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### MONTANA THIRTEENTH JUDICIAL DISTRICT COURT, YELLOWSTONE COUNTY

Montana Youth Action; Forward Montana Foundation; and Montana Public Interest Research Group,

Plaintiffs,

vs.

CHRISTI JACOBSEN, in her official capacity as Montana Secretary of State,

Defendant.

Cause No. DV 21-0451

Hon. Michael Moses

EXPERT REPORT OF DR. MICHAEL HERRON, Ph.D

## 1 Introduction

In the matter of *Montana Youth Action et al. v. Christi Jacobsen*, I have been engaged by Plaintiffs' Counsel Upper Seven Law to provide an expert report on the extent to which House Bill 506 burdens otherwise voting-eligible Montanans who turn 18 in close temporal proximity to an election. Accordingly, for the statewide primary and general elections held in Montana in 2014, 2016, 2018, and 2020 I characterize the number of registered voters in the state who turned 18 on election day itself, in the week prior to election day, in the second week prior to election day, and between 15 and 25 days prior to election day. Reflecting the deadline (30 days prior to an election) in Montana for regular voter registration, I also characterize the number of individuals who turned 18 between 26 and 30 days of election day. Moreover, I break down each of the above counts of registered voters by whether they lived in Montana or outside of the state.

## 2 Summary of conclusions

- 2 The conclusions of this report are as follows.
  - By virtue of changing Montana election law so that absentee ballots may not be sent to otherwise voting-eligible residents of Montana until they are 18 years of age, House Bill 506 (hereinafter HB 506) burdens residents of the state who turn 18 within close temporal proximity to election day.
  - 2. There are four classes of Montana residents burdened by HB 506's provision that restricts when absentee ballots can be mailed to voters. In decreasing order of burdens, these classes are as follows: (I) residents who turn 18 on election day itself; (II) residents who turn 18 between one and seven days of election day; (III) residents who turn 18 between eight and 14 days of election day; and (IV) residents who turn 18 between 15 and 25 days of election day.
  - 3. Regarding Class I, residents of Montana who turn 18 on election day itself cannot vote

absentee by virtue of HB 506; this distinguishes them from all otherwise eligible voters in Montana. Regarding Class II, residents of Montana who turn 18 between one and seven days of election day are burdened by HB 506 because, under this legislation, they cannot vote absentee unless willing to contravene United States Postal Service (USPS) recommendations to the effect that domestic absentee voters in the United States allow one week for an absentee ballot to travel from a voter to an elections office. Regarding Class III, residents of Montana who turn 18 within eight and 14 days of election day are burdened by HB 506 because, under this legislation, they cannot vote absentee via mail unless willing to contravene USPS recommendations to the effect that voters in the United States allow two weeks for an absentee ballot to travel from an elections office to a voter, and then back to the elections office, via mail. Regarding Class IV, the Montana Secretary of State asserts that ballots are mailed to registered voters in the state who request them 25 days before election day. Residents of Montana who turn 18 between 15 and 25 days of election day are thus burdened by HB 506 because this legislation's provisions mean that these individuals will receive absentee ballots later than those who turn 18 more than 25 days before an election.

- 4. Otherwise eligible residents of Montana who turn 18 between 26 and 30 days of election day may not register to vote via mail on account of their birthdays taking place after an election's regular registration deadline. On account of HB 506, unless these individuals pre-register to vote, they risk not having their absentee ballots sent to them 25 days before election day.
- 5. Across the 2014, 2016, 2018, and 2020 primary and general elections in Montana, there were 2,493 registered voters who lived in the state and turned 18 within 30 days of election day. And, there were nine voters who lived outside of Montana and turned 18 within this time period. These counts are conservative insofar as the data on which they are based—produced by the Montana Secretary of State in the course of this litigation—may not include all registered voters in Montana as of the elections covered in this report.
- 6. In the 2020 general election, the most recent statewide election in Montana, there were

14 registered voters who lived in Montana and turned 18 on election day; 124 registered voters who lived in Montana and turned 18 between one and seven days of election day; 122 registered voters who lived in Montana and turned 18 between eight and 14 days of election day; 189 registered voters who lived in Montana and turned 18 between 15 and 25 days of election day; and, 101 voters who lived in Montana and turned 18 between 26 and 30 days of election day. There was also one voter who lived outside Montana and turned 18 between 15 and 25 days of election day along with two voters who lived outside Montana and turned 18 between 26 and 30 days of election day.

7. HB 506 burdens all otherwise eligible residents of Montana who turn 18 within 25 days of election day and on election day itself. However, this legislation's burdens are greatest for those individuals whose birthdays fall in this date range and who live outside of Montana. These individuals, by virtue of their locations, cannot vote in-person without traveling to Montana and thus are particularly vulnerable to any restrictions placed on absentee voting.

## 3 Qualifications

- I am the William Clinton Story Remsen 1943 Professor of Quantitative Social Science at Dartmouth College in Hanover, New Hampshire. I am also Chair of the Program in Quantitative Social Science and served in this capacity from July 2015 June 2020. I have taught at Dartmouth since 2003 and previously was on the faculty of Northwestern University. I have served as a visiting professor at Harvard University (July 2008–January 2009), the University of Rochester (September 2006–December 2006), and the Hertie School of Governance in Berlin (August 2011–August 2012). I also served as a visiting scholar at the Hertie School of Governance (August 2016–July 2017).
- 4 In January 1998, I received a doctorate in the field of Political Economy from the Graduate School of Business at Stanford University. I also have a master's degree in statistics from Stan-

ford University (June 1995), a master's degree in political science from the University of Dayton (August 1992), and a bachelor's degree in mathematics and economics from Carnegie-Mellon University (May 1989).

- I have published many scholarly articles on election administration in the United States; in the past three years, I published three such articles in 2021, one in 2020, and two in 2019. My research on election administration covers numerous aspects of elections, including the effects of ballot formats, patterns in invalid votes, the availability of early voting, and polling place congestion. My articles rely heavily on statistical analyses.
- I have published over 30 articles in peer-reviewed political science journals, including in the field's top general journals (*American Political Science Review*, *American Journal of Political Science*, and *Journal of Politics*). I have published in specialty journals as well (*Election Law Journal*, *American Politics Research*, and *Legislative Studies Quarterly*).
- I was a testifying expert for defendants in *Law et al. v. Whitmer et al.* (Case No.: 20 OC 00163 1B) and in *Jennings v. Elections Canvassing Commission of the state of Florida* (2006 WL 4404531 (Fla.Cir.Ct.)) and a testifying expert for plaintiffs in *Alliance for Retired American et al. v. Matthew Dunlap et al.* (DKT NO. CV-20-95), *Michigan Alliance for Retired Americans et al. v. Jocelyn Benson et al.* (Civil Action No. 2020-000108-MM), *League of Women Voters of New Hampshire et al. v. William M. Gardner et al.* (226-2017-CV-433), and *Veasey et al. v. Abbott et al.* (265 F. Supp. 3d 684 (S.D. Tex. 2017)). In addition, I have written expert reports in approximately 14 other cases relating to aspects of election law and election administration.
- 8 My written and oral testimony was credited by courts in their written opinions in *Law et al.* v. Whitmer et al., Donald J. Trump for President, Inc. v. Stephen Bullock et al. (Case No.: 6:20-cv-00066-DLC), League of Women Voters of New Hampshire et al. v. William M. Gardner et al., and in Veasey et al. v. Abbott et al.. My opinions and testimony have never been found by a court to be

unreliable.

