



## Introduction

This analysis summarizes findings from an ongoing study of the impact of voting rights on environmental health risks. Restrictive election laws distort representation to favor entrenched, powerful interests. This has not only weakened environmental regulations (possibly leading to poorer air quality in many communities) but also weakened the ability of citizens in these communities to preserve or enact local environmental protections. Overall, congressional districts in gerrymandered states exhibit poorer air quality, consistent with the notion that these legislatures are less responsive to communities that suffer the burdens of unregulated environmental degradation.

Assessing the impact of three areas of electoral law on voter turnout, we find that representation, particularly in these overburdened communities, could be substantially improved by reducing registration barriers, making voting more convenient, and establishing nonpartisan election districts that represent constituents more proportionally and accurately. While many states have restricted voter choice, especially since 2012, others have embraced these and other evidence-based reforms. Adopting these reforms on a larger scale would improve the responsiveness of government, from the local to the national level.

## Why Healthy Communities Require Healthy Democracy

A large body of research has shown that people of color and those living in poverty are located more often in communities that are exposed to disproportionately higher levels of environmental pollution—termed environmental justice communities or overburdened communities—than are whites or people not living in poverty (Collins, Munoz, and JaJa 2016; Cushing et al. 2015; Bullard, Johnson, and Torres 2011; Ash et al. 2009).

Higher pollution levels can amplify other negative socioeconomic and health factors, including lack of access to health care, healthy foods, and public transportation; poor housing conditions and infrastructure; and stress from poverty, unemployment, and crime (Prochaska et al. 2014; O’Neill et al. 2003).

Social inequalities are historically linked to political inequalities. When signing the Voting Rights Act of 1965 into law, President Lyndon Johnson called voting “the most powerful instrument ever devised by man for breaking down injustice and destroying the terrible walls which imprison men because they are different from other men” (Johnson 1966). The fundamental principle underlying democratic

voting is political equality. That is, all citizens should have equal access to an equally weighted vote, so that when we exercise the right, the aggregation of votes—and the policies that reflect that representation—is not biased in favor of any group or individual.

Changes to electoral rules over the last century have generally led to greater political equality, especially through the expansion of the suffrage to women and the abolition (enforced through the Voting Rights Act) of literacy tests, poll taxes, and related mechanisms designed to reverse the impact of increased black political participation under Reconstruction (Davidson and Grofman 1994).

Today, voting remains more costly to some than to others, as those who possess greater resources (i.e., education, money, time) are better able to absorb costs, overcome electoral barriers, and participate at higher rates. Remaining barriers to turnout and equitable representation thus leave communities of color, who may be directly targeted for voter discrimination, as well as the less affluent overall, with a suppressed voice in the democratic process (Bartels 2016; Gilens and Page 2014; Schlozman, Verba, and Brady 2012).

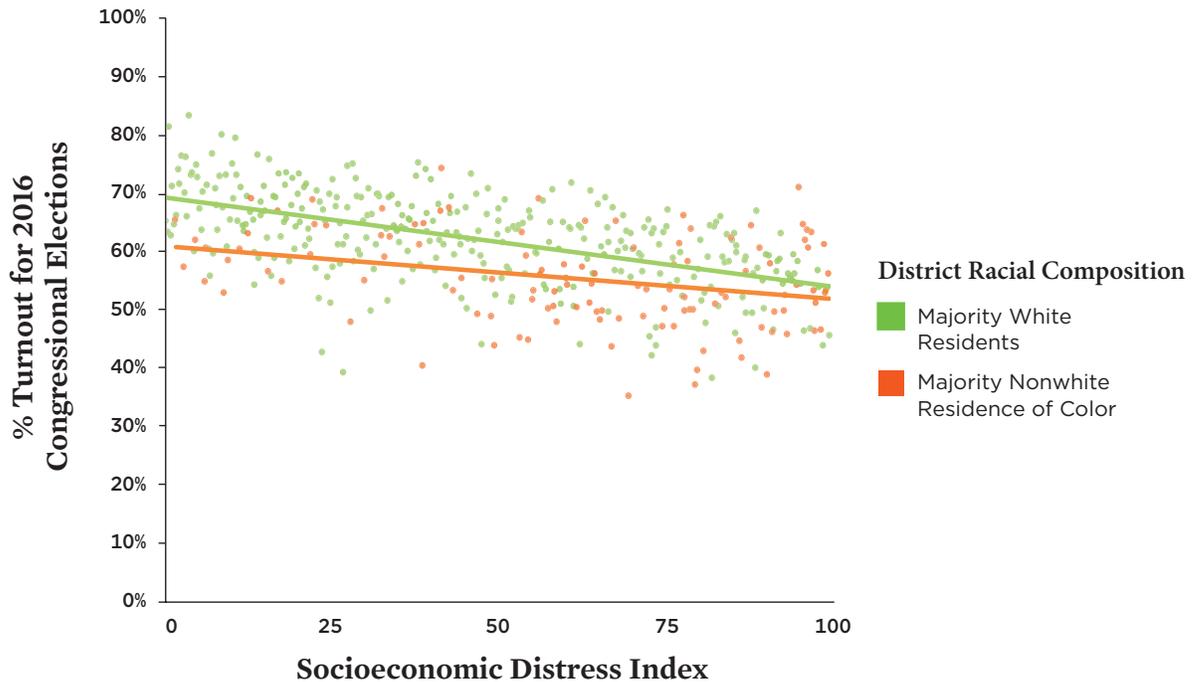
Voting is also a habitual behavior (Dinas 2012; Aldrich, Montgomery, and Wood 2011; Gerber, Green, and Shachar 2003). Past voting behavior is a strong predictor of future voting, and a social environment that is rich in cues favorable to voting sustains high levels of voting. Alternatively, communities lacking anticipatory signals, including voter mobilization efforts, are less likely to develop a habit of voting among their residents.

