only suggestive evidence that turnover leads to a modest increase in the time people spend at the polls. We reach that conclusion for two reasons. First, we describe this effect as suggestive because, given the large number of analyses we run, we should expect to occasionally find statistically significant effects even if turnover does not have an effect. Second, we describe this effect as modest based of how it affects citizen behavior. Pettigrew (2021) documents that waiting for 30 minutes to one hour reduces participation by approximately one percentage point. If turnover leads to a 2.5-percentage-point increase in the number of voters who wait 30 to 60 minutes to vote, this would lead to a 0.03 percentage point effect on turnout, roughly one-fifth the effect of a pre-recordered celebrity message GOTV campaign and 33 times smaller than the effect of an average commercial phone bank campaign (Green, McGrath, and Aronow 2013).

Finally, if voters do not have problems voting but still feel the election was administered poorly, this would likely show in their confidence that the vote was counted properly in their community. Table A.13 in the online appendix presents evidence that turnover does not meaningfully affect

the share of respondents who are very confident their own vote or the county vote was accurately tallied.

Put together, we read our survey-based results as evidence that election official turnover may modestly increase wait times but it does not increase the number of respondents reporting problems voting or the number of people who have high confidence in the accuracy of the election results and it is not enough to prevent many people from casting a ballot.

4.6 Turnover Does Not Degrade Performance Even in Times of Maximal Change

Even if leadership turnover does not affect perfomance in normal times, we often expect leaders to be especially important in times of crisis. Does turnover affect performance when election administration is most challenging? To study this question, we focus on the 2020 presidential election, when election officials across the country were asked to navigate major changes in how elections were run and, in many cases, had very little time to preare for these changes. In Section A.14 in the online appendix, we present our findings that turnover has a similarly small effect on turnout and residual vote in 2020 as in the average year and that respondents living in jurisdictions with turnover were not substantially more likely to have trouble voting by mail in 2020.

Put together, our case study of turnover in 2020 suggests that turnover is not especially harmful when election administration is under strain and change needs to happen rapidly.

5 Why Does Turnover Not Degrade Performance?

We have established that, across a wide variety of outcomes, leadership turnover is not generally associated with substantially lower performance. This runs contrary to the conventional wisdom that, since leaders gain experience over time, replacing them with a new official will result in worse performance (Hays 2004; Perry 2004). This also runs contrary to recent findings in other offices that long-tenured officials perform poorly because they are insulated from accountability implying that turnover will lead to better performance (Marx, Pons, and Rollet 2022). Why might this logic not hold? As discussed in Section 2, we present two novel alternative theories: officials are selected for their relevant qualifications, and the individual leader does not determine performance.

In this section, we offer three pieces of evidence as a partial step toward understanding why turnover does not degrade performance. First, we document that election officials are typically replaced by people with prior paid elections or government experience. Next, we document that new officials without prior experience in elections or government do not oversee large drops in performance. Finally, we present evidence that local election officials serving in the same jurisdiction perform similarly to each other.

While this evidence does not fully explain why election official turnover does not meaningfully degrade performance, it offers some clues: First, there is strong positive selection into the job of local election official with most incoming officials having relevant experience. Second, the fact that new officials without documented relevant experience do not oversee weaker performance and we do not see substantial differences in performance across leaders implies that either selection results in consistent quality leadership or leadership does not meaningfully affect performance.

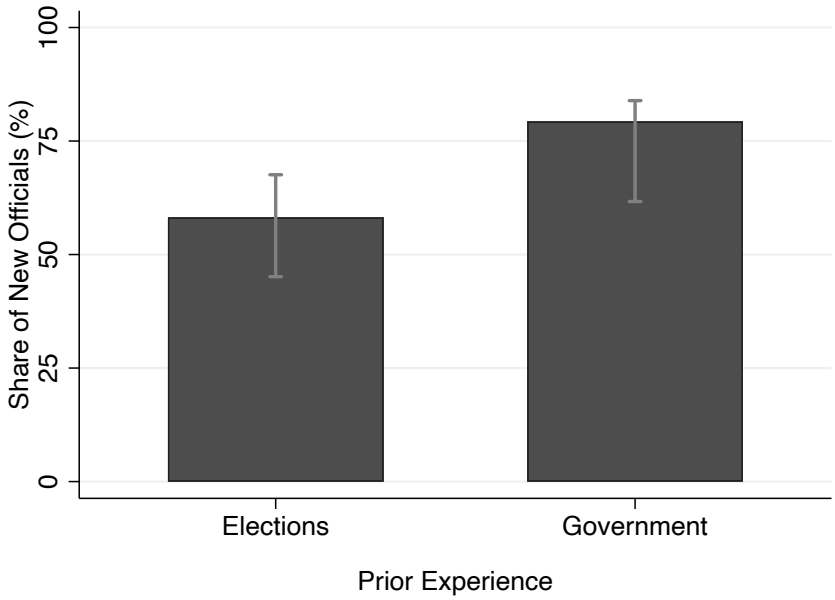
5.1 New Election Leaders Typically Have Paid Election Administration Experience

Do elections and appointments select for experienced replacement election officials? To answer this question, we searched for public reports on the professional backgrounds of all election officials who took over their office prior to the 2020 or 2022 general elections and served in offices responsible for all or nearly all election administration duties in their jurisdiction. We review public biographies and news accounts to determine if the official had prior experience in elections or government. Out of the 441 officials included in our search, we found background information on 343.

Figure 6 presents our results. We find that over 60% of new officials have prior professional experience in elections. We also find that nearly 80% have experience in government. Since we are able to code the backgrounds of nearly 80% of all new officials in 2020 and 2022, the Manski bounds are informative—even if all of the officials we cannot code had no prior government experience, more than 60% officials would have government experience.

We take these results as evidence of positive selection in election administration—new local election officials tend to be people with relevant experience in elections or government. The share of new local election officials with government experience is higher than the 63% of newly elected mayors with political experience (Kirkland 2022) and the roughly half of newly elected members of

Figure 6: **Share of New Officials With Prior Professional Experience in Elections or Government**. Each bar captures the share of new local election officials with prior professional experience in elections or government based on public biographies or news accounts. Error bars capture Manski bounds with the top end of the bar assuming all officials without public biographies had that experience and the lower end of the bar assuming all officials without public biographies did not have that experience. Data collection attempted for all officials who took over a local elections office immediately prior to the 2020 or 2022 election.



Congress with prior political experience since 2016 (Porter and Treul 2023). Meanwhile, roughly 95% of jurisdictions require that their police chief have experience as a police officer or in police management (Johnson 2005). This suggests that the selection process for local election officials is more like that for other local bureaucratic offices where new leaders are generally expected to have relevant experience.

It is important to note that even the officials who do not have elections or government experience prior to the office may have qualities that make them fit to lead the office. For example, an official may have run a small business or nonprofit and developed similar leadership skills. Our data simply allows us to see that that the selection process is producing a set of new leaders who appear to be well-qualified for the office based on observable traits in their biographies.

5.2 New Officials without Elections or Government Experience Do Not Perform Noticeably Worse

If elections or government experience is necessary to maintain office performance, we would expect performance to degrade most when a new official comes in without that experience. We explore this by subsetting our analysis to cases where the incoming official has either no experience administering elections or no experience working in government and using our panel matching approach to estimate the effect of turnover. Table A.16 in the online appendix captures our results. We find that turnover still has at most a modest effect on turnout and residual vote rates when the incoming election official has limited prior experience. These results tell us that incoming officials without experience perform about as well as incoming officials with this experience. This could mean that either there are compensating differentials where new officials without this experience have other important skills or experience or that leadership does not meaningfully affect performance.

5.3 Similar Performance Across Election Officials in the Same Jurisdiction

Might some unobserved qualities about local election officials shape their performance? To evaluate how much performance varies across election officials, we use the randomization inference approach described in Berry and Fowler (2021). As they discuss, this approach estimates the R^2 of a regression of a performance measure on leader dummy variables then generates a null distribution of R^2 values using a randomization inference procedure that shuffles which leaders were in charge when. By shuffling the leader tenures within each jurisdiction, the null distribution implicitly accounts for jurisdiction fixed effects. In our implementation, we demean turnout by year and state to implicitly account for state-year fixed effects as well.

We find that turnout does not vary much across leaders within the same jurisdiction. As we show in Figure A.7 in the online appendix, the R^2 from the regression using real data falls near the 10th percentile of the null distribution, below the average. This means that knowing when each leader served does not improve our prediction of turnout. Put differently, leaders serving in the same jurisdiction all oversee elections with very similar levels of turnout.

As we note above, this could happen for two reasons. This is consistent with local election officials not affecting performance. It is also consistent with local election officials significantly

affecting performance but where the way they are selected results in similar performance across officials.

6 Conclusion

More election officials are leaving office than in the past, and their turnover rate has been rising for at least two decades. This has led a chorus of commentators, academics, and public officials to worry that high turnover means that elections will be poorly run. In this paper, we present a large new dataset on election official turnover over two decades. We find that local election official turnover does not noticeably degrade performance. This finding holds true across the many outcomes we measure, with the possible exception of wait times at the polls, and for the many subsets of the data we study. We also present suggestive evidence that turnover does not affect performance because incoming leaders are typically selected for their experience and skills or because leadership does not meaningfully influence performance. Our evidence suggests that we are unlikely to see major disruptions to local government performance in the short run despite higher turnover in some offices.

One word of caution is warranted when interpreting our findings. While we can rule out turnover systematically producing mistakes that degrade performance on average, turnover may still increase the probability of rare but important negative events. For example, a new official serving a large county in an important swing state who fails to identify a ballot design error could create a crisis of trust or send an election to the courts, as happened in Florida in the 2000 presidential election. We cannot observe minuscule increases in the probability of such an event, but events like those are still important negative outcomes that any full accounting of turnover must consider.

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Online Appendix

Intended for online publication only.

Contents

A.1 Local Election Officials Included in Dataset

Table A.1 displays data on the selected local election officials for each state, as well as the number of jurisdictions in the state, the number of jurisdictions with a full panel of data, the level of geography captured, the selection method of the officials, whether the modal official captured in each state is the sole and/or primary election authority, the data sources used, and the start and end year of the data collected.

Table A.1: **Local Election Officials Captured in the Dataset**

State	Jurisdictions	Jurisdictions Used	Geography	Election Official	Selection Method	Sole Authority	Primary Authority	Data Source	Data Start	Data End
Alabama	67	67	County	Probate Judge	Elected	No	Yes	Elections and State	1996	2024
Alaska	5	4	Region	Regional Election Supervisor	Appointed	Yes	Yes	State	2000	2024
Arizona	15	15	County	County Election Administrator / County Recorder	Mixed	No	Yes	State	2000	2024
Arkansas	75	75	County	Clerk	Elected	No	Yes	State	2000	2024
California	58	58	County	Clerk / Registrar of Voters / Auditor / Director of Elections	Mixed	Yes	Yes	State	1996	2024
Colorado	64	63	County	Clerk and Recorder	Mixed	Yes	Yes	Elections and State	1998	2024
Connecticut	178	171	Municipal	Clerk	Mixed	No	No	State	2000	2024
Delaware	3	3	County	Director of Elections	Appointed	No	No	State	1996	2024
Florida	67	67	County	Supervisor of Elections	Mixed	No	Yes	Elections and State	1998	2024
Georgia	159	159	County	Elections Director / Probate Judge	Mixed	No	No	Elections and State	1996	2024
Hawaii	5	4	County	Clerk	Appointed	Yes	Yes	State	2000	2024
Idaho	44	44	County	Clerk	Elected	Yes	Yes	Elections	2000	2024
Illinois	102	102	County	Clerk / Executive Director	Mixed	Yes	Yes	Elections and State	2000	2024
Indiana	92	92	County	Clerk	Elected	No	Yes	Elections and State	1998	2024
Iowa	99	99	County	Auditor	Elected	Yes	Yes	Elections and State	2000	2024
Kansas	105	105	County	Clerk	Mixed	Yes	Yes	State	2000	2024
Kentucky	120	120	County	Clerk	Elected	No	Yes	Elections and State	1998	2024
Louisiana	64	64	Parish	Clerk of Court	Elected	No	Yes	State	1998	2024
Maine	504	502	Municipal	Clerk	Mixed	No	Yes	State	2000	2024
Maryland	24	24	County	Election Director	Appointed	No	No	State	2000	2024
Massachusetts	351	0	Municipal	Clerk / Elections Commissioner	Mixed	No	Yes	Verified Voting	2012	2024
Michigan	83	83	County	Clerk	Elected	No	No	State and NGO	2000	2024
Minnesota	87	87	County	Auditor / Election Director	Mixed	No	Yes	State	2000	2024
Mississippi	82	82	County	Circuit Clerk	Elected	No	No	State	2000	2024
Missouri	115	110	County	Clerk / Director of Elections	Elected	Yes	Yes	State	2000	2024
Montana	56	56	County	Clerk and Recorder / Election Administrator	Mixed	Yes	Yes	Elections and State	1996	2024
Nebraska	93	93	County	Clerk / Election Commissioner	Mixed	Yes	Yes	Elections and State	2000	2024
Nevada	17	17	County	Clerk / Registrar of Voters	Mixed	Yes	Yes	Elections and State	2000	2024
New Hampshire	234	234	Municipal	Clerk	Mixed	No	No	State and NGO	2000	2024
New Jersey	21	21	County	Clerk	Elected	No	No	State	2000	2024
New Mexico	33	33	County	Clerk	Elected	No	Yes	Elections and State	2000	2024
New York	62	58	County	Election Commissioner	Appointed	No	No	State	2000	2024
North Carolina	100	100	County	Election Director	Appointed	No	No	State	2000	2024
North Dakota	53	53	County	Auditor	Elected	Yes	Yes	State	2000	2024
Ohio	88	88	County	County Election Director	Appointed	No	No	State and Local	2000	2024
Oklahoma	77	77	County	Election Board Secretary	Appointed	No	No	State	1996	2024
Oregon	36	36	County	Clerk / Elections Director	Mixed	Yes	Yes	State	2000	2024
Pennsylvania	67	67	County	Director of Elections	Appointed	No	Yes	State	2000	2024
Rhode Island	39	39	Municipal	Clerk / Registrar / Election Director	Mixed	No	Yes	State and Local	2000	2024
South Carolina	46	46	County	Director of Voter Registration and Elections	Appointed	No	No	State	2000	2024
South Dakota	66	64	County	Auditor	Mixed	Yes	Yes	Elections and State	2000	2024
Tennessee	95	95	County	Administrator of Elections	Appointed	No	No	State	2000	2024
Texas	254	254	County	Elections Administrator / Clerk / Tax Assessor	Mixed	No	Yes	State	2000	2024
Utah	29	29	County	Clerk	Elected	Yes	Yes	Elections and State	1998	2024
Vermont	246	246	Municipal	Clerk	Mixed	No	Yes	State	2000	2024
Virginia	133	133	County	General Registrar	Appointed	No	Yes	State and Local	1998	2024
Washington	39	39	County	Auditor / Elections Director	Elected	Yes	Yes	Elections, State, and NGO	2000	2024
West Virginia	55	55	County	Clerk / Elections Coordinator	Mixed	No	Yes	Elections and State	2000	2024
Wisconsin	1851	1779	Municipal	Clerk	Mixed	No	Yes	State	2000	2024
Wyoming	23	23	County	Clerk	Elected	Yes	Yes	Elections and State	1998	2024