- 9 I am being paid at a rate of \$600/hour for work in this litigation. My compensation is contingent neither on the results of the analyses described herein nor on the contents of this report.
- 10 My curriculum vitae appears in Appendix A of this report.

## 4 The calculus of voting

- The *calculus of voting* is a theoretical framework that scholars regularly invoke, sometimes explicitly and other times implicitly, to guide inquiry when studying aspects of election administration. I have invoked the calculus of voting in my academic work and in my work as an expert witness, and I do so in this report to guide my analysis of the extent to which HB 506's provision regulating when absentee ballots may be mailed out burdens young residents of Montana, namely, residents who turn 18 within close temporal proximity of an election day.
- The calculus of voting posits that an individual's decision to turn out and vote in an election should be understood as reflecting a comparison between the costs and benefits of this action. Attributed to Downs (1957) and Riker and Ordeshook (1968), according to the calculus of voting, an individual will turn out to vote only if the benefits of doing so outweigh the costs. Otherwise, the individual will not turn out.<sup>1</sup>

## 4.1 Benefits of voting

Broadly speaking, the benefits of voting can be broken into two categories. As discussed by Li, Pomante II and Schraufnagel (2018), one potential benefit associated with voting is instrumental: by casting a ballot for a given candidate, an individual increases the likelihood that this

<sup>&</sup>lt;sup>1</sup>The calculus of voting can be interpreted deterministically (when voting's benefits exceed its costs, a voter turns out for sure) and probabilistically (when the of voting benefits exceed costs, a voter is more likely to turn out). See Brians and Grofman (2001) for an example of the latter.

candidate will win his or her election. Prior to voting, of course, an individual does not know whether his or her vote will be pivotal to an election outcome. However, voting for a candidate increases this likelihood, even if by a very small amount.<sup>2</sup>

A second potential benefit of voting can be characterized as expressive (e.g., Brennan and Hamlin, 1998; Drinkwater and Jennings, 2007). Namely, a voter is said to receive an expressive benefit from voting if he or she values the act of expressing his or her opinion via casting a ballot. A voter can receive an expressive benefit from voting if voting is simply an activity that he or she likes to do. A voter can similarly receive an expressive benefit from voting if he or she values participating in a community exercise like an election.

## 4.2 Costs of voting

- On the other side of benefits are costs that a voter must incur in order to vote. These costs can be decreased or increased by changes in voting rules and procedures.
- One cost of voting is time (Mukherjee, 2009; Herron and Smith, 2015). Waiting in line to vote is a time tax as is time spent gathering documents necessary to prove eligibility to vote, time spent traveling to a polling location or an elections office, time spent learning how to vote, among other things. For vote-by-mail (VBM) voters, time spent gathering documents necessary to prove eligibility to cast a VBM ballot and time spent acquiring a VBM ballot are also costs of voting.
- Another cost of voting by mail is financial (Tokaji and Colker, 2007) to the extent that a voter's jurisdiction does not include pre-paid postage for vote-by-mail (VBM) ballot return envelopes.<sup>3</sup>

<sup>&</sup>lt;sup>2</sup>One can make a similar argument about statewide referenda or local issues that often appear on ballots. There is nothing in the calculus of voting that requires an election to involve candidates *per se*.

<sup>&</sup>lt;sup>3</sup>According to the National Conference of State Legislatures, "17 states have statutes requiring local election officials to provide return postage for mailed ballots." Montana is not one of them. See "Which states pay for postage to return an absentee ballot?", National Conference of State Legislatures, available at https://www.ncsl.org/research/elections-and-campaigns/absentee-and-early-voting.aspx#pay (last accessed January 9, 2022).

- A third cost of voting is information. For in-person voters, knowing where to vote and when voting is allowed require an individual to have information about in-person voting processes. The same is true for voters wishing to cast VBM ballots. While voting by mail can be convenient (Gronke et al., 2008), knowing how to request a VBM ballot, knowing when requesting such a ballot is permitted and how long it will take to arrive subsequent to being requested, and understanding how to return a VBM ballot, as well as how long it will take a submitted ballot to travel to an elections office, all require specific knowledge.
- When registering to vote is a prerequisite to voting, as it is in Montana, then costs of registration are also costs of voting. Like voting itself, registering to vote can impose a time tax, costs associated with documentation preparation, and specialized knowledge.
- For scholarly literature on the costs of voting and how various aspects of election administration affect these costs, see Rosenstone and Wolfinger (1978), Rosenstone and Hansen (1993), Knack and White (2000), Brians and Grofman (2001), Knack (2001), Neiheisel and Horner (2019), Kaplan and Yuan (2020), and Grimmer and Yoder (2021). As shown concisely in Li et al. (2018), in states that have lower costs of voting, voter turnout is higher, all things equal. Thus, in states with higher costs of voting, voter turnout is lower, all things equal
- 21 The extent to which any particular cost of voting burdens an individual is dependent on an individual's personal circumstances. For individuals who are unemployed, transient, homeless, or have insecure housing, costs of voting that may seem trivial to those people not facing these challenges can be consequential. For individuals whose employment situations are rigid timewise, separate trips to an elections office to, for example, secure or return a mail ballot can be burdensome. For individuals who are elderly and need assistance voting, voting by mail can be particularly burdensome. Individuals with disabilities can face high costs of voting in-person. Informational costs of voting will be higher for lesser educated individuals in society.

## 5 Voting in Montana and House Bill 506

I now present a broad overview of voting in Montana and then turn to the provision of HB 506 that affects how absentee voting is conducted in the state.

### 5.1 Voter registration in Montana

- Voter registration is required in Montana prior to voting and is regulated by the Montana Secretary of State. In order to register to vote in Montana, an individual must be a United States citizen, at least 18 years of age on or before an upcoming next election, and a resident of Montana for at least 30 days before the next election.<sup>4</sup> In addition, an intended voter registrant in Montana must provide identification information in the course of registering to vote, either a Montana driver's license number, a Montana state identification card number, or the last four digits of the individual's social security number. Individuals who cannot provide these numbers must present in-person or via legible copy a military identification card, a tribal identification card that contains a photograph, a United States passport, or a Montana concealed carry permit. An individual who cannot satisfy this requirement may supply another form of identification (like a school identification card that has a photograph) and a document (like a current utility bill or bank statement) that includes the individual's name and address.<sup>5</sup>
- Through the statewide elections in 2020, Montana offered same day voter registration (SDR), by which eligible residents of Montana who were not registered to vote could appear at a polling place on election day itself and register to vote immediately prior to voting. Accordingly, the statewide elections in 2020 Montana did not have voter registration deadlines. However, SDR was recently eliminated in Montana by House Bill 176, which removed the language "the close of

<sup>&</sup>lt;sup>4</sup>See Box 2 of the Montana Voter Registration Application, available at https://sosmt.gov/wp-content/uploads/Montana\_Voter\_Registration\_Application.pdf (last accessed January 9, 2022).