Previous research also suggests that environmental health risks may be directly associated with lower voter turnout (Kilgore 2018; Diaz 2016). In addition to the socioeconomic depression of turnout caused by unhealthy environmental conditions, poor health and lower life expectancy directly result in fewer people voting.

For all these reasons, distressed communities exhibit considerably lower participation in elections. Congressional districts with higher levels of community distress are more likely to be districts where the majority of residents are people of color (Figure 1). In 2016 (and in previous elections), distressed districts voted at lower rates compared with more affluent, majority white districts. Deficits in electoral participation have a disproportionate impact in disadvantaged communities. Yet participation is not merely a function of individual resources. Rules matter.

Contemporary scholars have identified a variety of constraints that continue to depress voter turnout, including early registration deadlines, felon disenfranchisement, limited election timing, and possibly strict voter identification (ID)

FIGURE 1. Socioeconomic Distress Affects Voter Turnout



More socioeconomically distressed districts, which are more likely to be districts in which the majority of residents are people of color, exhibit lower voter turnout.

Note: The socioeconomic distress index is based on the Economic Innovation Group’s 2017 Distressed Communities Index, a composite index of economic and social conditions by congressional district, based on change in employment, change in the number of business establishments, education, housing vacancy, median income, poverty rate, and unemployment.

SOURCE: EIG 2017.

requirements (Biggers and Hanmer 2017; King and Erickson 2016; Smith 2016; Herron and Smith 2014; Alvarez, Bailey, and Katz 2008; Brians and Grofman 2001).

### Court Reversals, Weakened Voting Rights, and Legislative Dysfunction

Numerous legal barriers to full political equality remain institutionalized throughout the United States. Moreover, a string of recent decisions from the Supreme Court has weakened the Voting Rights Act, and entrenched interests in many state legislatures threaten to further erode constitutional protections against voting discrimination. The amplification of partisan gerrymandering in the United States can be traced directly back to the Supreme Court’s 2004 decision in *Vieth v. Jubelirer*. A plurality of justices in that case, led by Antonin Scalia, held that partisan gerrymanders were nonjudicable and that courts could not intervene (Keena et al. 2017).

In 2013, the decision in *Shelby County v. Holder* removed preclearance standards from states that were formerly regulated under the Voting Rights Act. These standards required states to clear any electoral rule changes with the Department of Justice. Not surprisingly, following the *Shelby County* decision, several of these states implemented more restrictive election laws (BCJ 2018a).

In 2018, the Supreme Court again refused to set limits on extreme partisan gerrymandering in *Gill v. Whitford*, upheld a districting plan demonstrated to be a racial gerrymander in *Abbott v. Perez*, and also upheld the restrictive voter purging process of Ohio’s registered voter list in *Husted v. A. Philip Randolph Institute*. These decisions strongly suggest that, especially after replacing Supreme Court Justice Anthony Kennedy (who retired in July 2018), the federal courts will no longer be an effective avenue for protecting voting rights as certain state legislatures push to further restrict the size and composition of the electorate.



AP Photo/Carolyn Kaster

*Extreme gerrymandering and limited voting access in Flint, Michigan, led to an entrenchment of political power that culminated in the governor knowingly switching municipal water systems to the Flint River. More than 100,000 residents were exposed to lead and other contaminants flowing in the river.*

The opportunistic reaction in some state legislatures to this weakening of protections can be traced directly to the same organizations that disseminate climate change disinformation and advocate deregulation of environmental protections (Gomberg 2014). Specifically, the American Legislative Exchange Council, the Election Law Reform Initiative, and similar groups have supported the adoption of more restrictive election laws by state legislatures. In several states, these groups have supported legislation including proof of citizenship requirements for voter registration and strict photo ID laws. They have also helped engineer extreme partisan gerrymanders in states such as Wisconsin and Michigan, insulating entrenched interests from public accountability (Daley 2018; Swenson 2017).

Broader policy consequences have also followed this entrenchment of political power. In Flint, Michigan, public safety was willfully neglected after the state legislative majority—kept in power through an extreme partisan gerrymander and limited voting access—ignored public sentiment by passing an “emergency manager” law that was previously rejected at the ballot box (Wolf 2016). That law allowed the governor to usurp Flint’s fiscal authority and knowingly switch the municipal water systems to the contaminated Flint River,

exposing more than 100,000 residents to lead and other contaminants (Guyette 2016).

Several other state legislatures, insulated by restrictive election laws, have imposed preemption laws on local governments to prevent citizens from pursuing local solutions to their problems (Dewan 2018). Alabama—one of the most restrictive, gerrymandered states in the country—has prevented cities from enacting paid sick leave for workers, while other states have prevented local bans on fracking as well as LGBT protections. In short, restrictive electoral institutions make it more difficult for people to vote, and unless votes are counted through a fair process, representation is further distorted. Advantaged interests then exercise a disproportionate influence over the law, including the regulation of environmental and other health hazards.

### Comparing the Impact of Electoral Rules on Voting

An electoral system consists of a variety of interlocking rules, all of which shape the selection and expression of public preferences through elections. The presence or absence of specific rules in the 2014 and 2016 election cycles provides a

way to measure voting convenience, from more to less restrictive. In some states, these rules are only partially in effect in certain counties or apply only to qualified persons, in which case the state is not counted as having that electoral feature. Further, in some cases (e.g., North Carolina), challenges brought by lawsuits changed election laws as an election approached, so we caution against overly broad generalizations from these findings as the magnitude of effects is likely to change across elections based on such circumstances.

Our analysis compares the impact of these rules on voting using the measures outlined in the following sections.

### VOTING ELIGIBILITY

As Figure 2 illustrates, the first factor that shapes voting is eligibility, the determination of who can vote. In the United States, registration requirements have long been implemented to exclude specific populations from voting (Tokaji 2008). With the passage of the Voting Rights Act and a series of Supreme Court decisions to enforce it, historically discriminatory eligibility barriers such as literacy tests, poll taxes, and white primaries have been abolished.