Number of jurisdictions are total number of jurisdictions in that state. Jurisdictions Used are the number of jurisdictions with a full panel of data between 2000 and 2024 and used in the main analysis. In states where multiple officials are coded, a '/' separates each distinct official and they are listed in order by frequency. We aim to code the official in each jurisdiction with primary authority to administer elections, especially those who oversee voting administration on Election Day. In jurisdictions with boards, we identify the single official with the most responsibility in running elections. In New York, no single individual could be identified so we code the two election commissioners in each jurisdiction. We exclude jurisdictions in other states where no single individual could be identified. We were unable to collect municipal-level data in Michigan, so we code the most important county-level official. We are unable to collect data on the municipal moderators in New Hampshire, so we code the municipal clerk. Selection method indicates whether all officials coded in each state are elected, appointed, or a mix of both. Sole authority designates whether the official is the only election authority in that jurisdiction, excepting local legislative bodies that determine election administration budgets and appointing bodies whose sole purpose is to select a chief election official. Primary authority indicates whether the official coded is in charge of the majority of election administration responsibilities in the jurisdiction. For both columns, the modal coded official in the state is classified. For election source, 'State' indicates the data derives from the state election authority, 'Elections' indicates the data derives from election results, and 'NGO' indicates the data derives from a state-level independent organization, typically a state association of election officials. The date ranges indicate the maximal amount of data captured for each state, although only data from 2000 onwards is used in the analysis.

Table A.2 shows our division of states based on how much authority is vested in the selected local election official.

Table A.2: **Local Election Official Responsibilities Division.**

Descriptor	Description	Examples	States	In Analysis?
Sole authority	Election official does everything	All election responsibilities done by county clerk (CO)	AK, CA, CO, HI, ID, IL, IA, KS, ME, MO, MT, NE, NV, ND, OR, SD, UT, WA, WY	Yes
Strong authority	Election official does nearly everything	Separate canvassing board (FL) Shares limited authority with county legislature (WV) Shares limited authority with election board it chairs (IN)	FL, IN, WV	Yes
Primary authority	Election official does majority of admin responsibilities	Separate registration board or absentee voting official (AL, NM, TX, VT); Separate election board that has some responsibilities (AZ, KY, PA, RI, TX)	AL, AZ, AR, KY, LA, MA, MN, NM, PA, RI, TX, VT, VA, WI	Yes
Weak authority	Partisan elected official has	Does not administer Election Day voting (MS) Subservient to Board of Election (GA, MD, NJ, NY, NC, OH, OK, SC, TN) Most responsibilities carried out by municipal official (MI)	CT, DE, GA, MD, MI, MS, NH, NJ, NY, NC, OH, OK, SC, TN	No

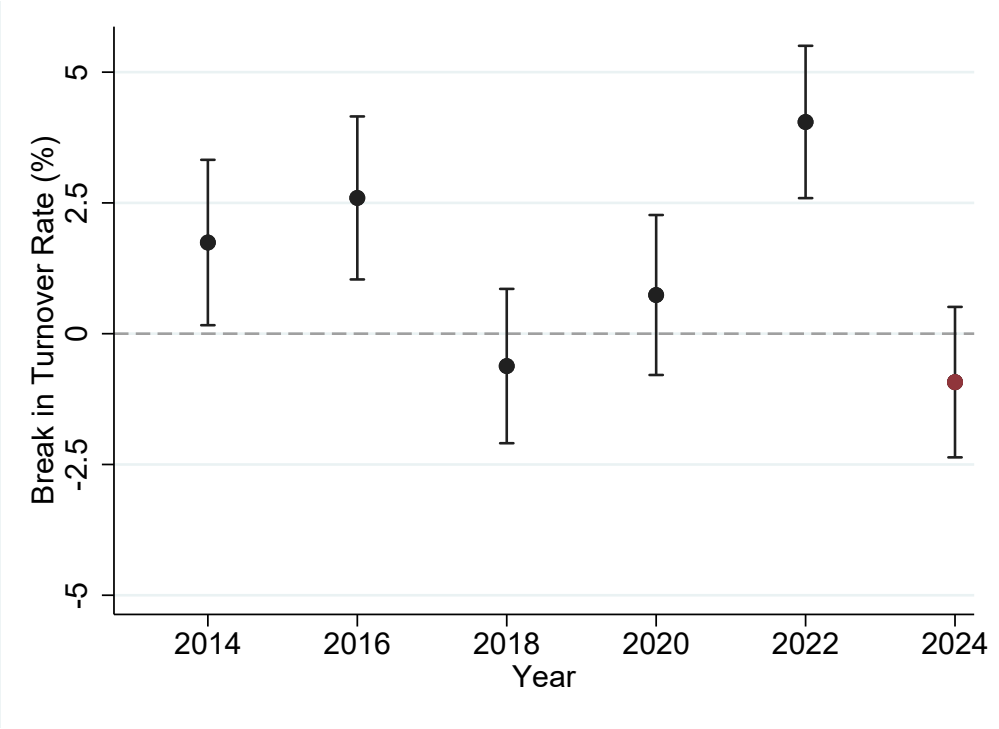
This table divides states based on the amount of responsibility the individual chief local official captured in the data has in administering elections. Where there is within-state variation in the presence of other officials, the modal case for each state is shown.

A.2 Characterizing the Magnitude of the Post-2020 Increase in Turnover

To assess whether the trend break we observe in 2022 is out of the ordinary, we conduct two analyses. First, we use a simple linear regression to predict the turnover rate in 2022 using data from 2004 to 2020 and ask whether observed turnover in 2022 is statistically distinguishable from the turnover rate predicted by the observed trend. Second, we extend this analysis back in time, asking whether observed turnover in 2014, 2016, 2018, and 2020 is noticeably higher or lower than the trend in turnover prior to that year would predict.

Figure A.1 presents the results of our analysis of trend breaks. We find that, among the last six election cycles from 2014 to 2024, 2022 is the largest break in election official turnover, and it is statistically distinguishable from the existing trend. However, it is only modestly larger than other recent breaks in the trend. For example, while turnover was 4 percentage points higher in 2022 than expected, turnover was also 2.6 percentage points higher than expected in 2016 based on existing trends, and the observed turnover in both 2014 and 2016 is also statistically distinguishable from the trend.

Figure A.1: **Breaks in Election Official Turnover Trends Over Time**. Each point reports a break in the turnover rate in a given election from the pre-existing trend estimated using linear regression. The lines extending from the points are 95% confidence intervals based on standard errors clustered by jurisdiction.



A.3 Validating the Matched Turnover Analysis

As we discuss in Section 4.1, we use matching to ensure that jurisdictions that experience turnover and those that do not are on similar turnout and residual vote trajectories prior to the turnover. We conduct a number of complementary anlayses to validate that the matching worked as expected. First, Figure A.2 presents an event study plot that captures the average differences between the jurisdictions with turnover and their matched controls prior to the turnover. Since our data starts in 2004, our matching for turnover prior to the 2012 election relies only on turnout in 2004 and 2008 whereas our matching for turnover prior to the 2020 election relies on turnout in 2004, 2008, 2012, and 2016. To capture these differences, we display one line for each analysis based on the number of pre-treatment periods available. We find that the average differences between treatment and control within each analysis are small ranging from -.31 percentage points and .25 percentage points. These differences also roughly cancel out, resulting in average pre-treatment difference of -0.01 percentage points between the treated and control jurisdictions. Finally, the event study plot also reveals that the differences between the treated and control jurisdictions are approximately flat over the pre-treatment period, implying that the match is balancing the average turnout trajectory of the treatment and control jurisdictions as well.

Figure A.3 presents a histogram of turnout in the jurisdictions with turnover and their matched controls prior to the turnover being studied. The matching produces similar distributions.

Finally, in Table A.3 we present a placebo analysis that evaluates whether the matching approach. In this analysis, we exclude from matching the cycle prior to the turnover we are studying. By holding it out, we can check whether the juridictions with turnover and their matched controls have similar turnout and residual vote in the election prior to turnover under study. This need not be the case—the matching could be doing a bad job of adjusting for latent differences in turnout rates between the treated and control jurisdictions, or, if election officials are selected based on performance, turnover may be preceded by an unexpected drop in turnout. Instead, we find across all of our analysis that our estimates are similar in magnitude to the estimates we present in our main analyses, suggesting that the matching is working properly and election officials are not typically leaving immediately following poor performance.

Figure A.2: **Event Study Plot Comparing Turnout in Jurisdictions with Turnover to their Matched Controls in Pre-Treatment Period**. The plot presents average turnout in every period prior to treatment for jurisdictions with turnover against their matched controls. The three lines capture whether the turnover happened late enough to enable matching on two (2012 and 2014), three (2016 and 2018), or four (2020 and 2022) pre-treatment elections. The plot only includes officials in jurisdictions where the election official has authority over all or nearly all election-related matters.

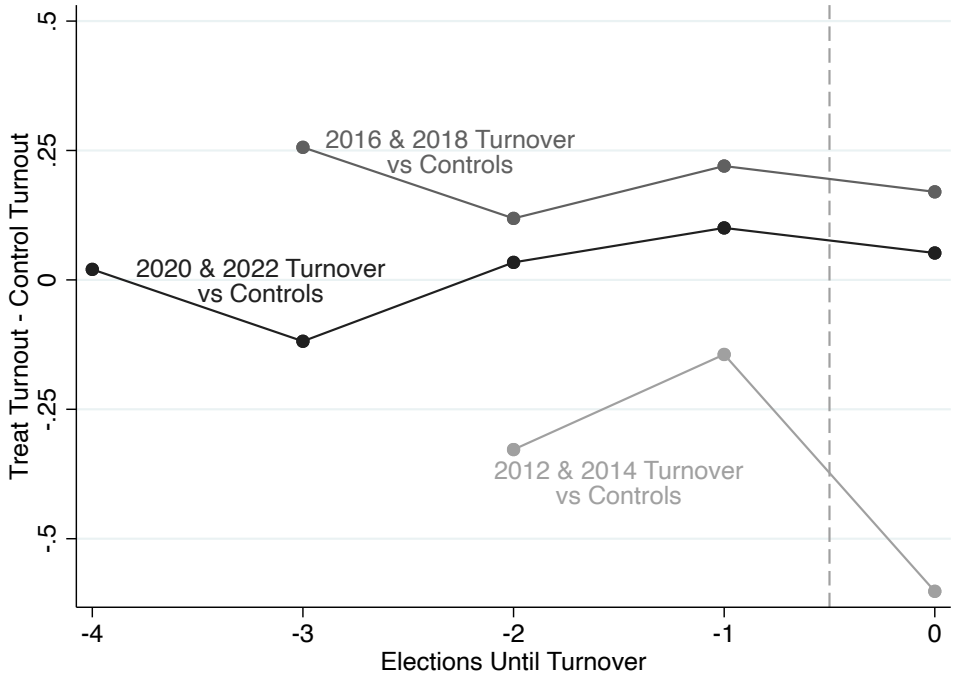


Figure A.3: **Comparing Turnout in Jurisdictions with Turnover to their Matched Controls in Pre-Treatment Period**. The plot presents histograms of turnout in the pre-turnover period for jurisdictions with turnover against their matched controls. Grey bars present the turnout distribution for the jurisdictions with turnover. The clear bars with black outline present the turnout distribution for the matched control jurisdictions. The plot only includes officials in jurisdictions where the election official has authority over all or nearly all election-related matters.