<sup>&</sup>lt;sup>5</sup>See Box 5 of the Voter Registration Application referenced in fn. 4. Individuals who are incarcerated or who have been judged to be of "unsound mind" may not register to vote in Montana independent of their satisfying other criteria. See "WHO CAN VOTE," *Montana Secretary of State*, available at https://sosmt.gov/elections/vote/(last accessed January 9, 2022).

the polls on election day" from Section 13-2-304(a), MCA.<sup>6</sup> Presently, regular voter registration ends 30 days before an election and in-person late registration is available "until noon the day prior to the election."

Prior to House Bill 176, an otherwise eligible resident of Montana who turned 18 on an election day itself could register to vote using SDR. This option is no longer available to these individuals.

## 5.2 Voting in Montana

- Voters in Montana can cast their ballots in two ways, in-person at polling places or via absentee ballot. Absentee ballots can be returned via mail or in-person.
- Historically, in-person voting was the modal form of ballot casting in the United States. Across the country, though, absentee voting has expanded in recent years. The United States Election Assistance Commission reports that, "The number of by-mail ballots sent to voters nationally increased from 28.5 million to 42.4 million between 2008 and 2018, while returned ballots rose from 23.1 million to 30.4 million." In conjunction with the COVID-19 pandemic, the rate that voters cast ballots by mail surged in the 2020 election cycle.
- Montana is not an exception to national trends in absentee voting. For the 2014-2018 primary and general elections, Table 1 reports the percentage of absentee ballots cast of total ballots cast. This table starts with the year 2014 because, as will be clear shortly, my analysis of Montana

 $<sup>^6</sup>$ The text of this bill is available at https://leg.mt.gov/bills/2021/billpdf/HB0176.pdf (last accessed January 9, 2022).

<sup>&</sup>lt;sup>7</sup>"Frequently Asked Questions," *Montana Secretary of State*, available at https://sosmt.gov/elections/fag/(last accessed January 9, 2022).

<sup>&</sup>lt;sup>8</sup>See "Vote by Mail Trends and Turnout in Six Election Cycles: 2008-2018," *United States Election Assistance Commission*, October 22, 2020, available at https://www.eac.gov/vote-mail-trends-and-turnout-six-election-cycles-2008-2018 (last accessed January 9, 2022).

<sup>&</sup>lt;sup>9</sup>"Majority of Voters Used Nontraditional Methods to Cast Ballots in 2020," *United States Census Bureau*, April 21, 2021, available at https://www.census.gov/library/stories/2021/04/what-methods-did-people-use-to-vote-in-2020-election.html (last accessed January 9, 2022).

voting begins with this year as well. The table ends in 2018 as this is the last year of data in the Montana Secretary of State's compilation of absentee ballot rates.<sup>10</sup>

Table 1: Absentee ballot rates in Montana statewide elections, 2014-2018

Election	Absentee ballot percent
2014 Primary	67.87
2014 General	60.22
2016 Primary	69.91
2016 General	65.38
2018 Primary	78.59
2018 General	73.13

Source: Montana Secretary of State

There are three primary elections in Table 1, and the absentee voting rate increased from 2014 to 2016 and then from 2016 to 2018. There are also three general elections in Table 1, and a similar comment applies to these contests. Thus, Table 1 shows that, in the period 2014 to 2018, absentee ballot voting increased in Montana.

## 5.3 Absentee voting and ballot rejection

- 30 Unlike ballots voted in-person in polling places, absentee ballots can be filled out at voters' residences and then must travel to a local elections office. This provides for two opportunties for these ballots to be rejected (Baringer, Herron and Smith, 2020).
- 31 Lateness. Per the Montana Secretary of State, "Absentee ballots must be received at the election office or polling place by 8:00 p.m. on Election Day." Ballots received after this deadline

<sup>&</sup>lt;sup>10</sup>Source for the data in Table 1 is https://sosmt.gov/Portals/142/Elections/Documents/Absentee-Turnout-2000-Present.xlsx (last accessed January 9, 2022). The 2020 primary and general elections were conducted during the COVID-19 pandemic, and absentee voting rates in Montana reflect this. For both the 2020 primary and general elections counties in Montana were permitted to offer mail ballots to all voters. See "Governor Bullock to Allow Counties the Choice to Conduct All Mail Election and Expand Early Voting for June Primary," *State of Montana Newsroom*, March 25 2020, available at https://news.mt.gov/Former-Governors/governor-bullock-to-allow-counties-the-choice-to-conduct-all-mail-election-and-expand-early-voting-for-june-primary (last accessed January 9, 2022).

<sup>&</sup>lt;sup>11</sup>See "Voting by Absentee Ballot," *Montana Secretary of State*, available at https://sosmt.gov/elections/absentee/(last accessed January 9, 2022).

are rejected and do not count. In Montana, it is irrelevant whether an absentee ballot received by elections officials after 8:00 p.m. on election day was postmarked prior to election day.

*Signature problems*. In Montana, absentee voters must sign their ballot return envelopes (but not the ballots themselves). Local elections officials in the state are tasked with ensuring that the signatures on absentee ballot return envelopes match official signatures on file, and, in the case of mismatched or missing signatures, these officials are to contact voters. 13-13-245, MCA. If a return envelope's signature problem can be resolved, the absentee ballot in the envelope will be tabulated.

## 5.4 HB 506's changes to absentee voting laws in Montana

- HB 506 is an election administration bill in Montana. After passing both legislative chambers in the state, the bill was signed by Governor Greg Gianforte on May 14, 2021.<sup>12</sup>
- 34 HB 506 changed the state laws that govern absentee voting and, among other things, amended Montana election law, incorporating the following language in 13-2-205, MCA ("Procedure When Prospective Elector Not Qualified At Time Of Registration"):
  - (2) Until the individual meets residence and age requirements, a ballot may not be issued to the individual and the individual may not cast a ballot.<sup>13</sup>
- A consequence of this language is that an otherwise eligible voter in Montana may not be mailed an absentee ballot before the voter's 18th birthday.

<sup>&</sup>lt;sup>12</sup>The legislative history of HB 506 is available at https://legiscan.com/MT/bill/HB506/2021 (last accessed January 9, 2022).

<sup>&</sup>lt;sup>13</sup>The text of HB 506 is available at https://leg.mt.gov/bills/2021/billpdf/HB0506.pdf (last accessed January 9, 2022).

## 5.5 HB 506 raises the cost of voting to individuals turning 18 close to election day

- HB 506 raises the costs of voting absentee in Montana—and thus the overall cost of voting in the state—for otherwise eligible Montanans turning 18 within close proximity of an election day of interest. I now show that "close proximity" means within 25 days of an election.
- Per HB 506, if a voter's 18th birthday falls in the 25 days on or before election day, the voter's ballot cannot be issued in normal course but must instead be issued only on or after the voter's 18th birthday. Here I am using the term "voter" to refer to an otherwise eligible Montanan who turns 18 on or before an election day. Eligible voters in Montana who turn 18 more than 25 days before an election day do not face this restriction; their absentee ballots will be mailed to them 25 days before election day, per the Montana Secretary of State ("Absentee ballots for federal/state elections are mailed to eligible voters 25 days before election day"). 14
- Not only does HB 506 burden Montana's voters who turn 18 within 25 days of an election, but it places additional burdens on individuals whose 18th birthdays fall on or within 14 days of election day. The logic behind this is as follows.
- 39 First, under HB 506, a voter turning 18 on election day cannot vote absentee. 15
- 40 Second, and turning to voters whose 18th birthdays fall between one and 14 days of election day, consider that the United States Postal Service (USPS) recommends that voters allow "at least 1 week" for a mailed ballot to travel from the voter to election officials. In particular,

<sup>&</sup>lt;sup>14</sup>See fn. 11.