Contemporary research has shown that strict registration requirements continue to limit participation (Leighley and Nagler 2013; Brians and Grofman 2001). By contrast, “opt-out” programs such as automatic voter registration (AVR) should increase participation, as well as election security, by requiring regularly updated content on voter lists—as long as those voter lists are not purged of eligible voters through sloppy management, a practice that the Supreme Court has unfortunately upheld (BCJ 2018b; Latner 2018a). States vary widely on deadlines to register and ease of registration (online, same day, etc.).

Whether allowing convicted felons to vote increases participation is a controversial social and empirical question. Empirical results are mixed, but some evidence exists that felon enfranchisement can have positive community effects on participation (King and Erickson 2016; Meredith and Morse 2015; Miles 2004).

The scale of voting eligibility takes all these variations into account. States on the low end of the scale have permanent felon disenfranchisement and early registration requirements. States on the high end of the scale feature felon voting and same-day or automatic voter registration in place the year prior to the election.

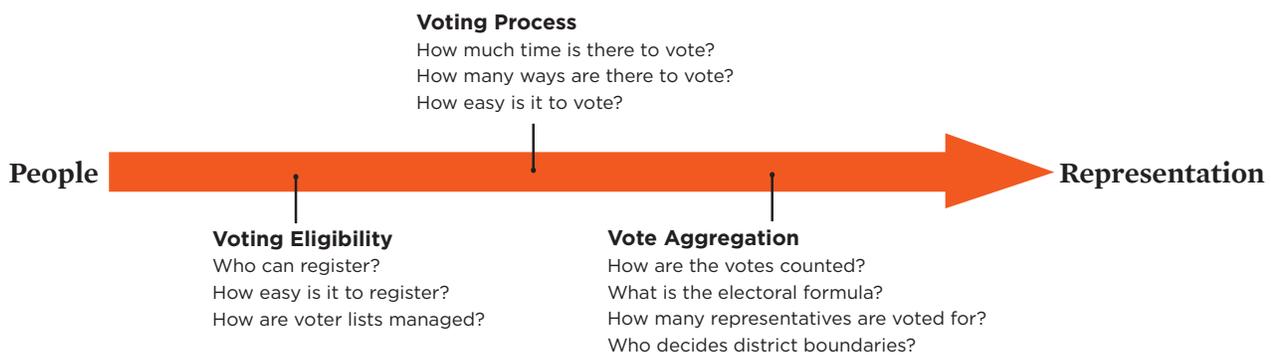
### VOTING PROCESS

The voting process itself can serve as either a barrier or bridge to fair representation. Previous studies have shown that early voting—at least in-person early and weekend (as opposed to only mail or absentee) voting—can increase voter turnout, and that removing or limiting early voting can decrease it (Walker, Herron, and Smith 2018; Herron and Smith 2014).

Similarly, while there is no consensus on the overall impact of strict voter ID requirements—as effects tend to be sensitive to campaign and local environments—there is growing evidence that at least the strictest of these laws has a disparate impact on nonhabitual voters (Herron and Smith 2016; Barreto, Nuño, and Sanchez 2009; Alvarez, Bailey, and Katz 2008).

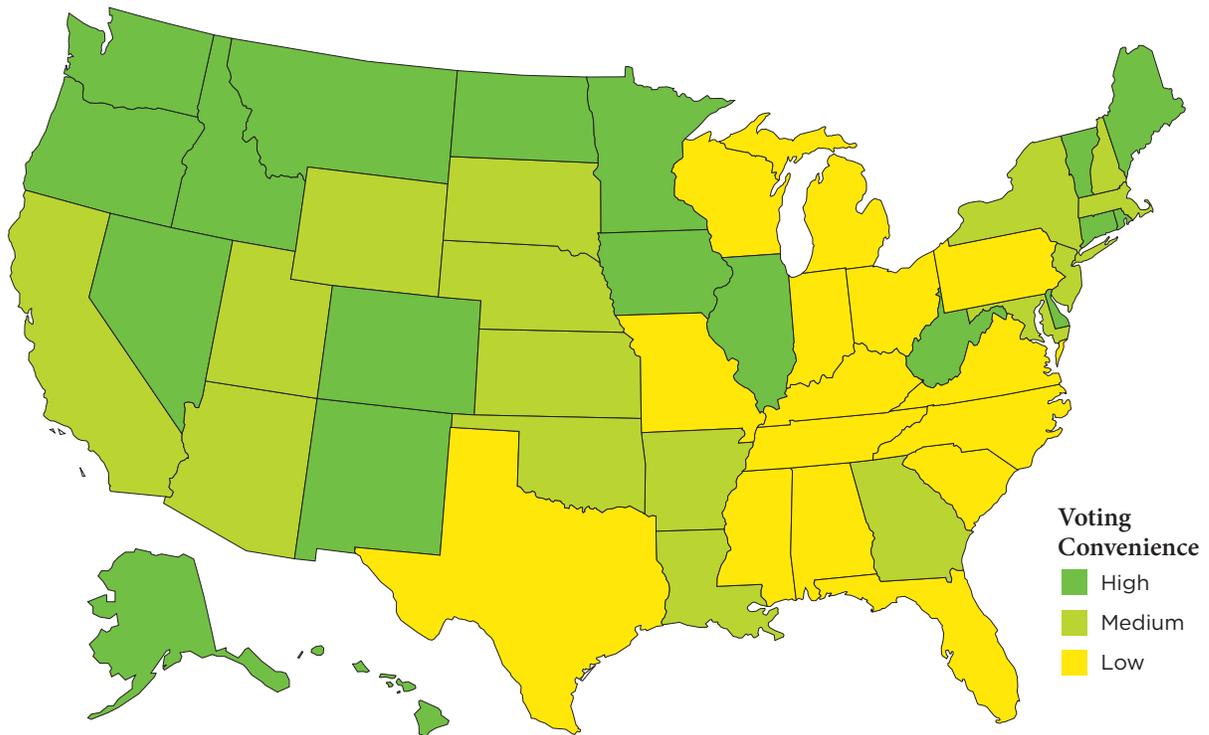
The voting process scale captures these variations, ranging in value from states with no early voting and a strict ID requirement, to states with weekend and early in-person voting, and no ID requirement.