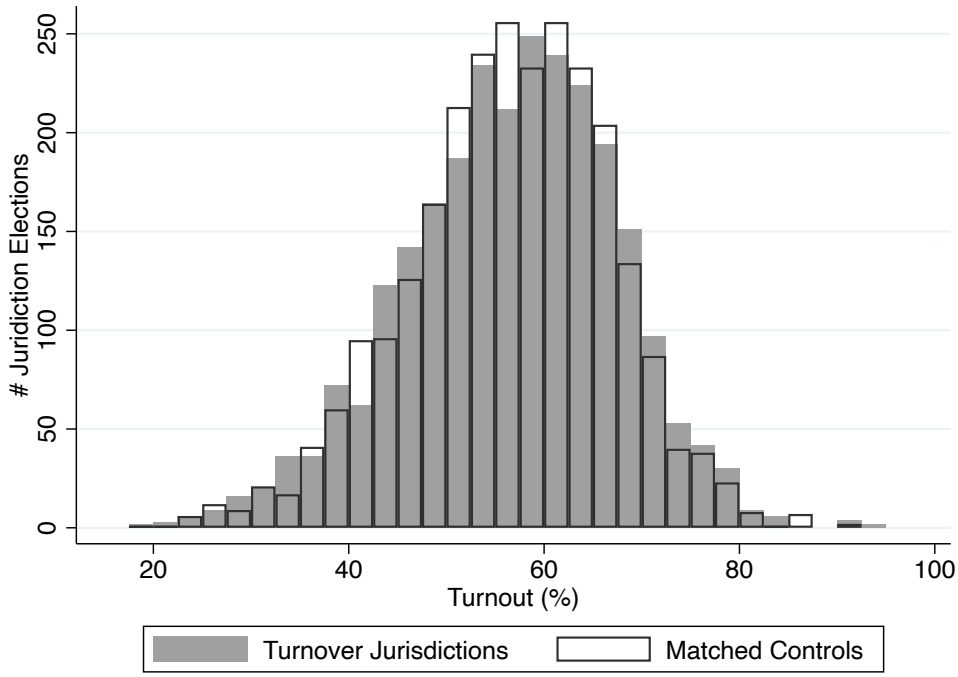


Table A.3: **Effect of Election Official Turnover on Turnout and Residual Vote.**

	Turnout (%)		Residual Vote (%)	
	(1)	(2)	(3)	(4)
Turnover, t+1	-0.09	-0.02	0.01	-0.05
	(0.09)	(0.12)	(0.06)	(0.06)
# Jurisdictions	3,201	978	1,597	863
# Obs	16,980	5,248	8,398	4,466
Strong Official Only	No	Yes	No	Yes
Matched Sample	Yes	Yes	Yes	Yes
Juris-by-Elec Type FE	Yes	Yes	Yes	Yes
Pair-by-Year FE	Yes	Yes	Yes	Yes

Robust standard errors clustered by jurisdiction reported in parentheses. Data is limited to jurisdictions with one primary official in charge of the majority of election administration responsibilities. Strong official only indicates jurisdictions where one official is responsible for directing all or nearly all aspects of election administration. Turnover t+1 refers to a change in the election official prior to the election four years later. Matched sample limits data to jurisdictions that experienced turnover between 2012 and 2022 and a set of matched control jurisdictions from the same state with the same history of turnover and the most similar levels of the outcome in all prior elections. Matching is 1-to-1 with replacement. Matching is conducted using outcomes from the start of the data until two cycles prior to the turnover being studied (prior to the placebo turnover year). Turnout is measured as the share of voting-age residents who cast a vote for president in presidential years and for governor in midterm years. Residual vote is measured as the the share of ballots cast without a vote for president in presidential years and for governor in midterm years. Regressions on unmatched data include jurisdiction-by-election cycle (presidential or midterm) fixed effects and state-by-year fixed effects. Regressions on matched data include jurisdiction-by-election cycle fixed effects and matched pair-by-year fixed effects.

A.4 Similar Effects of Turnover by Authority Level

If election official turnover were leading to substantially lower turnout, we would expect this effect to be largest in places where the election official we study oversees all aspects of elections. In Table A.4, we present estimates of the effect of turnover on turnout by authority level. We find that turnover of officials with weak, primary, and sole authority over local election administration does not substantially reduce turnout, meaning that we are not missing a large effect by including many jurisdictions in our analysis where officials do not have sufficient authority.

The one potential exception to this is for officials we categorize as "strong". These officials are responsible for nearly all but not all election duties. For example, supervisors of elections in Florida oversee all aspects of elections except for canvassing. In Indiana, clerks are responsible for day-to-day election administration leadership, and clerks chair the election board and appoint its members (one from each party), but appointed board members could work together to block policy changes from the clerk. In one of our two analyses, we find that turnover leads to a noisy but substantial and statistically significant drop in turnout in strong-authority jurisdictions.

Since we find a precise null effect of turnover on turnout for sole-authority officials, and we have very few jurisdictions where the official has nearly all but not all authority, making the analysis imprecisely estimated, we suspect this is a noisy overestimate of the effect.

Table A.4: **Effect of Election Official Turnover on Turnout by Author**

	Turnout (%)							
	Weak		Primary		Strong		Sole	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Turnover	-0.02	0.10	-0.12	-0.15	-0.19	-0.90	0.04	0.02
	(0.06)	(0.10)	(0.08)	(0.12)	(0.13)	(0.36)	(0.08)	(0.14)
# Jurisdictions	1,343	1,159	2,880	2,202	203	138	976	843
# Obs	12,385	9,314	18,570	15,468	1,350	886	8,325	6,110
Outcome Mean	53.73	52.30	61.23	61.32	52.14	49.51	56.68	57.81
Min Detectable Effect	0.15	0.29	0.22	0.35	0.37	1.02	0.21	0.40
Matched Sample	No	Yes	No	Yes	No	Yes	No	Yes
Juris-by-Elec Type FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State-by-Year FE	Yes	No	Yes	No	Yes	No	Yes	No
Pair-by-Year FE	No	Yes	No	Yes	No	Yes	No	Yes

Robust standard errors clustered by jurisdiction reported in parentheses. Columns 1 and 2 limit data to elections officials with weak authority. Columns 3 and 4 limit data to election officials who are the primary official responsible for the majority of election administration duties, but share important responsibilties with other officials. Columns 5 and 6 limit data to election officials who are responsible for most but not all election administration in their jurisdiction. Columns 7 and 8 limit data to election officials who are responsible for all election administration in their jurisdiction. Matched sample limits data to jurisdictions that experienced turnover between 2012 and 2022 and a set of matched control jurisdictions from the same state with the same history of turnover and the most similar levels of the outcome in all prior elections using 1-to-1 matching with replacement. Turnover refers to a change in the election official since the election two years prior. Turnout is measured as share of voting-age residents who cast a vote for president in presidential years and for governor in midterm years. Residual vote is measured as the the share of ballots cast without a vote for president in presidential years and for governor in midterm years. Regressions on unmatched data include jurisdiction-by-election cycle (presidential or midterm) fixed effects and state-by-year fixed effects. Regressions on matched data include jurisdiction-by-election cycle fixed effects and matched pair-by-year fixed effects. Min detectable effect refers to the minimum effect that a two-sided test with a 0.05 alpha would have 80% power to detect.

A.5 Similar Effects of Turnover in Presidential and Gubernatorial Elections

One challenge with focusing on presidential elections is that citizens may be especially motivated to participate and find ways to vote even if the election official makes mistakes or erects needless barriers. Might our pooled results mask an effect in midterm elections when citizens often feel less motivated to vote? To investigate whether this explains our small estimates of the effect of turnover on turnout, we conduct separate analyses of presidential cycle and gubernatorial cycle election years. We focus our analysis on jurisdictions where the chief election official has sole authority over election administration.

In Table A.5 we present estimates of the effect of turnover on turnout and residual vote separately for gubernatorial and presidential elections. Columns 1, 2, 5, and 6 present our estimates of the effect on turnout and residual vote in presidential elections. As in our main analysis in Table 1, looking at both two-way fixed effects regression estimates and matching estimates, we find that turnover leads to at most a small drop in turnout and a very modest increase in residual vote. Our estimates of the effects in midterms are less precise because we rely on gubernatorial elections and some states hold these during presidential election years. Nevertheless, the evidence suggests that turnover is not causing turnout to drop by more than three-quarters of a percentage point and is not causing residual vote to increase by more than one-third of a percentage point. Our confidence intervals from our two-way fixed effects regressions of the effect on turnout do not contain effects larger than 0.30 percentage points in either midterm or presidential elections, and our largest point estimate is a noisy decrease in turnout of 0.25 percentage points.

Table A.5: **Effect of Election Official Turnover on Turnout and Residual Vote, Midterm vs General.**

	Turnout (%)				Residual Vote (%)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Turnover	0.01	-0.05	0.01	-0.25	0.07	-0.01	0.00	0.05
	(0.08)	(0.16)	(0.15)	(0.26)	(0.04)	(0.06)	(0.05)	(0.13)
# Jurisdictions	1,181	778	758	327	966	668	653	303
# Obs	5,905	5,104	3,790	1,892	4,830	4,296	3,265	1,682
Outcome Mean	61.33	60.64	48.00	46.29	1.51	1.65	1.87	1.58
Min Detectable Effect	0.21	0.44	0.41	0.74	0.10	0.16	0.13	0.37
Cycle	Pres	Pres	Mid	Mid	Pres	Pres	Mid	Mid
Matched Sample	No	Yes	No	Yes	No	Yes	No	Yes
Juris-by-Elec Type FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State-by-Year FE	Yes	No	Yes	No	Yes	No	Yes	No
Pair-by-Year FE	No	Yes	No	Yes	No	Yes	No	Yes

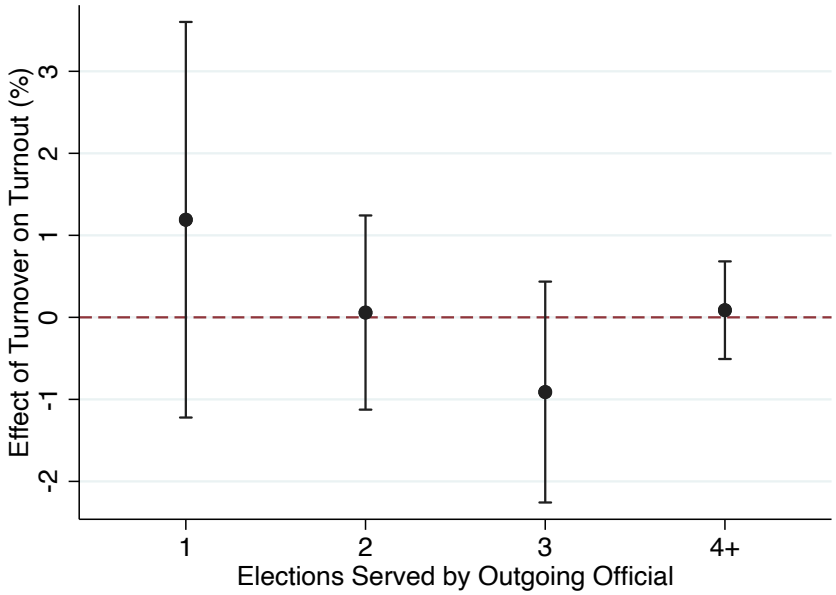
Robust standard errors clustered by jurisdiction reported in parentheses. Data is limited to jurisdictions where one official is responsible for directing all or nearly all aspects of election administration. Cycle is either presidential or midterm with midterms limited to states with midterm gubernatorial elections. Matched sample limits data to jurisdictions that experienced turnover between 2012 and 2022 and a set of matched control jurisdictions from the same state with the same history of turnover and the most similar levels of the outcome in all prior elections using 1-to-1 matching with replacement. Turnover refers to a change in the election official since the election two years prior. Turnout is measured as the share of voting-age residents who cast a vote for president in presidential years and for governor in midterm years. Residual vote is measured as the the share of ballots cast without a vote for president in presidential years and for governor in midterm years. Regressions on unmatched data include jurisdiction-by-election cycle (presidential or midterm) fixed effects and state-by-year fixed effects. Regressions on matched data include jurisdiction-by-election cycle fixed effects and matched pair-by-year fixed effects. Min detectable effect refers to the minimum effect that a two-sided test with a 0.05 alpha would have 80% power to detect.