<sup>&</sup>lt;sup>15</sup>Per the Montana Secretary of State, "[Absentee ballot] [a]pplications must be received by the county election office by noon the day before the election. If [a voter] [drops] off the application [the voter] will be able to pick up the absentee ballot at the same time." See fn. 11. This cannot apply to a voter turning 18 on election day because, under HB 506, such a voter cannot be issued an absentee ballot before his or her 18th birthday. Moreover, the Montana Secretary of States asserts that, "An absentee voting packet will be mailed to the address [a voter] indicated on [his or her absentee ballot] application, or [the voter] can pick up the packet at the county election office at the time [the voter] [applies] for the absentee ballot, if ballots are available at that time." These passages rule out a newly turned 18 year old picking up an absentee ballot on election day and then immediately returning it.

To account for delivery standards and to allow for contingencies (e.g., weather issues or unforeseen events), voters should mail their return ballots at least 1 week prior to the due date established by state law. Similarly, for election materials (such as blank ballots) sent to voters, the Postal Service also recommends that state or local election officials use FirstClass Mail and allow 1 week for delivery to voters.<sup>16</sup>

- 41 If the USPS recommends that an absentee voter allow one week for an absentee ballot to travel from a voter to an elections office, by logical extension the USPS also recommends that a voter allow one week for a newly issued absentee ballot to travel from an elections office to the voter.
- Therefore, any otherwise eligible Montana voter turning 18 between one and seven days of election day cannot plan to vote absentee and also act in accordance with USPS recommendations.
- Moreover, if the USPS recommends that an absentee voter allow one week for an absentee ballot to travel from a voter to an elections office, by logical extension the USPS also recommends that a voter allow two weeks for a ballot to travel from an elections office to the voter and then back. Per this logic, absentee ballots mailed to voters turning 18 between eight and 14 days before election day risk being late, and thus rejected, if mailed back to elections officials. Anything that raises the rejection risk for absentee ballots is a burden on those voters who face this risk.
- Therefore, under HB 506, when an otherwise eligible voter in Montana turns 18 on or within 14 days of an election, voting absentee is either not possible or will in some fashion contravene the USPS's recommendations for ballot travel times. Montana allows all voters to vote absentee, but HB 506's provision on absentee ballot sending mean that voters turning 18 on or within 14 days of an election face (a) restrictions on how they vote, (b) a requirement that they contravene USPS recommendations if they wish to vote absentee, and/or (c) greater absentee ballot rejection risks compared to other voters in Montana. These former voters—those turning 18 on

<sup>&</sup>lt;sup>16</sup>Letter from Thomas J. Marshall, General Counsel and Executive Vice President, United States Postal Service, May 29, 2020, available at https://about.usps.com/newsroom/national-releases/2020/2020-05-29-marshall-to-election-officials-re-election-mail.pdf (last accessed January 9, 2022).

or within 14 days of an election—thus have greater costs of voting.

Earlier in this report I reviewed the calculus of voting and described literature showing that, the greater the cost of voting, the lower is voter turnout, all things equal. Therefore, because HB 506 raises the cost of voting for otherwise eligible residents of Montana who turn 18 on or within 25 days of an election, it should be expected that voter turnout among these individuals will be lower on account of HB 506, all things equal. This is particularly true among otherwise eligible residents of Montana who turn 18 on or within 14 days of an election.

# 6 Counting voters who turn 18 within close proximity to an election

- In this section of the report, I characterize the number of registered voters in Montana who turned 18 on a statewide election day; who turned 18 in the week prior to an election day (i.e., between one and seven days prior to election day); who turned 18 in the second week prior to an election day (i.e., between seven and 14 days prior to election day); who turned 18 between 15 and 25 days before election day; and who turned 18 between 26 and 30 days before election day. After identifying the numbers of voters in each of these three categories, I further break them down by whether they were located in Montana prior to a statewide election or live outside of the state.
- This report covers eight statewide elections: the primary and general elections of 2014, 2016, 2018, and 2020.

#### **6.1** Montana voterfiles

My enumerations of Montana voters who turned 18 immediately prior to an election day in 2014, 2016, 2018, or 2020 draw on eight Montana *voterfiles*. Recognizing that administrative practices associated with voter registration data vary by state, it is broadly the case that a state's

voterfile consists of, one, a list of registered voters in the state and, two, their voting participation histories. In Montana, the Secretary of State calls the former the "Statewide Voter File" and the latter, the "Voter History File." I use the term "voterfile" to refer to these files jointly.

- Voterfiles are dynamic in the sense that they are regularly updated. This is true across the country and in Montana as well. Updates to the Montana voterfile occur when, *inter alia*, new individuals register to vote in the state, existing registrants change their registration details (e.g., their residential addresses after moving), and existing registrants move out of the Montana. Thus, the Montana voterfile that characterized the state's electorate as of, say, the 2020 general election is a different file than the voterfile that characterized the state's electorate as of the 2016 general election.
- The Montana Secretary of State maintains Montana's statewide voterfile. Plaintiffs requested copies of this voterfile effective as of the statewide primary and general elections in 2014, 2016, 2018, and 2020. I was provided eight sets of files in response to Request for Production 8 ("The statewide voter file contemporaneous to / as it was at the time of the primary and general elections in 2014, 2016, 2018, 2020, including voters who left state, moved, or otherwise cancelled registration").<sup>18</sup>
- I rely on two key fields across my eight Montana voterfiles: voter birth date and voter mailing state. From a voter's birth date, I can determine when the voter turned 18 years old. And, from a voter's mailing state in a given voterfile, I can determine whether the voter lived in Montana or outside of it during the election corresponding to the voterfile.
- 52 Appendix B contains details on the eight voterfiles used in this report.

<sup>&</sup>lt;sup>17</sup>See "Voter File," *Montana Secretary of State*, available at https://app.mt.gov/voterfile/about.html (last accessed January 9, 2022).

 $<sup>^{18}\</sup>mbox{See}$  pp. 37-38 of "DEFENDANT'S RESPONSES TO PLAINTIFFS' FIRST COMBINED DISCOVERY REQUESTS"

## 6.2 Results

Based on official voterfiles, Table 2 characterizes the Montana electorate during the 2014 primary election (top half of the table) and the 2014 general election (bottom half). Each half of the table has two columns: "In Montana" and "Out of Montana."

Table 2: Registered voters turning 18 within 30 days of 2014 elections

Days before election	In Montana	Out of Montana	
	Primary		
0	3	0	
1 - 7	18	0	
8 - 14	29	0	
15 - 25	41	0	
26 - 30	28	0	
General			
0	10	0	
1 - 7	63	0	
8 - 14	61	0	
15 - 25	90	1	
26 - 30	39	0	
Total	382	1	

- Focusing attention on the primary election section of Table 2 (the general election section is structurally identical), there were three registered voters who lived in Montana and turned 18 on primary election day; these voters are in the "0" row of the top half of Table 2 because they turned 18 zero days before the 2014 primary. There were no voters who lived out of Montana and turned 18 on primary election day.
- Continuing, there were 18 voters who turned 18 between one and seven days of primary election day and who lived in Montana. Relatedly, there were zero voters who turned 18 between one and seven days of primary election day and who lived out of Montana.
- There were 29 voters who turned 18 between eight and 14 days of primary election day and who lived in Montana. Relatedly, there were zero voters who turned 18 between eight and 14 days

of primary election day and who lived out of Montana.