FIGURE 2. Three Stages of Electoral Rules that Shape Electoral Representation



*Along the path from public participation to electoral representation, numerous factors can affect voter turnout.*

FIGURE 3. Voting Convenience in the United States



Overall voting convenience—measured in terms of voting eligibility and the voting process—varies considerably from state to state. This variation can be especially problematic in states with large numbers of congressional representatives; inconvenient voting processes give advantaged interests a disproportionate influence over the law, including the regulation of environmental and other health hazards.

Figure 3 provides a map of voting convenience across states, combining the eligibility and process measures to identify states with low, medium, and high convenience. The states with the lowest scores include Alabama, Mississippi, and Virginia, while voting in Minnesota, Montana, and North Dakota is currently among the most convenient in the nation.

The territory of Puerto Rico (and other territories) would normally receive a fairly high convenience rating, given that felons are enfranchised (and the state uses a semiproportional electoral formula). Under the territory’s system, political parties have a strong incentive to promote and a history of aggressive voter mobilization, helping to explain why Puerto Rico regularly exhibits far higher turnout than any US state (Green-Armytage 2006).

However, the fact that Puerto Rico is unable to elect representatives to Congress would place it at the bottom of any US scale of voting convenience, because citizens there are excluded from effective representation nationally. Similarly, while the District of Columbia has exceptionally open electoral rules, voters there are also denied full representation, and the District is therefore placed at the bottom of the scale.

### VOTE AGGREGATION

Third, the rules governing the casting and counting of votes, and the conversion of votes into seats for elective office, shape incentives and opportunities to participate. Specifically, comparative research has demonstrated that there is higher turnout and accurate representation in terms of geography, gender, and race under systems that rely on more proportional—as opposed to “winner take all”—elections (Blais 2006; Latner and McGann 2005; Powell 2000).

Moreover, to the extent that racial or partisan gerrymandering creates districts in which voters have little capacity to elect a candidate of choice—or are guaranteed a representative from their party—uncompetitive elections also reduce turnout. Independent of the bias of districting plans, the widespread use of single-seat, winner-take-all electoral districts for Congress and most state legislatures yields systematically lower turnout, compared with more proportional, multiparty systems (Blais 2006; Karp and Banducci 1999).

Figure 4 highlights the states that gerrymandered their districting plans after the 2010 Census. Note the correlation

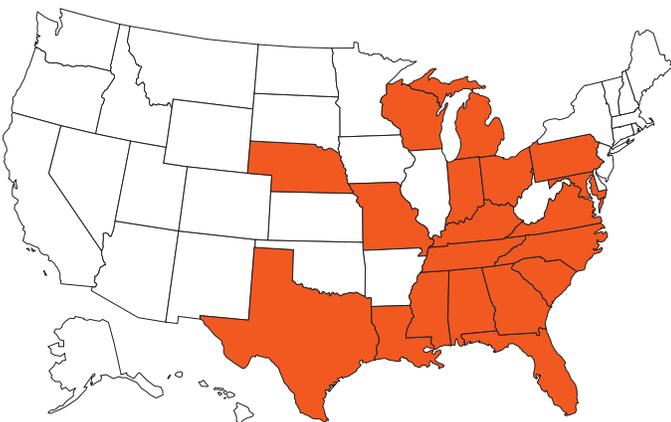
of that status with states that also have more restrictive eligibility and voting laws. Some of the most gerrymandered states in the country (e.g., Alabama, Michigan, Mississippi) have also retracted eligibility and ballot access laws since entrenched interests took control after 2012 (BCJ 2018a). In one of the most egregious acts of discrimination, North Carolina’s legislative majority was found by a federal court in 2016 to have aimed to “target African Americans with almost surgical precision” by imposing a strict, carefully crafted voter ID law, along with new restrictions on early and weekend voting (Ingraham 2016). The restrictions were eventually overturned.

This analysis measures biased districting using the measure of partisan symmetry (McGann et al. 2015; Grofman and King 2007). This is a measure of the advantage that one party’s voters have over an opposition party, given the same vote share. The impact of gerrymandering on voter turnout is not straightforward. For example, many severe gerrymanders have been imposed in “battleground” states, relying on competitive but stable district victories where participation is high.

#### PARTISAN COMPETITION

In addition to directly influencing voter turnout through eligibility restrictions, the voting process, and gerrymandering, electoral systems shape partisan competition, which in

FIGURE 4. States with Gerrymandered Congressional Districting after 2011 Redistricting



*Gerrymandering, which produces biased districts, varies greatly from state to state and can have a significant impact on fair representation in state and federal legislatures.*

Note: Maryland is gerrymandered in favor of Democratic voters. All other gerrymandered states favor Republican voters.

SOURCE: MCGANN ET AL. 2016.

***Elections often go uncontested in heavily Republican and Democratic districts, leaving nobody for opposition voters to support.***

turn affects who participates. For example, the geographic concentration of large majorities of a party’s voters in single-seat electoral districts makes it inefficient for opposition parties to mount credible campaigns. As a result, elections often go uncontested in heavily Republican and Democratic districts, leaving nobody for opposition voters to support. This can reduce not only turnout but also legislative performance (Konisky and Ueda 2011; Tucker 2004; Gilliam 1985).

Uncontested elections in these districts are identified in this analysis to account for the reduction in votes cast. Further, victory margins of winning state and presidential candidates are used to control for competition effects, as competitive races and states attract more attention, campaign spending, and votes compared with those dominated by a single political party (McDonald 2001; Caldeira, Patterson, and Markko 1985).