A.6 Similar Effects of Turnover When Exiting Official Had More vs Less Experience

If turnover is common in some offices and uncommon in others, many new officials will replace individuals who had yet to accrue significant experience. Might this mean our estimates understate the disruption when experienced officials exit? To investigate this, we extend the analysis we presented in column 4 of Table 1. We estimate the effect of turnover on turnout using our matched data with only jurisdictions where the election official has all or nearly all authority. We then limit our data to cases where the previous election official served in a given number of November elections.

We find that, regardless of whether the previous official served only briefly or for a long time, election official turnover does not noticeably decrease turnout. While these estimates are noisy, we take this as suggestive evidence that our main finding is not masking a much larger effect when a veteran election official leaves.

Figure A.4: **Similarly Small Effect of Turnover When Exiting Official Had Longer Tenure**. Each point represents a point estimate based on the matched analysis data, limiting to jurisdictions where the election official is responsible for all or nearly all election administration and those that had turnover after a given number of terms without turnover. The bars represent 95% confidence intervals.



A.7 Turnover Does Not Have a Larger Effect When Election Officials Depart Voluntarily

One concern about our main analysis is that it may average over two effects that run in opposite directions: perhaps turnover has a negative effect when a good official leaves and a positive effect with a bad official leaves. In this case, we might see an average effect close to zero depending on how many good and bad performers end up in office.

Here, we proxy for election official quality using information on why they left office. In Figure A.5, we present evidence that the vast majority of election officials leave office voluntarily, either by retiring or choosing not to run again. This means that our estimates of the average effect of turnover are mostly capturing voluntary turnover. Given this, the effect of the departures of low-quality officials would need to be very positive to be consistent with a small negative effect of people who left voluntarily. We directly estimate these effects in Table A.6. Subsetting to cases where the election official left voluntarily, we find that, if anything, turnout increases. This suggests that our average estimates are not masking large positive effects of the departures of low performers and substantial negative effects from the departures of high performers.

Figure A.5: **Reason for Election Official Departure, 2020 and 2022**. Out of the 373 cases of election official turnover prior to the 2020 and 2022 elections where the reason for departure is publicly available, 321 (86%) of the departures were voluntary. Voluntary includes retiring or leaving for a new position. Involuntary includes being fired, being voted out of office, and resigning in scandal. Unsure are cases where there is no public reporting on the departure and the office did not provide a reason when contacted.

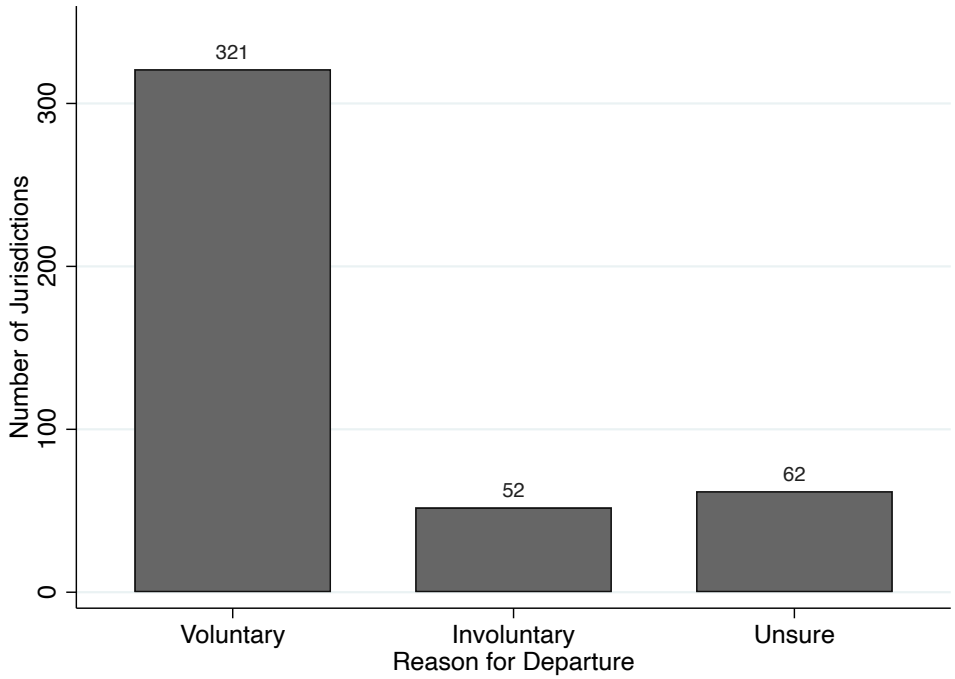


Table A.6: **Effect of Election Official Turnover on Turnout by Reason for Departure.**

	Turnout (%)	
	Any Departure Reason	Left Voluntarily
	(1)	(2)
Turnover	0.01	0.20
	(0.27)	(0.29)
# Jurisdictions	427	374
# Obs	2,520	2,180
Outcome Mean	57.81	57.94
Min Detectable Effect	0.75	0.80
Matched Sample	Yes	Yes
Juris-by-Elec Type FE	Yes	Yes
Pair-by-Year FE	Yes	Yes

Robust standard errors clustered by jurisdiction reported in parentheses. Data is limited to jurisdictions where one official is responsible for directing all or nearly all aspects of election administration. Matched sample limits data to jurisdictions that experienced turnover between 2012 and 2022 and a set of matched control jurisdictions from the same state with the same history of turnover and the most similar levels of the outcome in all prior elections using 1-to-1 matching with replacement. Turnover refers to a change in the election official since the election two years prior. Turnout is measured as share of voting-age residents who cast a vote for president in presidential years and for governor midterm years. Regressions on matched data include jurisdiction-by-election cycle fixed effects and matched pair-by-year fixed effects. Min detectable effect refers to the minimum effect that a two-sided test with a 0.05 alpha would have 80% power to detect. First column restricts data to jurisdictions and years where the reason that the election official left office is known and matched controls. Second column restricts data to jurisdictions and years where the election official left voluntarily and matched controls.

A.8 Similar Effects of Turnover for Elected and Appointed Election Officials

In Table A.7, we present estimates of the effect of turnover on turnout separately for elected and appointed officials. Columns 1 through 4 present estimates of the effect in jurisdictions that directly elect their election official. Columns 5 and 6 present estimates of the effect in jurisdictions that appoint their election official. Across all of our analyses, we find that turnover does not cause a substantial drop in turnout.

While we can fully reproduce our main analyses subsetting to elected officials only, our analyses of appointed officials is more limited. Appointed officials in our data very rarely have authority to oversee all or nearly all aspects of elections, so do not have sufficient data to subset to appointed officials with strong authority. Instead, we subset to those who are responsible for at least a majority of election administration and registration duties.

Table A.7: **Effect of Election Official Turnover on Turnout, Elected vs Appointed**

	Turnout (%)					
	Elected				Appointed	
	(1)	(2)	(3)	(4)	(5)	(6)
Turnover	-0.06	-0.07	0.00	-0.12	-0.00	-0.26
	(0.06)	(0.11)	(0.07)	(0.14)	(0.21)	(0.52)
# Jurisdictions	1,681	1,417	1,131	940	121	77
# Obs	13,785	10,166	9,245	6,688	740	444
Outcome Mean	54.16	55.18	56.49	57.30	55.88	57.59
Min Detectable Effect	0.16	0.32	0.19	0.39	0.60	1.47
Strong Official Only	No	No	Yes	Yes	No	No
Matched Sample	No	Yes	No	Yes	No	Yes
Juris-by-Elec Type FE	Yes	Yes	Yes	Yes	Yes	Yes
State-by-Year FE	Yes	No	Yes	No	Yes	No
Pair-by-Year FE	No	Yes	No	Yes	No	Yes

Robust standard errors clustered by jurisdiction reported in parentheses. Columns 1 through 4 limit data to irectly elected election officials. Columns 3 and 4 limit data to appointed election officials. Matched sample limits data to jurisdictions that experienced turnover between 2012 and 2022 and a set of matched control jurisdictions from the same state with the same history of turnover and the most similar levels of the outcome in all prior elections using 1-to-1 matching with replacement. Turnover refers to a change in the election official since the election two years prior. Turnout is measured as share of voting-age residents who cast a vote for president in presidential years and for governor in midterm years. Residual vote is measured as the the share of ballots cast without a vote for president in presidential years and for governor in midterm years. Regressions on unmatched data include jurisdiction-by-election cycle (presidential or midterm) fixed effects and state-by-year fixed effects. Regressions on matched data include jurisdiction-by-election cycle fixed effects and matched pair-by-year fixed effects. Min detectable effect refers to the minimum effect that a two-sided test with a 0.05 alpha would have 80% power to detect.

A.9 Similar Effect on Turnout in Small and Large Jurisdictions

One explanation for our finding is that staff maintain the operations of the office despite leadership turnover. According to a 2022 survey by the Election and Voting Information Center at Reed College, more than 96% of jurisdictions with more than 25,000 voting age residents have at least two staffers while 26% of jurisdictios with 5,000 to 25,000 voting-age residents have one or no full-time officials and 75% of jurisdictions with fewer than 5,000 voting-age residents have one or no full-time officials.[18] Accordingly, we use a rough population cutoff to evaluate whether turnover has larger effects in jurisdictions with larger offices. Table A.8 presents our results. We find that the effects of election official turnover on turnout are small in small and large jurisdictions alike.

[18] https://evic.reed.edu/2022_workload-and-staffing/

Table A.8: **Effect of Election Official Turnover on Turnout and Residual Vote by Population.**

	Turnout (0-100%)			
	2020 Pop < 25k		2020 Pop >= 25k	
	(1)	(2)	(3)	(4)
Turnover	0.07	-0.18	-0.08	-0.07
	(0.09)	(0.09)	(0.17)	(0.21)
# Jurisdictions	802	377	664	285
# Obs	6,585	3,090	4,560	2,046
Outcome Mean	57.74	52.44	58.67	53.38
Min Detectable Effect	0.25	0.25	0.49	0.59
Strong Official Only	Yes	Yes	Yes	Yes
Matched Sample	No	Yes	No	Yes
Juris-by-Elec Type FE	Yes	Yes	Yes	Yes
State-by-Year FE	Yes	No	Yes	No
Pair-by-Year FE	No	Yes	No	Yes

Robust standard errors clustered by jurisdiction reported in parentheses. Columns 1 and 2 are limited to jurisdictions with fewer than 25,000 voting-age residents as of the 2020 census. Columns 3 and 4 are limited to jurisdictions with 25,000 or more voting-age residents as of the 2020 census. Data is limited to jurisdictions where only one official is responsible for directing all or nearly all aspects of election administration. Matched sample limits data to jurisdictions that experienced turnover between 2012 and 2022 and a set of matched control jurisdictions from the same state with the same history of turnover and the most similar levels of the outcome in all prior elections using 1-to-1 matching with replacement. Turnover refers to a change in the election official since the election two years prior. Turnout is measured as the share of voting-age residents who cast a vote for president in presidential years and for governor in midterm years. Regressions on unmatched data include jurisdiction-by-election cycle (presidential or midterm) fixed effects and state-by-year fixed effects. Regressions on matched data include jurisdiction-by-election cycle fixed effects and matched pair-by-year fixed effects. Min detectable effect refers to the minimum effect that a two-sided test with a 0.05 alpha would have 80% power to detect.

A.10 Similar Estimates When Excluding Turnover Due to Institutional Change

One explanation for our findings is that when local government officials and citizens are unsatisfied with election administration, they may be more likely to hand the job of running elections to a different office. If this were the case, our results, which focus on all turnover including turnover that arises from institutional change, may understate the effect of the more typical types of turnover where an experienced official retires or moves on to a different job.

We test this claim in Table A.9. Across all columns we limit our data to jurisdictions without any institutional changes. We also focus on elected election officials, where the duties of the election official tend to be more consistent over time. We estimate very similar effects to Table 1 in the main text, suggesting that the effect of turnover is similarly small whether that turnover arises from institutional changes or from retirements, firings, and election losses.

Table A.9: **Effect of Election Official Turnover on Turnout and Residual Vote, No Institutional Change**

	Turnout (%)				Residual Vote (%)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Turnover	-0.06	-0.07	0.00	-0.12	0.08	0.03	0.06	0.01
	(0.06)	(0.11)	(0.07)	(0.14)	(0.03)	(0.05)	(0.03)	(0.06)
# Jurisdictions	1,681	1,417	1,131	940	1,351	1,194	922	833
# Obs	13,785	10,166	9,245	6,688	10,720	8,118	7,705	5,700
Outcome Mean	54.16	55.18	56.49	57.30	1.50	1.50	1.66	1.62
Min Detectable Effect	0.16	0.32	0.19	0.39	0.08	0.15	0.09	0.16
Strong Official Only	No	No	Yes	Yes	No	No	Yes	Yes
Matched Sample	No	Yes	No	Yes	No	Yes	No	Yes
Juris-by-Elec Type FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State-by-Year FE	Yes	No	Yes	No	Yes	No	Yes	No
Pair-by-Year FE	No	Yes	No	Yes	No	Yes	No	Yes

Robust standard errors clustered by jurisdiction reported in parentheses. Data is limited to jurisdictions with one primary official responsible for the majority of election administration duties. Strong official only indicates jurisdictions where one official is responsible for directing all or nearly all aspects of election administration. Matched sample limits data to jurisdictions that experienced turnover between 2012 and 2022 and a set of matched control jurisdictions from the same state with the same history of turnover and the most similar levels of the outcome in all prior elections using 1-to-1 matching with replacement. Turnover refers to a change in the election official since the election two years prior. Turnout is measured as share of voting-age residents who cast a vote for president in presidential years and for governor in midterm years. Residual vote is measured as the the share of ballots cast without a vote for president in presidential years and for governor in midterm years. Regressions on unmatched data include jurisdiction-by-election cycle (presidential or midterm) fixed effects and state-by-year fixed effects. Regressions on matched data include jurisdiction-by-election cycle fixed effects and matched pair-by-year fixed effects. Min detectable effect refers to the minimum effect that a two-sided test with a 0.05 alpha would have 80% power to detect.