- 57 There were also 41 voters who turned 18 between 15 and 25 days of primary election day and who lived in Montana. And, there were zero such voters who lived out of Montana.
- Lastly, there were 28 voters who turned 18 between 26 and 30 days of primary election day and who lived in Montana. And, there were zero such voters who lived out of Montana.
- The "Total" row of Table 2 shows that there were 382 registered voters who lived in Montana and turned 18 within 30 days of primary or general election day in 2014. And, there was one voter who lived out of Montana and turned 18 within 30 days of primary or general election day in 2014.
- Under HB 506, voters born on election day itself cannot vote absentee in Montana; they also cannot register via SDR on account of House Bill 176, which eliminated this form of voter registration in the state as of April 19, 2021.<sup>19</sup> Voters turning 18 within one and seven days of election day cannot vote absentee in Montana without contravening USPS recommendations. Voters turning 18 within eight and 14 days of election day cannot vote absentee via mail in Montana without contravening USPS recommendations. Voters turning 18 within 15 and 25 day of election day will not receive absentee ballots in the same time frame as other voters in the state, to whom the Montana Secretary of State stipulates absentee ballots are mailed 25 days prior to election day. Lastly, voters turning 18 within 26 and 30 days of election day may register late in-person but cannot register via mail. If they are not aware of Montana's preregistration rules, they risk not having their absentee ballots sent to them 25 days before election day.

<sup>&</sup>lt;sup>19</sup>The legislative history of House Bill 176 is available at http://laws.leg.mt.gov/legprd/LAW0203W\$BSRV.ActionQuery?P\_SESS=20211&P\_BLTP\_BILL\_TYP\_CD=HB&P\_BILL\_NO=176&P\_BILL\_DFT\_NO=&P\_CHPT\_NO=&Z\_ACTION=Find&P\_ENTY\_ID\_SEQ2=&P\_SBJT\_SBJ\_CD=&P\_ENTY\_ID\_SEQ= (last accessed January 9, 2022).

Table 3 provides comparable numbers for Montana registered voters during the 2016 election cycle. Focusing attention on the table's "Total" row, there were 697 registered voters who lived in Montana and turned 18 within 30 days of primary or general election day in 2016. And, there were three registered voters who lived out of Montana and turned 18 within 30 days of primary or general election day in 2014.

Table 3: Registered voters turning 18 within 30 days of 2016 elections

Days before election	In Montana	Out of Montana	
	Primary		
0	6	0	
1 - 7	56	2	
8 - 14	47	0	
15 - 25	78	0	
26 - 30	39	0	
General			
0	15	0	
1 - 7	119	0	
8 - 14	105	0	
15 - 25	156	1	
26 - 30	76	0	
Total	697	3	

- Table 4 provides counts of registered voters who turned 18 within 30 days of primary or general election day in 2018.
- Lastly, Table 5 provides counts of registered voters who turned 18 within 30 days of primary or general election day in 2020.
- All told, across the 2014, 2016, 2018, and 2020 primary and general elections, there were 2,493 registered voters who lived in Montana and turned 18 within 30 days of a statewide election day. And, there were nine voters who lived outside of Montana and turned 18 within this time period.

Table 4: Registered voters turning 18 within 30 days of 2018 elections

Days before election	In Montana	Out of Montana	
	Primary		
0	5	0	
1 - 7	44	0	
8 - 14	41	0	
15 - 25	77	0	
26 - 30	41	0	
General			
0	19	0	
1 - 7	102	1	
8 - 14	94	0	
15 - 25	150	0	
26 - 30	82	0	
Total	655	1	

Table 5: Registered voters turning 18 within 30 days of 2020 elections

Days before election	In Montana	Out of Montana	
	Primary		
0	5	0	
1 - 7	40	0	
8 - 14	55	0	
15 - 25	74	1	
26 - 30	35	0	
General			
0	14	0	
1 - 7	124	0	
8 - 14	122	0	
15 - 25	189	1	
26 - 30	101	2	
Total	759	4	

## 6.3 Counts of voters turning 18 within 30 days of an election are conservative

To the best of my knowledge, the eight voterfiles that form the basis of Tables 2-5 were created in the aftermaths of the 2014, 2016, 2018, and 2020 primary and general elections in Montana. I believe that the 2020 primary and 2020 general voterfiles were created on June 16, 2020, and on November 16, 2020, respectively. I similarly believe that the 2016 primary and

general election voterfiles were created on June 16, 2016, and November 16, 2016.<sup>20</sup> These four dates follow corresponding election dates by roughly two weeks. I cannot ascertain the creation dates for the 2014 and 2018 primary and general election voterfiles produced by the Montana Secretary of State.

I noted in Paragraph 48 that one component of a Montana voterfile consists of records on turnout history for the state's registered voters. Based on expertise that I have developed in my academic work on election administration and in work I have done as an expert witness, I would estimate that voterfiles are usually updated with data following an election approximately two to three months after election day. By this I mean that voter histories and voter registrations executed in the time period immediately before an election are entered in statewide voter files in the few months after the election.

Table 6 lists the eight elections covered in this report, the dates the elections took place, and official statewide voter turnout for each election.<sup>21</sup>

Table 6: Statewide elections and turnout

Election	Date	Turnout
2014 Primary	June 3	218,882
2014 General	November 4	373,831
2016 Primary	June 7	293,548
2016 General	November 8	516,901
2018 Primary	June 5	282,704
2018 General	November 6	509,213
2020 Primary	June 2	382,072
2020 General	November 3	612,075

In contrast, Table 7 displays voter turnout based on the contents of the voterfiles I draw on in this report. Key here is that, for each election in Table 7, voter turnout based on a voterfile is *lower* 

<sup>&</sup>lt;sup>20</sup>My inferences about the dates on which 2016 and 2020 voterfiles were created are based on the names of the zip archives, produced by the Montana Secretary of State, that contain 2016 and 2020 primary and general election voterfiles. These names appear in Table 8 of Appendix B.

<sup>&</sup>lt;sup>21</sup>Source for official voter turnout is "Montana Voter Turnout," *Montana Secretary of State*, https://sosmt.gov/elections/voter-turnout/ (last accessed January 9, 2022)

than official turnout. This is not unexpected and not indicative of administrative problems. Rather, it reflects the fact that the voterfiles I use in this report were not fully updated in the immediate aftermaths of the elections to which they correspond.