#### ELECTORAL INTEGRITY

In addition to registration requirements, ballot access, and districting practices, many other institutional and contextual features of electoral systems affect electoral participation. To account for these other factors, two additional, widely recognized measures of electoral integrity are included in the Union of Concerned Scientists’ (UCS) turnout model: the Electoral Integrity Project’s Perceptions of Electoral Integrity Index for US states (Norris, Cameron, and Wynter 2018) and the Elections Performance Index (Pew Charitable Trusts 2016).

These indices measure the quality of US state election systems across a number of performance measures, including media coverage of campaigns, number of ballots rejected during an election, public availability of election data, quality of campaign laws, and reports of precinct problems. Including these as controls in the turnout model can help prevent mistaking other institutional effects for those associated with eligibility, process, and aggregation rules. These measures are not significantly correlated with each other or with other institutional measures.

## Analysis

Congressional voter turnout is estimated for 2014 and 2016 using congressional election returns and estimates of the voting age population provided by the American Community Survey’s five-year cumulative data. The survey estimates are weighted by state turnout estimates provided by the United States Elections Project (McDonald 2018).

### SOCIOECONOMIC AND ENVIRONMENTAL EFFECTS ON TURNOUT PERSIST

Before analyzing institutional effects on turnout, it is important to acknowledge (and account for) the persistent, depressive impact that socioeconomic distress and poor air quality (i.e., toxin exposure) have on congressional voter turnout, independent of other factors. Even after accounting for all institutional and political factors, socioeconomic distress (as measured by EIG 2017) still had the largest overall impact on voter turnout in the 2016 elections, as illustrated in Figure 5.

This figure is useful for comparing the relative strength of multiple factors on voter turnout, as the further away a plotted point is from the center line, the stronger the impact. Socioeconomic distress had more than twice the impact of any set of election rules in the 2016 elections, although the strength of the effect weakened considerably in midterm elections. Overall voter turnout is regularly about 20 percentage points higher during presidential elections (DeSilver 2014). This pattern suggests that the increase was concentrated in more affluent districts, increasing the inequality in turnout between more and less distressed districts.

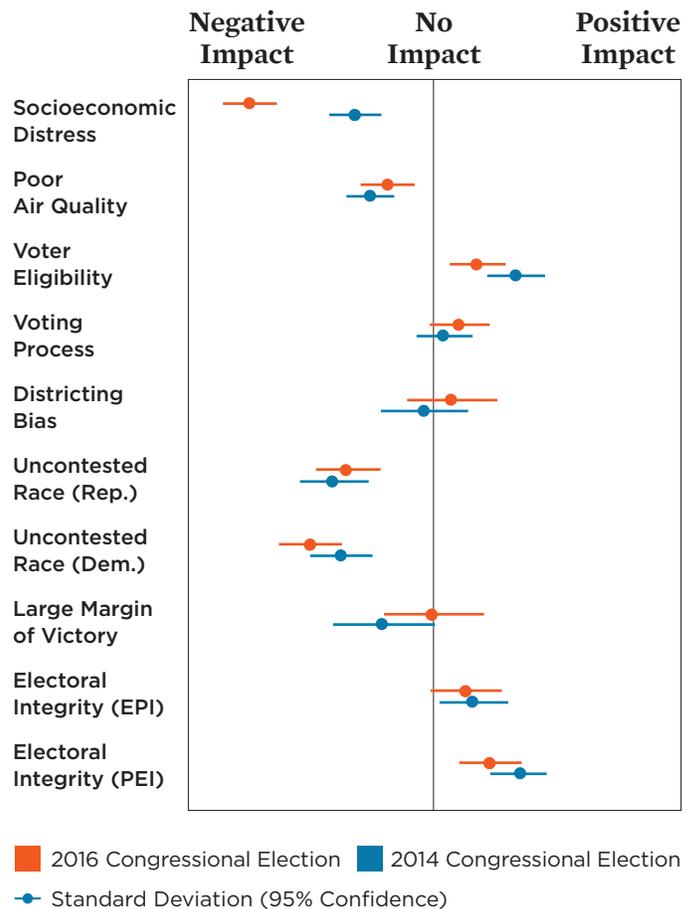
To capture the impact of environmental inequalities, median air toxin exposure for congressional districts is measured using the Environmental Protection Agency’s Risk-Screening Environmental Indicators model for the year 2010 (Boyce, Ash, and Zwickl 2014). The model includes air releases of more than 400 chemicals from more than 15,000 industrial facilities. Data are provided by the Institute for New Economic Thinking. The capacity for poor air quality to depress turnout was nearly as strong as the effect of any set of electoral rules, across both elections. The impact of air toxin exposure in the 2014 congressional midterms was actually equivalent to that of socioeconomic distress, reflecting about a 5 to 7 percent decrease in voter turnout for the congressional election.

### VOTING ELIGIBILITY AND PARTISAN COMPETITION STRONGLY AFFECT TURNOUT

The results generally support the conventional wisdom, to the extent that we can compare our findings with others.

Eligibility requirements appear to have the strongest overall impact on turnout. While it is unlikely that a reform such as felon re-enfranchisement would have a major impact, given the small proportion of the population affected, it is important to note that enfranchisement would presumably have a greater impact in communities most affected by the exclusion of felons from the electorate (King and Erickson 2016).

FIGURE 5. The Impact of Socioeconomic, Environmental, and Political Factors on Voter Turnout



*Socioeconomic distress had the largest negative impact by far on voter turnout in the 2016 election, while voter eligibility requirements and electoral integrity had the most positive impact.*

Note: The figure illustrates standardized regression estimates of factors that affect congressional voting age turnout at the district level (n=435). Factor placement farther away from the center line indicates greater positive or negative impact on turnout. Confidence intervals (95%) that cross the center line are not statistically significant. Electoral integrity factors are explained in more detail in the “Electoral Integrity” section on p. 7. State competitiveness, racial demographics (district percentage of Latinx and black voting-age residents), and regional variations were also controlled for. Adjusted R-squared (2014)=0.70, (2016)=0.67.