A.11 Alternative Approach to Estimating Effect of Turnover on Problems Voting

In Section 4.5, we present evidence that turnover does not substantially increase the share of voters experiencing problems. One weakness of this analysis is that anyone who fails to vote due to issues with election administration will not be counted in this analysis. We use this as our main measure of problems for two reasons: First, the SPAE does not consistently measure the problems people had trying to vote for those who failed, so we lose 2020 and 2022 in analyses that use a pooled measure of problems voting that includes voters and nonvoters. Second, our main finding is that turnover does not reduce turnout, so we should not see difference in the share of respondents who voted in places with and without turnover. Still, to ensure we are not missing an important change in the experience of nonvoters, we produce a measure of problems voting that includes voters and nonvoters prior to 2020. Table A.10 presents our results. Our estimates are noisier and more positive, suggesting that nonvoters may be slightly more likely to report election administration issues when election leadership turns over, but the effect estimates are still small and statistically indistinguishable from zero.

Table A.10: **Effect of Election Official Turnover on Share of Voters and Non-Voters Reporting Problems Voting.**

	Reported Problem Trying to Vote {0,1}			
	(1)	(2)	(3)	(4)
Turnover	0.007	0.010	0.011	0.010
	(0.006)	(0.006)	(0.006)	(0.007)
# Counties	965	965	963	800
# Respondents	15,155	15,155	15,068	14,905
Outcome Mean	0.060	0.060	0.060	0.060
Min Detectable Effect	0.017	0.017	0.017	0.019
Strong Official Only	Yes	Yes	Yes	Yes
State-by-Year FE	No	Yes	Yes	Yes
Individual Controls	No	No	Yes	Yes
County Pop Control	No	No	Yes	No
County FE	No	No	No	Yes

Robust standard errors clustered by county reported in parentheses. Data is limited to counties where only one official is responsible for directing all or nearly all aspects of election administration. Each observation is one respondent to the Survey of the Performance of American Elections. Observations are weighted according to the weights provided by the survey team. Turnover refers to a change in the election official since the election two years prior. The outcome is a dummy variable with value 1 for respondents reporting a problem with the registration or the voting equipment, an issue obtaining or completing their mail ballot, or difficulty finding the polling place. Individual controls are gender, race, years of education, and party ID fixed effects as well as age included as a single covariate. County pop control is the natural logarithm of voting-age population. Min detectable effect refers to the minimum effect that a two-sided test with a 0.05 alpha would have 80% power to detect.

A.12 Turnover May Modestly Increase Wait Times

In this section we present additional analyses of the effect of turnover on wait times. Figure A.6 documents the robustness of our finding of a modest effect of turnover on wait times. Across all four of our regression specifications, we see a similar pattern where fewer voters report no wait in jurisdictions with turnover and more voters report wait times between 30 minutes and an hour. All of these effects are relatively small, and the only statistically significant change across most specifications is an increase in wait times over 30 minutes. Still, given the consistent pattern across different specifications, we take this as evidence that wait times may have modestly increased in places with new election officials.

In Table A.11, we present formal estimates of the effect of turnover on wait times. Columns 1 through 4 present the effect of turnover on the share of voters who wait more than 10 minutes. When we adjust for county factors that may be associated with longer or shorter wait times in columns 3 and 4, we cannot reject the null hypothesis that counties with turnover and similar counties without turnover have the same shares of voters waiting over 10 minutes at the polls. In columns 5 through 8 we change the outcome to look at wait times over 30 minutes. Here, as we show in Figure A.6, we find that turnover is associated with approximately two percentage points more voters waiting over 30 minutes than we would have expected in similar counties in the same state and year.

In Table A.12, we validate our survey-based estimates using a measure of polling place wait times presented in Chen et al. (2020). The data is only available for 2016, so our estimates are noisy and we cannot conduct the more robust within-county analysis. Still, the descriptive patterns are similar to those we see in the survey data—we see a small increase in wait times in counties with election official turnover. Due to the small size of the effect and the relatively small dataset, the standard errors are large. This is consistent with what we expect given the high correlation between survey and cell-phone-tracking based estimates of wait times (Chen et al. 2020).

Figure A.6: **Election Official Turnover May Modestly Increase Wait Times**. The figure presents estimates of the effect of turnover on the share of probability a resident experiences a given wait time. The estimates come from four different regression specifications: 1. no covariates (difference in means); 2. state-year fixed effects; 3. state-year fixed effects, county covariates, and respondent covariates; and 4. state-year fixed effects, county fixed effects, and respondent covariates. The plot relies on data from the Survey of the Performance of American Elections and is weighted using the weights constructed by the survey team.

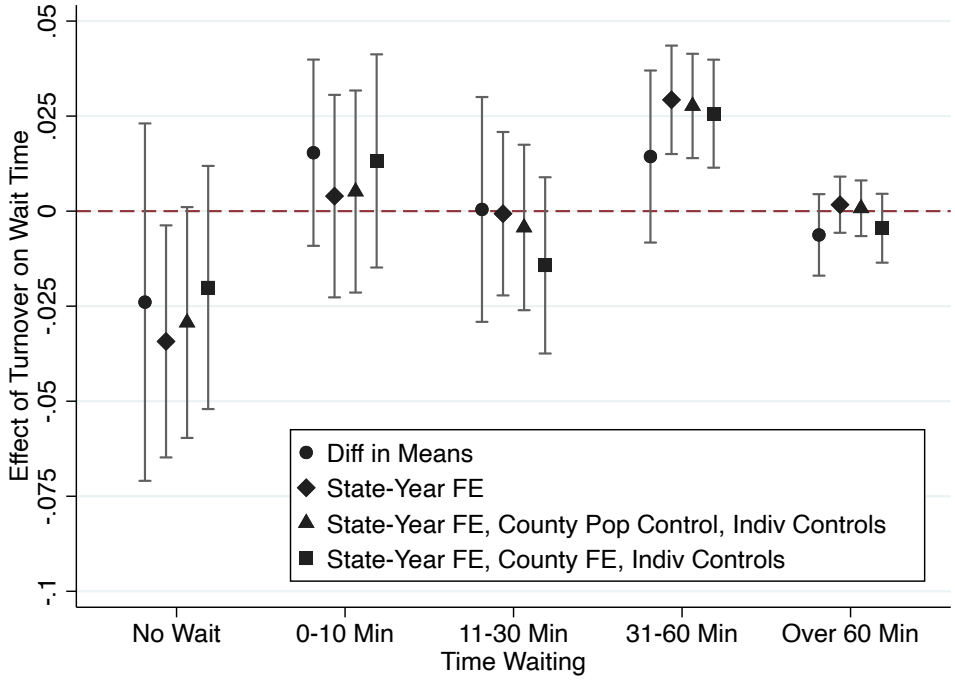


Table A.11: **Effect of Election Official Turnover on Voter Wait Times.**

	Wait Over 10 Min {0,1}				Wait Over 30 Min {0,1}			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Turnover	0.009	0.030	0.024	0.007	0.008	0.031	0.028	0.021
	(0.026)	(0.014)	(0.014)	(0.014)	(0.015)	(0.009)	(0.008)	(0.009)
# Counties	930	930	929	756	930	930	929	756
# Respondents	13,212	13,212	13,167	12,994	13,212	13,212	13,167	12,994
Outcome Mean	0.230	0.230	0.230	0.232	0.077	0.077	0.077	0.078
Min Detectable Effect	0.073	0.040	0.039	0.040	0.041	0.024	0.023	0.025
Strong Official Only	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State-by-Year FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Individual Controls	No	No	Yes	Yes	No	No	Yes	Yes
County Pop Control	No	No	Yes	No	No	No	Yes	No
County FE	No	No	No	Yes	No	No	No	Yes

Robust standard errors clustered by county reported in parentheses. Data is limited to counties where only one official is responsible for directing all or nearly all aspects of election administration. Each observation is one respondent to the Survey of the Performance of American Elections who reported voting. Observations are weighted according to the weights provided by the survey team. Turnover refers to a change in the election official since the election two years prior. The outcome is a dummy variable with value 1 for reporting a wait time over 10 or 30 minutes, respectively. Individual controls are gender, race, years of education, and party ID fixed effects as well as age included as a single covariate. County pop control is the natural logarithm of voting-age population. Min detectable effect refers to the minimum effect that a two-sided test with a 0.05 alpha would have 80% power to detect.

Table A.12: **Effect of Election Official Turnover on Wait Times, Cell Phone Tracking Data.**

	Avg Wait Time (Minutes)		
	(1)	(2)	(3)
Turnover	1.404	0.371	0.229
	(1.124)	(0.909)	(0.880)
log(2020 Voting-Age Population)			1.306
			(0.354)
State FE	No	Yes	Yes
Counties	177	177	177

Robust standard errors reported in parentheses. Data is limited to counties where only one official is responsible for directing all or nearly all aspects of election administration. Turnover refers to a change in the election official since the election two years prior. The outcome is average wait time in the county according to cell phone tracking data reported in Chen et al (2020).

A.13 Turnover Does Not Reduce Voter Confidence

If voters do not have problems voting but still feel the election was administered poorly, this would likely show in their confidence that the vote was counted properly in their community. Using the same survey data and regression specifications as Table 2, we study whether turnover leads to fewer respondents saying they are very confident that their vote and the vote of other county residents was counted accurately. Table A.13 presents our results. We see consistent evidence that turnover does not meaningfully affect the share of respondents who are very confident their own vote or the county vote was accurately tallied.

Looking across all eight columns, we see consistent evidence that turnover does not meaningfully affect the share of respondents who are very confident their own vote or the county vote was accurately tallied. In fact, after adjusting state-specific factors, we find that slightly more respondents were very confident that their vote was counted accurately in counties experiencing turnover.

Table A.13: **Effect of Election Official Turnover on Share of Respondents Very Confident Vote is Counted Correctly.**

	Very Confident Vote Counted Correctly {0,1}							
	Own Vote				County Vote			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Turnover	-0.004	0.012	0.011	0.010	-0.015	0.002	0.001	-0.005
	(0.014)	(0.010)	(0.010)	(0.011)	(0.016)	(0.012)	(0.012)	(0.012)
# Counties	1,021	1,021	1,019	876	989	989	989	838
# Respondents	22,010	22,010	21,937	21,794	19,694	19,694	19,680	19,529
Outcome Mean	0.711	0.711	0.711	0.711	0.615	0.615	0.615	0.614
Min Detectable Effect	0.038	0.028	0.028	0.031	0.044	0.033	0.033	0.034
Strong Official Only	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State-by-Year FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Individual Controls	No	No	Yes	Yes	No	No	Yes	Yes
County Pop Control	No	No	Yes	No	No	No	Yes	No
County FE	No	No	No	Yes	No	No	No	Yes

Robust standard errors clustered by county reported in parentheses. Data is limited to counties where only one official is responsible for directing all or nearly all aspects of election administration. Each observation is one respondent to the Survey of the Performance of American Elections who reported voting. Observations are weighted according to the weights provided by the survey team. Turnover refers to a change in the election official since the election two years prior. The outcome is a dummy variable with value 1 for respondents who say they are very confident the vote was counted as intended, 0 otherwise. Columns 1 through 4 report estimates for the effect of turnover on the respondent's confidence that their own vote was counted as intended. Columns 5 through 8 report estimates for the effect of turnover on the respondent's confidence that their county's vote was counted as intended. Individual controls are gender, race, years of education, and party ID fixed effects as well as age included as a single covariate. County pop control is the natural logarithm of voting-age population. Min detectable effect refers to the minimum effect that a two-sided test with a 0.05 alpha would have 80% power to detect.

A.14 Turnover Did Not Meaningfully Degrade Performance in 2020

Does turnover degrade government performance during more turbulent times? To investigate this possibility, we compare jurisdictions that experienced local election official turnover in 2020 to jurisdictions without these changes. We run two analyses. First, we use our panel matching apporoach to compare turnout and residual vote in jurisdictions with and without turnover between 2018 and 2020. Second, we compare the rate of mail voting issues and issues voting due to COVID in jurisdictions with and without turnover. Across both analyses, we find that turnover did not substantially affect performance amid the upheaval to election administration brought on by the COVID pandemic and the policy response in 2020.