Table 7: Voter turnout in history files

Election	Turnout
2014 Primary	79,317
2014 General	57,294
2016 Primary	35,409
2016 General	1,249
2018 Primary	131,366
2018 General	164,669
2020 Primary	347,286
2020 General	253,634

- Registration via SDR was available in Montana during the elections covered in this report, i.e., listed in Tables 6 and 7. Moreover, younger voters are disproportionately heavy users of SDR (Grumbach and Hill, 2021).
- The Montana Secretary of State produced the eight voterfiles used in this report, and the files appear not to be fully updated following the elections to which they correspond. Because of this, I cannot determine if the voterfiles include all individuals who registered to vote via SDR in the elections covered in the report. Therefore, the counts of voters in Tables 2-5 are conservative: there may be young voters who turned 18 in the 30 day window prior to, or on, election day yet are not listed in the tables due to administrative lag in voterfile updating.

## 7 Conclusion

71 By virtue of changing Montana election law so that absentee ballots may not be sent to otherwise voting-eligible residents of Montana until they are 18 years of age, HB 506 burdens residents of the state who turn 18 within close temporal proximity to election day. These burdens

increase the cost of voting in Montana, and academic literature on the cost of voting shows that states with lower costs of voting have greater voter turnout than states with higher costs of voting, all things equal.

- There are four classes of Montana residents burdened by HB 506's provision that restricts when absentee ballots can be mailed to voters. In decreasing order of burdens, these classes are as follows: (I) residents who turn 18 on election day itself; (II) residents who turn 18 between one and seven days of election day; (III) residents who turn 18 between eight and 14 days of election day; and (IV) residents who turn 18 between 15 and 25 days of election day.
- Regarding Class I residents of Montana, these individuals cannot vote absentee by virtue of HB 506; this distinguishes them from all otherwise eligible voters in Montana. In addition, otherwise eligible residents of Montana who turn 18 on election day cannot register to vote using same day registration because House Bill 176 eliminated this form of voter registration in Montana as April 19, 2021. Regarding Class II, these individuals are burdened by HB 506 because they cannot vote absentee unless willing to contravene recommendations promulgated by the USPS. Regarding Class III, these individuals are burdened by HB 506 because they cannot vote absentee via mail unless willing to contravene recommendations promulgated by the USPS. Lastly, regarding Class IV, these individuals are burdened by HB 506 because this legislation's provisions mean that they will receive absentee ballots later than those who turn 18 more than 25 days before an election.
- Otherwise eligible residents of Montana who turn 18 between 26 and 30 days of election day may not register to vote via mail on account of their birthdays being after an election's regular registration deadline. On account of HB 506, unless these individuals pre-register to vote, they risk not having their absentee ballots sent to them 25 days before election day.
- 75 HB 506 burdens all otherwise eligible residents of Montana who turn 18 within 25 days of election day. However, this legislation's burdens are greatest for those individuals whose birthdays

fall in this date range and who live outside of Montana. These individuals, by virtue of their locations, cannot vote in-person without traveling to Montana and thus are particularly vulnerable to any restrictions placed on absentee voting.

I declare under penalty of perjury and under the laws of the state of Montana that the foregoing is true and correct.

Dr. Michael Herron

## References

- Baringer, Anna, Michael C. Herron and Daniel A. Smith. 2020. "Voting by Mail and Ballot Rejection: Lessons from Florida for Elections in the Age of the Coronavirus." *Election Law Journal* 19(3):289–320.
- Brennan, Geoffrey and Alan Hamlin. 1998. "Expressive voting and electoral equilibrium." *Public choice* 95(1-2):149–175.
- Brians, Craig L. and Bernard Grofman. 2001. "Election Day Registration's Effect on U.S. Voter Turnout." *Social Science Quarterly* 82:170–83.
- Downs, Anthony. 1957. An Economic Theory of Democracy. New York: Harper and Row.
- Drinkwater, Stephen and Colin Jennings. 2007. "Who are the expressive voters?" *Public Choice* 132(1-2):179–189.
- Grimmer, Justin and Jesse Yoder. 2021. "The durable differential deterrent effects of strict photo identification laws." *Political Science Research and Methods* p. 1–17.
- Gronke, Paul, Eva Galanes-Rosenbaum, Peter A. Miller and Daniel Toffey. 2008. "Convenience Voting." *Annual Review of Political Science* 11(1):437–455.
- Grumbach, Jacob M. and Charlotte Hill. 2021. "Rock the Registration: Same Day Registration Increases Turnout of Young Voters." Forthcoming, *The Journal of Politics*.
- Herron, Michael C. and Daniel A. Smith. 2015. "Precinct Closing Times in Florida During the 2012 General Election." *Election Law Journal* 14(3):220–238.
- Kaplan, Ethan and Haishan Yuan. 2020. "Early Voting Laws, Voter Turnout, and Partisan Vote Composition: Evidence from Ohio." *American Economic Journal: Applied Economics* 12(1):32–60.

- Knack, Stephen. 2001. "Election-day Registration The Second Wave." *American Politics Research* 29(1):65–78.
- Knack, Stephen and James White. 2000. "Election-day registration and turnout inequality." *Political Behavior* 22(1):29–44.
- Li, Quan, Michael J. Pomante, and Scot Schraufnagel. 2018. "The Cost of Voting in the American States." *Election Law Journal* 17(3):234–47.
- Li, Quan, Michael J. Pomante II and Scot Schraufnagel. 2018. "Cost of Voting in the American States." *Election Law Journal* 17(3):234–247.
- Mukherjee, Elora. 2009. "Abolishing the time tax on voting." Notre Dame Law Review 85:177.
- Neiheisel, Jacob R and Rich Horner. 2019. "Voter Identification Requirements and Aggregate Turnout in the US: How Campaigns Offset the Costs of Turning Out When Voting Is Made More Difficult." *Election Law Journal: Rules, Politics, and Policy* 18(3):227–242.
- Riker, William H. and Peter C. Ordeshook. 1968. "A Theory of the Calculus of Voting." *American Political Science Review* 62(1):25–42.
- Rosenstone, Steven J. and Raymond E. Wolfinger. 1978. "The effect of registration laws on voter turnout." *American Political Science Review* 72(1):22–45.
- Rosenstone, Steven and John M. Hansen. 1993. *Mobilization, Participation and Democracy in America*. New York: MacMillan Publishing.
- Tokaji, Daniel P and Ruth Colker. 2007. "Absentee voting by people with disabilities: Promoting access and integrity." *McGeorge Law Review* 38:1015–1046.

## A Appendix: curriculum vitae of Michael C. Herron

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#### Academic appointments

William Clinton Story Remsen 1943 Professor, Program in Quantitative Social Science, Dartmouth College. July 2021–present.

William Clinton Story Remsen 1943 Professor, Department of Government, Dartmouth College. July 2013–June 2021.

Chair, Program in Quantitative Social Science, Dartmouth College. July 2015–June 2020, July 2021 - present.

Visiting Scholar, Hertie School of Governance, Berlin, Germany. August 2016–July 2017.

Chair, Program in Mathematics and Social Sciences, Dartmouth College. July 2014– June 2015.

Professor, Department of Government, Dartmouth College. July 2009–June 2013.

Visiting Professor of Applied Methods, Hertie School of Governance, Berlin, Germany. August 2011–August 2012.

Associate Professor, Department of Government, Dartmouth College. July 2004–June 2009.

Visiting Associate Professor, Department of Government, Harvard University. July 2008–January 2009.

Visiting Associate Professor, Wallis Institute of Political Economy, University of Rochester. September 2006–December 2006.

Visiting Assistant Professor, Department of Government, Dartmouth College. July 2003–June 2004.