SOURCES: NORRIS, CAMERON, AND WYNTER 2018; EIG 2017; US CENSUS 2017; PEW CHARITABLE TRUSTS 2016; BOYCE, ASH, AND ZWICKL 2014.

Expanding eligibility has a significant impact on turnout in both midterm and presidential-year elections; this is consistent with previous research findings that later registration dates and election-day registration boost turnout (Leighley and Nagler 2013; Briens and Grofman 2001). More recently, in Oregon, AVR—which expands the pool of eligible voters beyond any previous reform—brought thousands of additional voters to the polls (Griffin et al. 2017), and we will soon have data concerning AVR from several more states. Eligibility effects may be more pronounced during midterm elections, when election information, including information about eligibility requirements, is generally lower.

Convenient voting process rules (early voting, weekend voting, no ID requirements) indicate a statistically significant impact in the general election, but mixed results are also consistent with previous research (Burden and Gaines 2015; McDonald, Shino, and Smith 2015; Gronke et al. 2008; Stein and García-Monet 1997). It should be noted that the impact of voter ID requirements has been difficult to measure consistently (Hajnal, Lajevardi, and Nielson 2017; Stewart, Ansolabehere, and Persily 2016; Alvarez, Bailey, and Katz 2008). However, improved research designs with individual-level data suggest that these specific types of restrictions do negatively affect targeted communities and infrequent voters (Herron and Smith 2016; Herron and Smith 2014).

As anticipated, there is no direct negative impact from congressional gerrymandering on turnout, but the impact of uncontested races is pronounced. Uncontested races reduce turnout more than any other feature accounted for, save socioeconomic distress, in a presidential election. Less competitive races in midterm elections also significantly reduce turnout, but not in a presidential election, where statewide electoral forces drive turnout (DeSilver 2014).

Finally, both of the supplementary integrity measures (assessing integrity of other aspects of electoral systems) indicate statistically significant, positive association with voter turnout, suggesting that there are other aspects of election administration that could effectively improve voter participation.

***Expanding voter eligibility has a significant impact on turnout in both midterm congressional elections and presidential-year elections.***

## Gerrymandered States Exhibit Higher Toxin Exposure

Higher Air Quality, Unbiased Districting					Higher Air Quality, Biased Districting				
AK	AR	AZ	CA	CO	FL	MD	MS	NC	VA
DC	HI	IA	ID	ME					
MT	ND	NH	NM	NV					
RI	SD	VT	WA	WY					

Lower Air Quality, Unbiased Districting					Lower Air Quality, Biased Districting				
CT	DE	IL	KS	MA	AL	GA	IN	KY	LA
MN	NJ	NY	OK	OR	MI	MO	NE	OH	PA
UT	WV				SC	TN	TX	WI	

Note: Air quality is measured in terms of average toxin exposure within congressional districts. Gerrymandering of congressional districts is measured using partisan symmetry, a measure of the advantage that one party's voters have over another's at equal vote shares ( $t$ -test of difference in means = -2.52 at the state level, -4.74 at the district level.)

SOURCES: MCGANN ET AL. 2016; BOYCE, ASH, AND ZWICKL 2014.

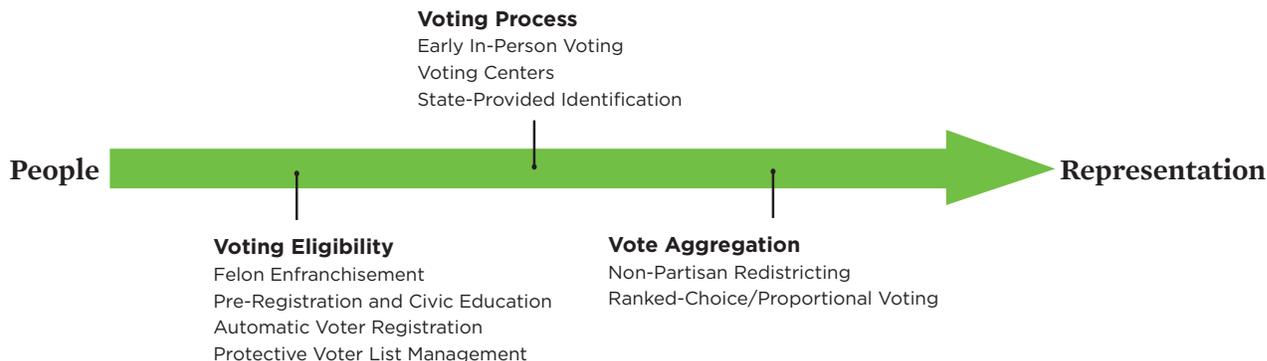
### BIASED DISTRICTING ASSOCIATED WITH HIGHER POLLUTION LEVELS

While the gerrymandering of congressional districts showed no direct impact on voter turnout, the analysis did reveal a connection between gerrymandering and air quality. As the table illustrates, states with biased districting plans are more likely to exhibit higher levels of air toxin exposure. This is the case at both the state and district levels. Obviously, the causal connection between gerrymandering and poor air quality is far from straightforward. However, this finding does support previous analysis indicating that gerrymandered legislatures affect the ideological content of state legislation (Caughey, Tausanovitch, and Warshaw 2017). The distortion of representation resulting from partisan gerrymandering may have a detrimental impact on communities after votes are cast. It is plausible that entrenched political parties are more likely to represent the interests of powerful elites—in particular, the same antiregulatory interests that have supported partisan gerrymanders and the passage of restrictive election laws.