Table A.14 presents the results of our turnout and residual vote analysis in 2020. Focusing on columns 2 and 4 where we limit our analysis to jurisdictions with officials who are responsible for all or nearly all election administration, we find that turnover led to an very small increase in turnout of around one-tenth of one percentage point and a decrease in residual vote of roughly one-tenth of one percentage point in 2020. Both of these estimates are statistically indistinguishable from zero. We take this as evidence that turnover did not meaningfully affect local election official performance even in 2020 when election officials faced a host of challenges and massive policy change.

Table A.15 presents the results of our analysis of problems voting by mail or failure to vote due to COVID in 2020. In columns 1 through 3 we document a very low rate of issues with mail voting—only approximately 2% of respondents say they had issues voting by mail. People living in jurisdictions with turnover had slightly higher rates of problems voting by mail—people living in jurisdictions with turnover were approximately three-quarters of a percentage point more likely to say that they had a problem voting by mail—but these effects are quite small and they are statistically indistinguishable from zero.

It is important to note why we interpret these effect sizes as small: A problem voting by mail in our data case does not need to be serious to be recorded here—respondents were asked whether they had a problem obtaining or returning a mail ballot, so even if the problems were minor inconveniences, we might expect people to share that in they survey. Yet, we still see very few people registering these complaints in their survey.

Table A.14: **Effect of Election Official Turnover on Turnout and Residual Vote in 2020.**

	Turnout (0-100%)		Residual Vote (0-100%)	
	(1)	(2)	(3)	(4)
Turnover	-0.09	0.11	-0.03	-0.08
	(0.18)	(0.29)	(0.05)	(0.07)
# Jurisdictions	1,433	359	572	281
# Obs	8,050	2,060	3,370	1,630
Outcome Mean	65.38	62.04	1.19	1.47
Min Detectable Effect	0.51	0.81	0.14	0.19
Strong Official Only	No	Yes	No	Yes
Matched Sample	Yes	Yes	Yes	Yes
Juris-by-Elec Type FE	Yes	Yes	Yes	Yes
Pair-by-Year FE	Yes	Yes	Yes	Yes

Robust standard errors clustered by jurisdiction reported in parentheses. Data is limited to jurisdictions with one primary official responsible for the majority of election administration duties. Strong official only indicates jurisdictions where one official is responsible for directing all or nearly all aspects of election administration. Matched sample limits data to jurisdictions that experienced turnover between 2012 and 2022 and a set of matched control jurisdictions from the same state with the same history of turnover and the most similar levels of the outcome in all prior elections using 1-to-1 matching with replacement. Turnover refers to a change in the election official since the election two years prior. Turnout is measured as share of voting-age residents who cast a vote for president in presidential years and for governor in midterm years. Residual vote is measured as the the share of ballots cast without a vote for president in presidential years and for governor in midterm years. Regressions on matched data include jurisdiction-by-election cycle fixed effects and matched pair-by-year fixed effects. Min detectable effect refers to the minimum effect that a two-sided test with a 0.05 alpha would have 80% power to detect.

Colmns 4 through 6 of Table A.15 presents our findings on the share of people who reported not voting because they were worried about COVID risk. Respondents who said they did not vote were asked for the top two reasons they did not vote. We count anyone who says COVID was one of their two reasons as having not voted due to COVID. We find that only roughly 2% of respondents said that they failed to vote because of COVID risks. The number is slightly higher in jurisdictions with turnover—an increase of roughly half of a percentage point—but this difference is statistically indisguishable from zero. We still interpret this as a relatively modest effect but substantively larger and noisier than our estimate of the effect on problems voting by mail since it is in a sense an estimate of the effect on turnout through one mechanism. Still, paired with our

Table A.15: **Effect of Election Official Turnover on Share of Voters Reporting Problems Voting in 2020.**

	Reported Problem Voting by Mail {0,1}			Didn't Vote Due to COVID {0,1}		
	(1)	(2)	(3)	(4)	(5)	(6)
Turnover	0.006	0.008	0.008	0.003	0.006	0.006
	(0.007)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
# Counties	717	717	717	717	717	717
# Respondents	5,982	5,982	5,982	5,982	5,982	5,982
Outcome Mean	0.019	0.019	0.019	0.018	0.018	0.018
Min Detectable Effect	0.020	0.017	0.017	0.017	0.016	0.016
Strong Official Only	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	Yes	Yes	No	Yes	Yes
Individual Controls	No	No	Yes	No	No	Yes
County Pop Control	No	No	Yes	No	No	Yes

Robust standard errors clustered by county reported in parentheses. Data is limited to 2020. Data is also limited to counties where only one official is responsible for directing all or nearly all aspects of election administration. Each observation is one respondent to the Survey of the Performance of American Elections who reported voting. Observations are weighted according to the weights provided by the survey team. Turnover refers to a change in the election official since the election two years prior. The outcome is a dummy variable with value 1 for respondents reporting a problem voting by mail or failing to vote due to fear of the COVID risk. Individual controls are gender, race, years of education, and party ID fixed effects as well as age included as a single covariate. County pop control is the natural logarithm of voting-age population. Min detectable effect refers to the minimum effect that a two-sided test with a 0.05 alpha would have 80% power to detect.

estimate of the effect of turnover on turnout in Table A.14, we conclude that the turnout effects and effects on COVID risks are small.

A.15 New Officials without Elections or Government Experience Do Not Perform Noticeably Worse

If elections or government experience is necessary to maintain office performance, we would expect performance to degrade most when a new official comes in without that experience. We explore this by subsetting our analysis to cases where the incoming official has either no experience administering elections or no experience working in government and using our panel matching approach to estimate the effect of turnover. Table A.16 captures our results.

We find that turnover still has at most a modest effect on turnout and residual vote rates when the incoming election official has limited prior experience. When we limit our analysis of the effect of turnover on turnout to officials without elections experience in column 2, we find that turnout increases very slightly and we cannot reject the null of no effect of turnover on turnout. When we limit our analysis to cases where the incoming official has no elections or government experience (column 3), we see a very slight negative effect on turnout which is also statistically indistinguishable from no effect. We see similar patterns in columns 5 and 6 where we estimate the effects on residual vote.

These results tell us that incoming officials without experience perform about as well as incoming officials with this experience. While these estimates are somewhat noisy, requiring effects of roughly 1.2 percentage points on turnout and 0.2 percentage points on residual vote to have 80% power to detect, this evidence is most consistent with the claim that officials without direct professional experience in elections or government are not producing much worse outcome upon taking over the office. This could mean that either there are compensating differentials where new officials without this experience have other important skills or experience or that leadership does not meaningfully affect performance. We cannot conclude one way or another based on this evidence.

Table A.16: **Effect of Election Official Turnover on Turnout and Residual Vote by Experience of Incoming Official.**

	Turnout (0-100%)			Residual Vote (0-100%)		
	All Coded	No Elections Experience	No Gov't Experience	All Coded	No Elections Experience	No Gov't Experience
	(1)	(2)	(3)	(4)	(5)	(6)
Turnover	0.05	0.15	-0.17	-0.11	-0.13	-0.12
	(0.27)	(0.42)	(0.48)	(0.06)	(0.08)	(0.07)
# Jurisdictions	386	157	91	309	125	75
# Obs	2,260	840	460	1,820	690	390
Outcome Mean	57.33	57.80	58.56	1.45	1.39	1.27
Min Detectable Effect	0.77	1.16	1.34	0.16	0.21	0.21
Strong Official Only	Yes	Yes	Yes	Yes	Yes	Yes
Matched Sample	Yes	Yes	Yes	Yes	Yes	Yes
Juris-by-Elec Type FE	Yes	Yes	Yes	Yes	Yes	Yes
Pair-by-Year FE	Yes	Yes	Yes	Yes	Yes	Yes

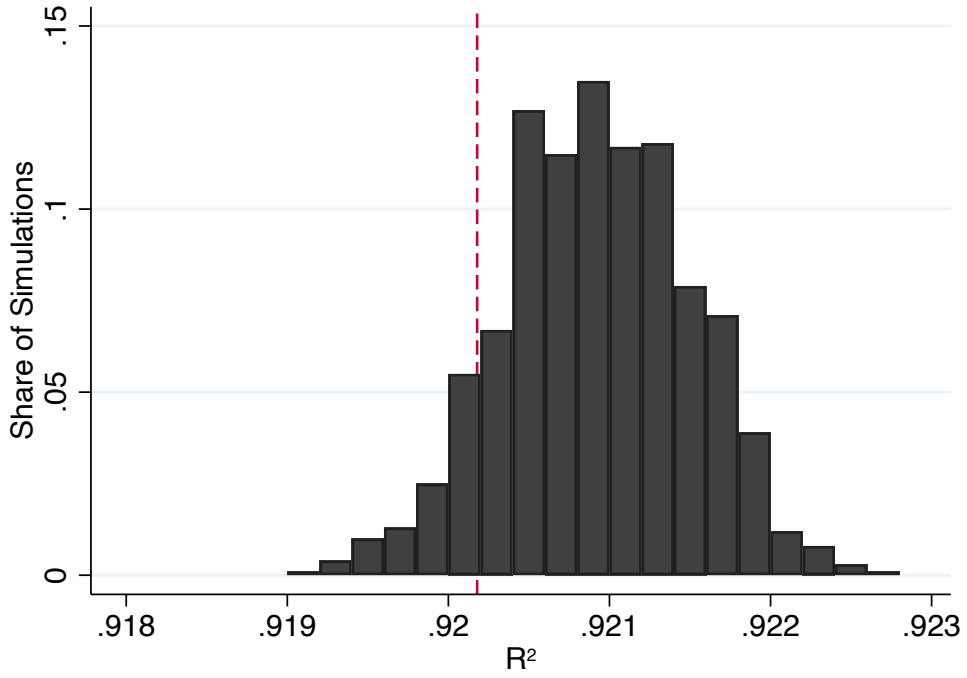
Robust standard errors clustered by jurisdiction reported in parentheses. All Coded columns include all cases of turnover where the incoming official's prior work experience is publicly available. No Election Experience columns include cases of turnover where the incoming official had no professional elections experience. No Gov't Experience columns include cases of turnover where the incoming official had no experience working in government. Data is limited to jurisdictions with one primary official responsible for the majority of election administration responsibilities. Strong official only indicates jurisdictions where one official is responsible for directing all or nearly all aspects of election administration. Matched sample limits data to jurisdictions that experienced turnover between 2012 and 2022 and a set of matched control jurisdictions from the same state with the same history of turnover and the most similar levels of the outcome in all prior elections using 1-to-1 matching with replacement. Turnover refers to a change in the election official since the election two years prior. Turnout is measured as share of voting-age residents who cast a vote for president in presidential years and for governor in midterm years. Residual vote is measured as the the share of ballots cast without a vote for president in presidential years and for governor in midterm years. Regressions on unmatched data include jurisdiction-by-election cycle (presidential or midterm) fixed effects and state-by-year fixed effects. Regressions on matched data include jurisdiction-by-election cycle fixed effects and matched pair-by-year fixed effects. Min detectable effect refers to the minimum effect that a two-sided test with a 0.05 alpha would have 80% power to detect.

A.16 Performance Does Not Noticeably Vary Across Local Election Officials Within Jurisdiction

We evaluate how local election officials affect turnout using the randomization inference procedure described in Berry and Fowler (2021). The procedure computes R^2 values from regressions of a performance measure on leader dummy variables then constructs a null distribution by randomly shuffling when each leader served within each jurisdiction. In our implementation, we use turnout as our performance measure and demean turnout by year and state to implicitly account for state-year fixed effects.

Figure A.7 presents our results. We find that the realized R^2 from the real data falls below the R^2 of nearly 90% of null R^2 values. This implies that there is very little within-jurisdiction variation in leader quality at least insofar as leaders affect turnout.

Figure A.7: **Effect of Local Election Officials on Turnout Against Randomization-Inference-Based Null Distribution**. The figure presents the R^2 of a regression of turnout on local election official dummy variables against a randomization-inference-based null distribution.