Assistant Professor, Department of Political Science, Northwestern University. September 1997–June 2004.

Faculty Associate, Institute for Policy Research, Northwestern University. September 2002–June 2004.

#### Education

PhD Business (Political Economics), Stanford University, January 1998. *Dissertation*: Political Uncertainty and the Prices of Financial Assets *Committee*: David Baron, Darrell Duffie, Douglas Rivers, and Barry Weingast

MS Statistics, Stanford University, June 1995.

MA Political Science, University of Dayton, August 1992.

BS Mathematics and Economics, with University Honors, Carnegie Mellon University, May 1989.

#### Fellowships

Elizabeth R. and Robert A. Jeffe 1972 Fellowship, Dartmouth College. September 2010–June 2011.

Fulbright Scholar Program fellowship for research and teaching at the Heidelberg Center for American Studies, Heidelberg University, September 2009 - February 2010 (declined).

Post-doctoral Research Fellow, Center for Basic Research in the Social Sciences, Harvard University. September 2000-August 2001.

#### **Publications**

#### Iournal articles

"Auditing the 2020 General Election in Georgia: Residual Vote Rates and a Confusing Ballot Format (with David Cottrell, Felix E. Herron, and Daniel A. Smith). Forthcoming, Election Law Journal.

"Vote-by-mail ballot rejection and experience with mail-in voting" (with David Cottrell and Daniel A. Smith). *American Politics Research* 49(6): 577-590. 2021.

"Voting lines, equal treatment, and early voting check-in times in Florida" (with David Cottrell and Daniel A. Smith). State Politics & Policy Quarterly 21(2): 109-138. 2021.

"Postal Delivery Disruptions and the Fragility of Voting by Mail: Lessons from Maine" (with Daniel A. Smith). Research & Politics 8(1): 1-12. 2021.

"Voting by Mail and Ballot Rejection: Lessons from Florida for Elections in the Age of the Coronavirus" (with Anna Baringer and Daniel A. Smith). *Election Law Journal* 19(3): 289-320. 2020.

"Early voting changes and voter turnout: North Carolina in the 2016 General Election" (with Hannah L. Walker and Daniel A. Smith). *Political Behavior* 41(4): 841-869. 2019.

"Mail-in absentee ballot anomalies in North Carolina's 9th Congressional District." *Election Law Journal* 18(3): 191-213. 2019.

"Relative age effects in American professional football" (with Jack F. Heneghan). *Journal of Quantitative Analysis in Sports* 15(3): 185-202. 2019.

"Mortality, Incarceration, and African-American Disenfranchisement in the Contemporary United States" (with David Cottrell, Javier M. Rodriguez, and Daniel A. Smith). *American Politics Research* 47(2): 195-237. 2019.

"Pedagogical Value of Polling Place Observation By Students" (with 31 co-authors). PS: Political Science & Politics 51(4): 831-847. 2018.

"All in the family: German twin finishing times in the 2016 women's Olympic marathon" (with David Cottrell). CHANCE 31(3): 20-28. 2018.

"An Exploration of Donald Trump's Allegations of Massive Voter Fraud in the 2016 General Election" (with David Cottrell and Sean J. Westwood). *Electoral Studies* 51(1): 123-142. 2018.

"Student Sorting and Implications for Grade Inflation (with Zachary D. Markovich). Rationality and Society 29(3): 355-386. 2017.

"Race, Shelby County, and the Voter Information Verification Act in North Carolina" (with Daniel A. Smith). Florida State University Law Review 43: 465-506. 2016.

"Precinct Resources and Voter Wait Times" (with Daniel A. Smith). Electoral Studies 42(2): 249-263. 2016.

"A Careful Look at Modern Case Selection Methods" (with Kevin M. Quinn). Sociological Methods & Research 45(3): 458-492. 2016.

"Precinct Closing and Wait Times in Florida during the 2012 General Election" (with Daniel A. Smith). Election Law Journal 14(3): 220-238. 2015.

"Race, Party, and the Consequences of Restricting Early Voting in Florida in the 2012 General Election" (with Daniel A. Smith). *Political Research Quarterly* 67(3): 646-665. 2014.

"The Effects of House Bill 1355 on Voter Registration in Florida" (with Daniel A. Smith). State Politics & Policy Quarterly 13(3): 279-305. 2013.

"Blacks, Hispanics, and Whites: A Study of Race-based Residual Vote Rates in Chicago." American Politics Research 41(2): 203-243. 2013.

"Alvin Greene? Who? How did he win the United States Senate nomination in South Carolina?" (with Joseph Bafumi, Seth J. Hill, and Jeffrey B. Lewis). *Election Law Journal* 11(4): 358-379. 2012.

"Souls to the Polls: Early Voting in Florida in the Shadow of House Bill 1355" (with Daniel A. Smith). *Election Law Journal* 11(3): 331-347. 2012.

"Leapfrog Representation and Extremism: A Study of American Voters and their Members in Congress" (with Joseph Bafumi). American Political Science Review 104(3): 519-542. 2010.

"Economic Crisis, Iraq, and Race: A Study of the 2008 Presidential Election" (with Seth J. Hill and Jeffrey B. Lewis). Election Law Journal 9(1): 41-62. 2010

"Prejudice, Black Threat, and the Racist Voter in the 2008 Presidential Election" (with Joseph Bafumi). *Journal of Political Marketing* 8(4): 334-348. 2009.

"Voting Technology and the 2008 New Hampshire Primary" (with Walter R. Mebane, Jr., and Jonathan N. Wand). William & Mary Bill of Rights Journal 17(2): 351-374. 2008.

"Ballot Formats, Touchscreens, and Undervotes: A Study of the 2006 Midterm Elections in Florida" (with Laurin Frisina, James Honaker, and Jeffrey B. Lewis). Election Law Journal 7(1): 25-47. 2008.

"Gerrymanders and Theories of Lawmaking: A Study of Legislative Redistricting in Illinois" (with Alan E. Wiseman). *Journal of Politics* 70(1): 151-167. 2008.

"Estimating the Effect of Redistricting on Minority Substantive Representation" (with David Epstein, Sharyn O'Halloran, and David Park). *Journal of Law, Economics, and Organization* 23(2): 499-518. 2007.

"Did Ralph Nader Spoil Al Gore's Presidential Bid? A Ballot-Level Study of Green and Reform Party Voters in the 2000 Presidential Election" (with Jeffrey B. Lewis). *Quarterly Journal of Political Science* 2(3): 205-226. 2007.

"Assessing Partisan Bias in Voting Technology: The Case of the 2004 New Hampshire Recount" (with Jonathan N. Wand). Electoral Studies 26(2): 247-261. 2007.

"Term Limits and Pork" (with Kenneth W. Shotts). Legislative Studies Quarterly 31(3): 383-404. 2006.

"Black Candidates and Black Voters: Assessing the Impact of Candidate Race on Uncounted Vote Rates" (with Jasjeet S. Sekhon). *Journal of Politics* 67(1): 154–177. 2005.

"Government Redistribution in the Shadow of Legislative Elections: A Study of the Illinois Member Initiatives Grant Program" (with Brett A. Theodos). Legislative Studies Quarterly 24(2): 287–312. 2004.