### Upgrading the Tools of Democracy for Healthier Communities

This analysis illustrates the link among electoral laws that bias representation by further reducing participation in

FIGURE 6. Effective Electoral Reforms to Strengthen Representation



*Our analysis and previous research have identified several specific electoral reforms that could substantially improve representation for overburdened, underrepresented communities.*

already overburdened, environmental justice communities. The patterns observed in the analysis complement recent press reports of the negligence of many unresponsive legislatures around the country, including Congress (Corriher and Kennedy 2017; Wolf 2016). There are also many inspiring stories of communities rising up and reforming their electoral systems to reestablish the representative link between their populations and public policy. Additionally, several decades of political science research on the impact of electoral rules provide a body of evidence to guide reformers in choosing the most effective reform policies. Figure 6 identifies reforms to strengthen representation.

**VOTING ELIGIBILITY: EXPANDED AND SECURE VOTER REGISTRATION**

Currently, only Maine, Vermont, and Puerto Rico allow felons to vote while incarcerated. While there is no consensus on the overall participatory impact of felon enfranchisement, targeted mobilization has shown promising results. In April 2017, Virginia governor Terry McAuliffe announced that he had restored voting rights to more than 156,000 citizens who had completed their prison sentences. Thousands of “new” voters then participated in Virginia’s state elections that year (Newkirk 2018). This November in Florida, the Voting Rights Restoration for Felons Initiative would restore the voting rights of people with prior felony convictions other than murder or sexual offenses.

Led by local reform groups such as the Bus Project (2018), in January 2016 Oregon became the first state in the country to adopt AVR. The Department of Motor Vehicles identifies eligible citizens and notifies them that they will be added to the voter rolls, unless they choose to opt out. In the November 2016 election, turnout is estimated to have

increased 2 to 3 percent as a result of the implementation of AVR (McElwee, Schaffner, and Rhodes 2017).

The implementation of AVR has the additional advantage of keeping voter rolls more accurate through electronic transfer of information across agencies. The AVR via DMV Initiative on the ballot this November in Nevada would register voters when receiving services from the vehicle department. Twelve other states and the District of Columbia have already adopted or implemented AVR (BCJ 2018b).

Given the significant impact of expanding eligibility found in this analysis, it is important to note the role that *pre-registration* could play in enhancing electoral participation. According to the Brennan Center for Justice, 14 states—California, Colorado, Delaware, Florida, Hawaii, Louisiana, Maine, Maryland, Massachusetts, New Jersey, North Carolina, Oregon, Rhode Island, and Utah—and the District of Columbia have enacted legislation to allow 16- and 17-year-olds to register to vote (BCJ 2018b).

Crucially, pre-registration should be adopted only as part of a comprehensive high school civics curriculum that initiates young adults into the practice of being a voting citizen. Previous research suggests that pre-registration will not increase electoral participation unless students are prepared to engage in their new responsibility (McDonald 2009).

One final note on the capacity of improved registration laws to increase participation and improve representation: Because Ohio’s practice of discriminatory voter list purging has recently been upheld by the Supreme Court (Latner 2018b), even the most open registration systems are likely to be threatened in states where governments follow Ohio’s example. It is imperative that citizens aggressively work to stop the adoption of such laws wherever they emerge.



Associated Press/John Minichillo

A line of early voters in Columbus, Ohio, in November 2016. Early voting has been shown to improve voter turnout.

#### **VOTING PROCESS: GIVE VOTERS, AND PARTIES, OPPORTUNITY TO MOBILIZE**

While this analysis did not indicate that early voting, along with loose ID requirements, would give a significant boost to congressional district turnout, the impact reached near statistical significance in the 2016 general election, and the direction of the impact is positive. Effects appear to vary considerably by electoral context.

Considering the available research, the most effective reforms in this area would likely be early and weekend in-person voting, which incentivize political parties to mobilize voters to go to the polls. Some evidence also demonstrates that the adoption of voting centers—convenient locations at which voters can drop off ballots in the weeks prior to and on election day—can further enhance turnout (Stein and Vonnahme 2008).

Coupling early and weekend voting with voting centers could reduce individual barriers while amplifying party outreach incentives, including the provision of election parties and other civic events shown to increase turnout (Addonizio, Green, and Glaser 2009).

Finally, given the popularity and persistence of voter ID laws, despite the absence of evidence of voter fraud (Latner 2018b), we note the potential for a procedural reform such as state-provided voter ID as a means of publicly signaling the value of voting. An option advanced by previous

presidential commissions on electoral reform, this procedure could be easily coupled with AVR (Balz 2005).

#### **VOTE AGGREGATION: COMBINE NONPARTISAN DISTRICTING WITH VOTER CHOICE**

A great deal has already been said about the need to reform the process by which most states draw legislative districts (McGann et al. 2016; McGann and Latner 2013). Ending the practice of gerrymandering could have a substantial impact on legislative responsiveness.

In many gerrymandered states across the country, citizens are fighting to take control of the districting process—either by supporting ballot initiatives that are on November 2018 ballots, as in the cases of Colorado, Michigan (Voters Not Politicians 2017), Missouri (Clean Missouri 2017) and Utah, or through the legislative process, as in the cases of Pennsylvania (Fair Districts PA 2018), and Virginia (One Virginia 2021 2017). However, given the pronounced impact of uncompetitive districts on voter turnout, restoring faith and functionality in the democratic process will likely require more substantial reforms and action at the national level.

In 2018, with the backing of such groups as the League of Women Voters of Maine and the Committee for Ranked Choice Voting, Maine became the first state in the country to adopt ranked-choice voting in elections (LWVM 2018; CRCV 2017). Ranked-choice voting allows voters to voice their

preferences among multiple candidates, ensuring election outcomes that more accurately reflect public support. More than a dozen cities across the country have or are adopting ranked-choice voting systems in an effort to improve representation and government performance (FairVote 2018).

Similarly, proportional representation and the adoption of multimember districts are increasingly attractive reforms, given the capacity for proportional representation to increase competition—and with it, participation. Multimember districts can also eliminate gerrymandering as a political controversy, as they lower the consequences of boundary placements.

The comparative political science literature shows that proportional representation is an electoral adaptation that the world has been consistently moving toward (McGann and Latner 2013; Blais 2006; Soudriette and Ellis 2006; Powell 2000; Lijphart 1984). Allowing states to elect members of Congress using proportional representation would ensure a more accurate translation of votes to seats and would facilitate greater competition among political parties.