A.17 Tables with All Regression Coefficients Included

Table A.17: Effect of Election Official Turnover on Share of Voters Reporting Problems Voting, All Coefficients

	Reported Problem Voting {0,1}			
	(1)	(2)	(3)	(4)
Turnover	0.002	0.002	0.002	0.001
	(0.005)	(0.004)	(0.004)	(0.004)
Female			-0.003	-0.003
			(0.003)	(0.003)
Black			-0.008	-0.006
			(0.009)	(0.010)
Hispanic			0.005	0.006
			(0.008)	(0.008)
Asian			-0.015	-0.014
			(0.008)	(0.008)
Native American			0.015	0.018
			(0.014)	(0.014)
Two or more races			0.014	0.016
			(0.017)	(0.017)
Other race			0.024	0.022
			(0.012)	(0.012)
Middle Eastern			-0.060	-0.072
			(0.006)	(0.011)
Birth year			0.001	0.001

	(0.000)	(0.000)
High school graduate	0.002	0.005
	(0.010)	(0.010)
Some college	0.008	0.010
	(0.010)	(0.010)
Two-year degree	0.009	0.014
	(0.010)	(0.011)
Four-year degree	0.010	0.012
	(0.010)	(0.010)
Post graduate degree	0.015	0.016
	(0.010)	(0.010)
Not very strong Democrat	-0.003	-0.003
	(0.006)	(0.006)
Lean Democrat	-0.000	0.000
	(0.006)	(0.007)
Independent	0.003	0.002
	(0.006)	(0.005)
Lean Republican	-0.004	-0.003
	(0.006)	(0.006)
Not very strong Republican	-0.010	-0.008
	(0.005)	(0.006)
Strong Republican	-0.003	-0.002
	(0.004)	(0.004)

Not sure which party			-0.014	-0.008
			(0.012)	(0.013)
log(2020 Voting-Age Population)			0.000	
			(0.001)	
State-by-Year FE	No	Yes	Yes	Yes
County FE	No	No	No	Yes
Observations	24,737	24,737	24,650	24,526

Robust standard errors clustered by county reported in parentheses. Data is limited to counties where only one official is responsible for directing all or nearly all aspects of election administration. Each observation is one respondent to the Survey of the Performance of American Elections who reported voting. Observations are weighted according to the weights provided by the survey team. Turnover refers to a change in the election official since the election two years prior. The outcome is a dummy variable with value 1 for respondents reporting a problem with the registration or the voting equipment, an issue obtaining or completing their mail ballot, or difficulty finding the polling place.

Table A.18: Effect of Election Official Turnover on Share of Respondents Very Confident Vote is Counted Correctly, All Coefficients

	Own Vote Confidence				County Vote Confidence			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Turnover	-0.004	0.012	0.011	0.010	-0.015	0.002	0.001	-0.005
	(0.014)	(0.010)	(0.010)	(0.011)	(0.016)	(0.012)	(0.012)	(0.012)
Female			-0.018	-0.019			-0.040	-0.042
			(0.008)	(0.008)			(0.008)	(0.008)
Black			-0.011	-0.008			-0.034	-0.033
			(0.020)	(0.020)			(0.028)	(0.027)
Hispanic			0.006	-0.002			-0.016	-0.019
			(0.020)	(0.020)			(0.018)	(0.019)
Asian			-0.009	-0.009			0.035	0.030
			(0.021)	(0.019)			(0.024)	(0.024)
Native American			-0.007	0.006			-0.085	-0.052
			(0.049)	(0.051)			(0.060)	(0.064)
Two or more races			-0.107	-0.104			-0.129	-0.132
			(0.029)	(0.029)			(0.026)	(0.026)
Other race			-0.061	-0.050			-0.062	-0.060
			(0.034)	(0.034)			(0.038)	(0.040)
Middle Eastern			-0.070	-0.068			-0.009	0.039
			(0.151)	(0.153)			(0.162)	(0.164)
Birth year			-0.003	-0.003			-0.003	-0.003
			(0.000)	(0.000)			(0.000)	(0.000)

High school graduate	0.027	0.029	0.033	0.023
	(0.027)	(0.027)	(0.036)	(0.037)
Some college	0.064	0.071	0.083	0.077
	(0.027)	(0.028)	(0.035)	(0.036)
Two-year degree	0.064	0.068	0.071	0.064
	(0.029)	(0.029)	(0.038)	(0.039)
Four-year degree	0.101	0.104	0.123	0.112
	(0.028)	(0.028)	(0.036)	(0.037)
Post graduate degree	0.111	0.111	0.139	0.126
	(0.027)	(0.028)	(0.037)	(0.038)
Not very strong Democrat	-0.078	-0.081	-0.133	-0.132
	(0.015)	(0.016)	(0.018)	(0.019)
Lean Democrat	-0.057	-0.055	-0.048	-0.044
	(0.013)	(0.014)	(0.016)	(0.016)
Independent	-0.168	-0.170	-0.189	-0.195
	(0.018)	(0.018)	(0.024)	(0.025)
Lean Republican	-0.224	-0.231	-0.270	-0.275
	(0.024)	(0.025)	(0.029)	(0.031)
Not very strong Republican	-0.166	-0.174	-0.198	-0.209
	(0.018)	(0.019)	(0.025)	(0.027)
Strong Republican	-0.153	-0.167	-0.200	-0.219
	(0.023)	(0.024)	(0.032)	(0.034)
Not sure which party	-0.196	-0.175	-0.222	-0.212

			(0.039)	(0.039)			(0.039)	(0.040)
log(2020 Voting-Age Population)			-0.011				-0.019	
			(0.003)				(0.004)	
State-by-Year FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes
County FE	No	No	No	Yes	No	No	No	Yes
Observations	22,010	22,010	21,937	21,794	19,694	19,694	19,680	19,529

Robust standard errors clustered by county reported in parentheses. Data is limited to counties where only one official is responsible for directing all or nearly all aspects of election administration. Each observation is one respondent to the Survey of the Performance of American Elections who reported voting. Observations are weighted according to the weights provided by the survey team. Turnover refers to a change in the election official since the election two years prior. The outcome is a dummy variable with value 1 for respondents who say they are very confident the vote was counted as intended, 0 otherwise. Columns 1 through 4 report estimates for the effect of turnover on the respondent's confidence that their own vote was counted as intended. Columns 5 through 8 report estimates for the effect of turnover on the respondent's confidence that their county's vote was counted as intended.

Table A.19: Effect of Election Official Turnover on Share of Voters and Non-Voters Reporting Problems Voting, All Coefficients.

	Reported Problem Trying to Vote {0,1}			
	(1)	(2)	(3)	(4)
Turnover	0.007	0.010	0.011	0.010
	(0.006)	(0.006)	(0.006)	(0.007)
Female			0.004	0.003
			(0.005)	(0.005)
Black			-0.007	0.000
			(0.015)	(0.015)
Hispanic			0.013	0.012
			(0.017)	(0.017)
Asian			-0.023	-0.022
			(0.016)	(0.017)
Native American			0.015	0.022
			(0.026)	(0.027)
Two or more races			0.031	0.034
			(0.025)	(0.025)
Other race			0.025	0.027
			(0.021)	(0.021)
Middle Eastern			0.053	-0.093
			(0.119)	(0.019)
Birth year			0.002	0.002
			(0.000)	(0.000)

High school graduate	0.001	0.016
	(0.015)	(0.016)
Some college	0.001	0.012
	(0.016)	(0.016)
Two-year degree	0.005	0.018
	(0.017)	(0.017)
Four-year degree	-0.010	0.002
	(0.016)	(0.016)
Post graduate degree	-0.007	0.004
	(0.016)	(0.016)
Not very strong Democrat	0.006	0.011
	(0.010)	(0.010)
Lean Democrat	-0.017	-0.013
	(0.009)	(0.009)
Independent	0.010	0.008
	(0.010)	(0.010)
Lean Republican	-0.013	-0.009
	(0.008)	(0.009)
Not very strong Republican	-0.011	-0.008
	(0.009)	(0.010)
Strong Republican	-0.021	-0.015
	(0.007)	(0.007)
Not sure which party	0.040	0.056

			(0.025)	(0.026)
log(2020 Voting-Age Population)			0.002	
			(0.002)	
State-by-Year FE	No	Yes	Yes	Yes
County FE	No	No	No	Yes
Observations	15,155	15,155	15,068	14,905

Robust standard errors clustered by county reported in parentheses. Data is limited to counties where only one official is responsible for directing all or nearly all aspects of election administration. Each observation is one respondent to the Survey of the Performance of American Elections. Observations are weighted according to the weights provided by the survey team. Turnover refers to a change in the election official since the election two years prior. The outcome is a dummy variable with value 1 for respondents reporting a problem with the registration or the voting equipment, an issue obtaining or completing their mail ballot, or difficulty finding the polling place.

Table A.20: Effect of Election Official Turnover on Share of Voters Reporting Problems Voting in 2020, All Coefficients.

	Own Vote Confidence			County Vote Confidence		
	(1)	(2)	(3)	(4)	(5)	(6)
Turnover	0.006	0.008	0.008	0.003	0.006	0.006
	(0.007)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Female			-0.001			0.003
			(0.004)			(0.004)
Black			-0.012			0.031
			(0.009)			(0.013)
Hispanic			-0.019			0.033
			(0.006)			(0.013)
Asian			-0.001			0.011
			(0.010)			(0.007)
Native American			-0.006			0.052
			(0.019)			(0.040)
Two or more races			0.007			0.002
			(0.019)			(0.015)
Other race			0.014			0.009
			(0.017)			(0.025)
Middle Eastern			-0.031			-0.009
			(0.009)			(0.007)
Birth year			0.000			0.001
			(0.000)			(0.000)

High school graduate	-0.033	-0.046
	(0.029)	(0.037)
Some college	-0.024	-0.073
	(0.029)	(0.036)
Two-year degree	-0.027	-0.077
	(0.030)	(0.036)
Four-year degree	-0.032	-0.079
	(0.030)	(0.036)
Post graduate degree	-0.030	-0.073
	(0.030)	(0.037)
Not very strong Democrat	-0.010	0.019
	(0.006)	(0.010)
Lean Democrat	0.001	0.006
	(0.009)	(0.009)
Independent	-0.007	0.012
	(0.009)	(0.009)
Lean Republican	-0.003	0.005
	(0.014)	(0.006)
Not very strong Republican	-0.005	0.014
	(0.011)	(0.009)
Strong Republican	-0.009	-0.009
	(0.007)	(0.005)
Not sure which party	-0.028	0.039

			(0.007)			(0.032)
log(2020 Voting-Age Population)			-0.000			-0.001
			(0.002)			(0.002)
State-by-Year FE	No	Yes	Yes	No	Yes	Yes
County FE	No	No	No	No	No	No
Observations	5,982	5,982	5,982	5,982	5,982	5,982

Robust standard errors clustered by county reported in parentheses. Data is limited to 2020. Data is also limited to counties where only one official is responsible for directing all or nearly all aspects of election administration. Each observation is one respondent to the Survey of the Performance of American Elections who reported voting. Observations are weighted according to the weights provided by the survey team. Turnover refers to a change in the election official since the election two years prior. The outcome is a dummy variable with value 1 for respondents reporting a problem voting by mail or failing to vote due to fear of the COVID risk.

Table A.21: Effect of Election Official Turnover on Share of Voters Reporting Wait Over 10 Minutes, All Coefficients.

	Wait Over 10 Minutes {0,1}			
	(1)	(2)	(3)	(4)
Turnover	0.009	0.030	0.024	0.007
	(0.026)	(0.014)	(0.014)	(0.014)
Female			-0.017	-0.016
			(0.012)	(0.013)
Black			0.060	0.070
			(0.031)	(0.028)
Hispanic			0.033	0.015
			(0.024)	(0.024)
Asian			-0.025	-0.028
			(0.029)	(0.029)
Native American			0.002	-0.005
			(0.039)	(0.040)
Two or more races			0.033	0.023
			(0.037)	(0.037)
Other race			0.017	0.008
			(0.025)	(0.025)
Middle Eastern			-0.262	-0.247
			(0.070)	(0.095)
Birth year			0.001	0.001
			(0.000)	(0.000)

High school graduate	-0.036	-0.041
	(0.037)	(0.041)
Some college	-0.041	-0.052
	(0.037)	(0.040)
Two-year degree	-0.037	-0.041
	(0.038)	(0.042)
Four-year degree	-0.025	-0.035
	(0.037)	(0.041)
Post graduate degree	-0.029	-0.041
	(0.040)	(0.043)
Not very strong Democrat	-0.006	-0.007
	(0.018)	(0.018)
Lean Democrat	-0.027	-0.024
	(0.017)	(0.017)
Independent	-0.042	-0.044
	(0.015)	(0.015)
Lean Republican	-0.049	-0.048
	(0.015)	(0.016)
Not very strong Republican	-0.043	-0.043
	(0.013)	(0.014)
Strong Republican	-0.025	-0.026
	(0.012)	(0.012)
Not sure which party	0.031	0.057

			(0.046)	(0.050)
log(2020 Voting-Age Population)			0.044	
			(0.004)	
State-by-Year FE	No	Yes	Yes	Yes
County FE	No	No	No	Yes
Observations	13,212	13,212	13,167	12,994

Robust standard errors clustered by county reported in parentheses. Data is limited to counties where only one official is responsible for directing all or nearly all aspects of election administration. Each observation is one respondent to the Survey of the Performance of American Elections. Observations are weighted according to the weights provided by the survey team. Turnover refers to a change in the election official since the election two years prior.

Table A.22: Effect of Election Official Turnover on Share of Voters Reporting Wait Over 30 Minutes, All Coefficients.

	Wait Over 30 Minutes {0,1}			
	(1)	(2)	(3)	(4)
Turnover	0.008	0.031	0.028	0.021
	(0.015)	(0.009)	(0.008)	(0.009)
Female			0.001	0.000
			(0.007)	(0.007)
Black			0.022	0.026
			(0.027)	(0.026)
Hispanic			0.006	-0.005
			(0.015)	(0.017)
Asian			-0.004	-0.010
			(0.025)	(0.027)
Native American			-0.003	-0.008
			(0.024)	(0.027)
Two or more races			-0.003	0.004
			(0.022)	(0.023)
Other race			0.010	0.010
			(0.019)	(0.019)
Middle Eastern			-0.081	-0.091
			(0.057)	(0.075)
Birth year			0.001	0.001
			(0.000)	(0.000)

High school graduate	-0.008	-0.002
	(0.021)	(0.019)
Some college	-0.008	-0.005
	(0.021)	(0.019)
Two-year degree	0.006	0.012
	(0.023)	(0.021)
Four-year degree	-0.003	-0.000
	(0.022)	(0.020)
Post graduate degree	0.004	0.003
	(0.022)	(0.021)
Not very strong Democrat	-0.012	-0.015
	(0.010)	(0.011)
Lean Democrat	-0.019	-0.018
	(0.009)	(0.009)
Independent	-0.010	-0.014
	(0.009)	(0.010)
Lean Republican	-0.029	-0.030
	(0.010)	(0.010)
Not very strong Republican	-0.016	-0.020
	(0.009)	(0.010)
Strong Republican	-0.006	-0.007
	(0.008)	(0.007)
Not sure which party	-0.046	-0.045

			(0.015)	(0.017)
log(2020 Voting-Age Population)			0.022	
			(0.002)	
State-by-Year FE	No	Yes	Yes	Yes
County FE	No	No	No	Yes
Observations	13,212	13,212	13,167	12,994

Robust standard errors clustered by county reported in parentheses. Data is limited to counties where only one official is responsible for directing all or nearly all aspects of election administration. Each observation is one respondent to the Survey of the Performance of American Elections. Observations are weighted according to the weights provided by the survey team. Turnover refers to a change in the election official since the election two years prior.

Table A.23: Effect of Election Official Turnover on Share of Voters Reporting No Wait, All Coefficients.

	No Wait {0,1}			
	(1)	(2)	(3)	(4)
Turnover	-0.024	-0.034	-0.029	-0.020
	(0.024)	(0.016)	(0.015)	(0.016)
Female			0.015	0.017
			(0.012)	(0.012)
Black			-0.026	-0.026
			(0.027)	(0.027)
Hispanic			-0.084	-0.066
			(0.025)	(0.025)
Asian			-0.052	-0.064
			(0.034)	(0.034)
Native American			-0.080	-0.089
			(0.052)	(0.057)
Two or more races			-0.023	-0.019
			(0.040)	(0.041)
Other race			0.011	0.024
			(0.038)	(0.038)
Middle Eastern			0.439	0.415
			(0.138)	(0.148)
Birth year			-0.003	-0.003
			(0.000)	(0.000)

High school graduate	0.028	0.023
	(0.039)	(0.042)
Some college	0.010	0.007
	(0.039)	(0.041)
Two-year degree	-0.001	-0.004
	(0.042)	(0.044)
Four-year degree	0.007	0.004
	(0.040)	(0.043)
Post graduate degree	0.011	0.004
	(0.042)	(0.044)
Not very strong Democrat	-0.037	-0.038
	(0.020)	(0.021)
Lean Democrat	0.003	0.007
	(0.020)	(0.021)
Independent	0.024	0.033
	(0.017)	(0.018)
Lean Republican	0.025	0.031
	(0.018)	(0.018)
Not very strong Republican	0.020	0.021
	(0.019)	(0.019)
Strong Republican	0.014	0.021
	(0.014)	(0.014)
Not sure which party	-0.051	-0.091

			(0.048)	(0.048)
log(2020 Voting-Age Population)			-0.046	
			(0.006)	
State-by-Year FE	No	Yes	Yes	Yes
County FE	No	No	No	Yes
Observations	13,212	13,212	13,167	12,994

Robust standard errors clustered by county reported in parentheses. Data is limited to counties where only one official is responsible for directing all or nearly all aspects of election administration. Each observation is one respondent to the Survey of the Performance of American Elections. Observations are weighted according to the weights provided by the survey team. Turnover refers to a change in the election official since the election two years prior.

Table A.24: Effect of Election Official Turnover on Share of Voters Reporting Wait Between 1 and 10 Minutes, All Coefficients.

	Wait Between 1 and 10 Minutes {0,1}			
	(1)	(2)	(3)	(4)
Turnover	0.015	0.004	0.005	0.013
	(0.012)	(0.014)	(0.014)	(0.014)
Female			0.002	-0.001
			(0.010)	(0.010)
Black			-0.033	-0.044
			(0.030)	(0.029)
Hispanic			0.051	0.052
			(0.026)	(0.026)
Asian			0.076	0.092
			(0.035)	(0.034)
Native American			0.078	0.094
			(0.059)	(0.063)
Two or more races			-0.010	-0.005
			(0.044)	(0.044)
Other race			-0.028	-0.032
			(0.033)	(0.034)
Middle Eastern			-0.177	-0.168
			(0.120)	(0.130)
Birth year			0.001	0.001
			(0.000)	(0.000)

High school graduate	0.008	0.018
	(0.032)	(0.033)
Some college	0.031	0.045
	(0.032)	(0.032)
Two-year degree	0.038	0.045
	(0.035)	(0.035)
Four-year degree	0.018	0.031
	(0.033)	(0.033)
Post graduate degree	0.018	0.036
	(0.033)	(0.033)
Not very strong Democrat	0.043	0.045
	(0.018)	(0.018)
Lean Democrat	0.024	0.016
	(0.019)	(0.020)
Independent	0.018	0.011
	(0.018)	(0.019)
Lean Republican	0.024	0.017
	(0.017)	(0.017)
Not very strong Republican	0.023	0.023
	(0.017)	(0.018)
Strong Republican	0.010	0.005
	(0.014)	(0.014)
Not sure which party	0.020	0.035

			(0.052)	(0.055)
log(2020 Voting-Age Population)			0.001	
			(0.005)	
State-by-Year FE	No	Yes	Yes	Yes
County FE	No	No	No	Yes
Observations	13,212	13,212	13,167	12,994

Robust standard errors clustered by county reported in parentheses. Data is limited to counties where only one official is responsible for directing all or nearly all aspects of election administration. Each observation is one respondent to the Survey of the Performance of American Elections. Observations are weighted according to the weights provided by the survey team. Turnover refers to a change in the election official since the election two years prior.

Table A.25: Effect of Election Official Turnover on Share of Voters Reporting Wait Between 10 and 30 Minutes, All Coefficients.

	Wait Between 10 and 30 Minutes {0,1}			
	(1)	(2)	(3)	(4)
Turnover	0.000	-0.001	-0.004	-0.014
	(0.015)	(0.011)	(0.011)	(0.012)
Female			-0.018	-0.016
			(0.009)	(0.009)
Black			0.038	0.044
			(0.025)	(0.025)
Hispanic			0.027	0.019
			(0.022)	(0.022)
Asian			-0.020	-0.018
			(0.028)	(0.030)
Native American			0.004	0.002
			(0.032)	(0.034)
Two or more races			0.037	0.019
			(0.035)	(0.034)
Other race			0.007	-0.002
			(0.021)	(0.022)
Middle Eastern			-0.181	-0.156
			(0.026)	(0.037)
Birth year			0.001	0.001
			(0.000)	(0.000)

High school graduate	-0.028	-0.040
	(0.033)	(0.037)
Some college	-0.033	-0.046
	(0.032)	(0.035)
Two-year degree	-0.042	-0.053
	(0.031)	(0.035)
Four-year degree	-0.022	-0.035
	(0.031)	(0.035)
Post graduate degree	-0.033	-0.044
	(0.032)	(0.036)
Not very strong Democrat	0.006	0.008
	(0.016)	(0.016)
Lean Democrat	-0.007	-0.006
	(0.015)	(0.016)
Independent	-0.032	-0.030
	(0.012)	(0.013)
Lean Republican	-0.020	-0.018
	(0.014)	(0.015)
Not very strong Republican	-0.027	-0.024
	(0.013)	(0.014)
Strong Republican	-0.018	-0.019
	(0.010)	(0.011)
Not sure which party	0.077	0.102

			(0.048)	(0.052)
log(2020 Voting-Age Population)			0.022	
			(0.003)	
State-by-Year FE	No	Yes	Yes	Yes
County FE	No	No	No	Yes
Observations	13,212	13,212	13,167	12,994

Robust standard errors clustered by county reported in parentheses. Data is limited to counties where only one official is responsible for directing all or nearly all aspects of election administration. Each observation is one respondent to the Survey of the Performance of American Elections. Observations are weighted according to the weights provided by the survey team. Turnover refers to a change in the election official since the election two years prior.

Table A.26: Effect of Election Official Turnover on Share of Voters Reporting Wait Between 30 and 60 Minutes, All Coefficients.

	Wait Between 30 and 60 Minutes {0,1}			
	(1)	(2)	(3)	(4)
Turnover	0.014	0.029	0.028	0.026
	(0.012)	(0.007)	(0.007)	(0.007)
Female			-0.001	-0.003
			(0.006)	(0.006)
Black			0.013	0.016
			(0.023)	(0.024)
Hispanic			-0.001	-0.001
			(0.012)	(0.012)
Asian			0.006	0.003
			(0.021)	(0.021)
Native American			-0.003	-0.010
			(0.023)	(0.026)
Two or more races			0.011	0.018
			(0.021)	(0.023)
Other race			0.013	0.016
			(0.016)	(0.016)
Middle Eastern			-0.048	-0.071
			(0.056)	(0.072)
Birth year			0.000	0.001
			(0.000)	(0.000)

High school graduate	-0.015	-0.009
	(0.020)	(0.017)
Some college	-0.012	-0.007
	(0.019)	(0.016)
Two-year degree	0.006	0.013
	(0.021)	(0.019)
Four-year degree	-0.005	0.001
	(0.020)	(0.018)
Post graduate degree	-0.005	-0.003
	(0.021)	(0.019)
Not very strong Democrat	0.000	-0.002
	(0.010)	(0.011)
Lean Democrat	-0.019	-0.019
	(0.008)	(0.008)
Independent	-0.007	-0.011
	(0.008)	(0.009)
Lean Republican	-0.027	-0.030
	(0.008)	(0.009)
Not very strong Republican	-0.005	-0.006
	(0.008)	(0.009)
Strong Republican	0.000	0.001
	(0.007)	(0.007)
Not sure which party	-0.039	-0.040

			(0.011)	(0.013)
log(2020 Voting-Age Population)			0.014	
			(0.002)	
State-by-Year FE	No	Yes	Yes	Yes
County FE	No	No	No	Yes
Observations	13,212	13,212	13,167	12,994

Robust standard errors clustered by county reported in parentheses. Data is limited to counties where only one official is responsible for directing all or nearly all aspects of election administration. Each observation is one respondent to the Survey of the Performance of American Elections. Observations are weighted according to the weights provided by the survey team. Turnover refers to a change in the election official since the election two years prior.

Table A.27: Effect of Election Official Turnover on Share of Voters Reporting Wait Over 1 Hour, All Coefficients.

	Wait Over 1 Hour {0,1}			
	(1)	(2)	(3)	(4)
Turnover	-0.006	0.002	0.001	-0.004
	(0.005)	(0.004)	(0.004)	(0.005)
Female			0.002	0.003
			(0.003)	(0.003)
Black			0.009	0.010
			(0.015)	(0.014)
Hispanic			0.007	-0.003
			(0.011)	(0.010)
Asian			-0.010	-0.013
			(0.011)	(0.013)
Native American			0.000	0.002
			(0.011)	(0.013)
Two or more races			-0.014	-0.014
			(0.005)	(0.005)
Other race			-0.003	-0.006
			(0.008)	(0.008)
Middle Eastern			-0.033	-0.020
			(0.014)	(0.012)
Birth year			0.000	0.000
			(0.000)	(0.000)

High school graduate	0.008	0.007
	(0.010)	(0.010)
Some college	0.004	0.001
	(0.010)	(0.011)
Two-year degree	-0.000	-0.001
	(0.010)	(0.011)
Four-year degree	0.002	-0.001
	(0.010)	(0.010)
Post graduate degree	0.009	0.006
	(0.011)	(0.011)
Not very strong Democrat	-0.013	-0.012
	(0.006)	(0.006)
Lean Democrat	-0.000	0.001
	(0.006)	(0.006)
Independent	-0.003	-0.003
	(0.006)	(0.006)
Lean Republican	-0.002	-0.000
	(0.005)	(0.005)
Not very strong Republican	-0.011	-0.014
	(0.006)	(0.006)
Strong Republican	-0.007	-0.008
	(0.005)	(0.005)
Not sure which party	-0.007	-0.005

			(0.009)	(0.010)
log(2020 Voting-Age Population)			0.008	
			(0.001)	
State-by-Year FE	No	Yes	Yes	Yes
County FE	No	No	No	Yes
Observations	13,212	13,212	13,167	12,994

Robust standard errors clustered by county reported in parentheses. Data is limited to counties where only one official is responsible for directing all or nearly all aspects of election administration. Each observation is one respondent to the Survey of the Performance of American Elections. Observations are weighted according to the weights provided by the survey team. Turnover refers to a change in the election official since the election two years prior.