The Fair Representation Act—supported by groups such as FairVote and Third Way, and introduced into Congress by Representative Don Beyer (D-VA)—would address problems of gerrymandering and competitive elections directly with proportional representation. The legislation allows for multi-seat congressional districts (where several members serve the

same area) and more proportional electoral formulas to be used in congressional elections (Beyer 2017; FairVote 2017).

Finally, over the last 50 years, the Voting Rights Act has been the single most effective tool in breaking down systems of privilege in electoral discrimination, dramatically improving electoral participation and representation (Davidson and Grofman 1994). To address its recent weakening by the Supreme Court, the bipartisan Voting Rights Amendment Act and Voting Rights Advancement Act would update the coverage formulas for states and address other Supreme Court concerns. Civil rights advocates across the country have been fighting to enforce remaining provisions of the Voting Rights Act and expand voting rights.

### Conclusion

The distinct but overlapping causes for the advancement of environmental, voting, and human rights are converging in the face of a growing backlash against the voting rights movement and growing indifference in the courts. As climate scientist Dr. James Hansen recently acknowledged, “It’s very hard to see us fixing the climate, until we fix our democracy” (Gillis 2018).

People are responding—and advocating, innovating, and advancing the democratic process to build a healthier, safer

## CANDIDATES FOR CITY COUNCIL

for Term of Two Years

### Instructions to Voters

**Mark your choices by completely filling in the numbered ovals like this using a black pen.**

- Fill in the number one 1 oval next to your first choice.
- Fill in the number two 2 oval next to your second choice.
- Fill in the number three 3 oval next to your third choice, and so on.
- You may fill in as many choices as you please.
- Fill in no more than one oval per candidate.
- Fill in no more than one oval per column.

Only one vote per candidate. Only one vote per column. DO NOT USE RED TO M/

RONALD BENJAMIN, 172 Cushing Street	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
JOSH M. BURGIN, 812 Memorial Drive	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
DENNIS J. CARLONE, 9 Washington Avenue <span style="float: right; font-size: x-small;">CANDIDATE FOR RE-ELECTION</span>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
OLIVIA D'AMBROSIO, 6 Arlington Street	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
JAN DEVEREUX, 255 Lakeview Avenue <span style="float: right; font-size: x-small;">CANDIDATE FOR RE-ELECTION</span>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
SAMUEL GEBRU, 812 Memorial Drive	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
RICHARD HARDING, JR., 189 Windsor Street	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
CRAIG A. KELLEY, 6 Saint Gerard Terrace <span style="float: right; font-size: x-small;">CANDIDATE FOR RE-ELECTION</span>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
DAN LENKE, 148 Richdale Avenue	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
ILAN LEVY, 148 Spring Street	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
ALANNA M. MALLON, 3 Maple Avenue	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
MARC C. MCGOVERN, 15 Pleasant Street <span style="float: right; font-size: x-small;">CANDIDATE FOR RE-ELECTION</span>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
GREGG J. MOREE, 25 Fairfield Street	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
ADRIANE B. MUSGRAVE, 5 Newport Road	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
NADYA T. OKAMOTO, 220 Banks Street	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
HARI I. PILLAI, 165 Cambridge Park Dr.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
JEFF SANTOS, 350 3rd Street	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
SUMBUL SIDDIQI, 530 Windsor Street	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
E. DENISE SIMMONS, 188 Harvard Street <span style="float: right; font-size: x-small;">CANDIDATE FOR RE-ELECTION</span>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
VATSADY SIVONGXAY, 59 Kirkland Street	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

A sample ranked-choice ballot for electing city council members in Cambridge, Massachusetts. This approach to vote aggregation ensures election outcomes that more accurately reflect public support.

democracy for everyone. This analysis supports the adoption of a specific set of electoral reforms that could substantially improve participation and representation, reducing cumulative inequalities.

Electoral reform is not a panacea, and it cannot erase the disempowerment in overburdened, environmental justice communities that results from socioeconomic distress and environmental dangers. However, adopting these reforms would lift up the voices of those who are currently suffering some of the worst environmental policy consequences due to their lack of representation. These evidence-based, pragmatic reforms would continue the historic expansion of voting rights that reshaped American democracy in the 20th century.

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# Building a Healthier Democracy

*The Link between Voting Rights and Environmental Justice*

***Electoral reforms are needed on a larger scale to reassert control over the political process and improve the responsiveness of government, from the local to the national level.***

This analysis, conducted by the Center for Science and Democracy at the Union of Concerned Scientists, shows that electoral barriers to voting—some that have been put in place since 2010 and some that are long-standing features of our electoral systems—depress voter turnout in communities burdened with greater environmental and public health risks.

Our study demonstrates that, in addition to being negatively affected by socioeconomic distress and poor environmental conditions, voter turnout is further lowered by restrictive election laws and electoral rules that reduce competition among political parties. As a result, residents of overburdened communities are less

capable of protecting their interests and addressing poor environmental and health risks. Nearly two-thirds of congressional districts with both higher-than-average levels of air toxin exposure and more restrictive election laws exhibited below-average voter turnout in the 2016 congressional elections.

Restrictive election laws exacerbate the inequalities faced by overburdened communities, but there are a variety of reforms being used to reassert control over the political process. Effective upgrading of electoral systems in the United States can markedly improve participation in the political process, leading to more responsive public policy and improved health outcomes.

**Union of  
Concerned Scientists**

FIND THIS DOCUMENT ONLINE: [www.ucsusa.org/EJandvoting](http://www.ucsusa.org/EJandvoting)

*The Union of Concerned Scientists puts rigorous, independent science to work to solve our planet's most pressing problems. Joining with people across the country, we combine technical analysis and effective advocacy to create innovative, practical solutions for a healthy, safe, and sustainable future.*

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