"Studying Dynamics in Legislator Ideal Points: Scale Matters." Political Analysis 12(2): 182-190. 2004.

"Logical Inconsistency in EI-based Second Stage Regressions" (with Kenneth W. Shotts). *American Journal of Political Science* 48(1): 172–183. 2004.

"Overvoting and Representation: An examination of overvoted presidential ballots in Broward and Miami-Dade Counties" (with Jasjeet S. Sekhon). *Electoral Studies* 22: 21–47. 2003.

"Using Ecological Inference Point Estimates as Dependent Variables in Second Stage Linear Regressions" (with Kenneth W. Shotts). *Political Analysis* 11(1): 44–64. 2003.

"Cross-contamination in EI-R" (with Kenneth W. Shotts). Political Analysis 11(1): 77-85. 2003.

"A Consensus on Second Stage Analyses in Ecological Inference Models" (with Christopher Adolph, Gary King, and Kenneth W. Shotts). *Political Analysis* 11(1): 86–94. 2003.

"The Butterfly Did It: The Aberrant Vote for Buchanan in Palm Beach County, Florida" (with Jonathan N. Wand, Kenneth W. Shotts, Jasjeet S. Sekhon, Walter R. Mebane, Jr., and Henry E. Brady). *American Political Science Review* 95(4): 793–810. 2001.

"Interest Group Ratings and Regression Inconsistency." Political Analysis 9(3): 260-274. 2001.

"Leadership and Pandering: A Theory of Executive Policymaking" (with Brandice Canes–Wrone and Kenneth W. Shotts). *American Journal of Political Science* 45(3): 532–550. 2001.

"Law and Data: The Butterfly Ballot Episode" (with Henry E. Brady, Walter R. Mebane, Jr., Jasjeet S. Sekhon, Kenneth W. Shotts, and Jonathan N. Wand). PS: Political Science & Politics 34(1): 59–69. 2001.

"Cutpoint-Adjusted Interest Group Ratings." Political Analysis 8(4): 346-366. 2000.

"Estimating the Economic Impact of Political Party Competition in the 1992 British Election." American Journal of Political Science 44(2): 326–337. 2000.

"Artificial Extremism in Interest Group Ratings and the Preferences versus Party Debate." *Legislative Studies Quarterly* 24(4): 525–542. 1999.

"Post–Estimation Uncertainty in Limited Dependent Variable Models." Political Analysis 8(1): 83–98.

"Measurement of Political Effects in the United States Economy: A Study of the 1992 Presidential Election" (with James Lavin, Donald Cram, and Jay Silver). *Economics & Politics* 11(1): 51–81. 1999.

"The Influence of Family Regulation, Connection, and Psychological Autonomy on Six Measures of Adolescent Functions" (with Melissa R. Herman, Sanford M. Dornbusch, and Jerald R. Herting). *Journal of Adolescent Research* 12(1): 34–67. 1997.

#### Book chapters

"Wait Times and Voter Confidence: A Study of the 2014 General Election in Miami-Dade County" (with Daniel A. Smith, Wendy Serra, and Joseph Bafumi). In *Races, Reforms, & Policy: Implications of the 2014 Midterm Elections*, Christopher J. Galdieri, Tauna S. Sisco, and Jennifer C. Lucas, eds. Akron, OH: University of Akron Press. 2017.

"A Dynamic Model of Multidimensional Collective Choice" (with David P. Baron). In *Computational Models in Political Economy*, Ken Kollman, John H. Miller, and Scott E. Page, eds. Cambridge, MA: The MIT Press. 2003.

"Law and Data: The Butterfly Ballot Episode" (with Henry E. Brady, Walter R. Mebane Jr., Jasjeet Singh Sekhon, Kenneth W. Shotts, and Jonathan Wand). In *The Longest Night: Polemics and Perspectives on Election 2000*, Arthur J. Jacobson and Michel Rosenfeld, eds. Berkeley: University of California Press. 2002.

#### Book reviews

The Timeline of Presidential Elections: How Campaigns Do (and Do Not) Matter, Robert S. Erikson and Christopher Wlezien. Political Science Quarterly 128(3): 552-553. 2013.

Voting Technology: The Not-So-Simple Act of Casting a Ballot, Paul S. Herrnson, Richard G. Niemi, Michael J. Hanmer, Benjamin B. Bederson, and Frederick C. Conrad. Review of Policy Research 25(4): 379-380. 2008.

#### Other publications

"In two political battlegrounds, thousands of mail-in ballots are on the verge of being rejected" (with Daniel A. Smith). The Conversation, October 23, 2020. Available at https://theconversation.com/in-two-political-battlegrounds-thousands-of-mail-in-ballots-are-on-the-verge-of-being-rejected-148616.

"Rejected mail ballots pile up in Florida" (with Daniel A. Smith). *Tampa Bay Times*, October 16, 2020. Available at https://www.tampabay.com/opinion/2020/10/16/rejected-mail-ballots-pile-up-in-florida-column.

"Minor postal delays could disenfranchise thousands of Florida vote-by-mail voters" (with Daniel A. Smith). Tampa Bay Times, August 14, 2020. Available at https://www.tampabay.com/opinion/2020/08/14/minor-postal-delays-could-disenfranchise-thousands-of-florida-vote-by-mail-voters-column.

"Want to know how many people have the coronavirus? Test randomly" (with Daniel N. Rockmore). *The Conversation*, April 13, 2020. Available at https://theconversation.com/want-to-know-how-many-people-have-the-coronavirus-test-randomly-135784.

"If more states start using Ohio's system, how many voters will be purged?" (with Daniel A. Smith). *The Washington Post*, Monkey Cage, June 17, 2018.

"Do we have a right not to vote? The Supreme Court suggests we don't" (with Daniel A. Smith). *New York Daily News*, June 12, 2018.

"Nearly 4 million black voters are missing. This is why" (with David Cottrell, Javier M. Rodriguez, and Daniel A. Smith). *The Washington Post*, Monkey Cage, April 11, 2018.

"We can't find any evidence of voting fraud in New Hampshire" (with David Cottrell and Sean Westwood). *The Washington Post*, Monkey Cage, February 28, 2017.

"We checked Trump's allegations of voter fraud. We found no evidence at all" (with David Cottrell and Sean Westwood). The Washington Post, Monkey Cage, December 2, 2016.

"High ballot rejection rates should worry Florida voters" (with Daniel A. Smith). Tampa Bay Times, October 28, 2012.

"Logistic Regression." *The Encyclopedia of Political Science*, George Thomas Kurian, James E. Alt, Simone Chambers, Geoffrey Garrett, Margaret Levi, and Paula D. McClain, eds., Washington, D.C.: CQ Press.

"Using XEmacs Macros to Process ASCII Data Files." The Political Methodologist 13(2): 13-18. 2005.

"Ohio 2004 Election: Turnout, Residual Votes and Votes in Precincts and Wards" (with Walter R. Mebane, Jr.), in "Democracy At Risk: The 2004 Election in Ohio," report published by the Democratic National Committee. 2005.

"Poisson Regression." The Encyclopedia of Social Science Research Methods, Alan Bryman, Michael Lewis-Beck, and Tim Futing Liao, eds. Thousand Oaks, CA: Sage Publications, 2003.

"Pork barrel race to the bottom" (with Brett A. Theodos). Illinois Issues 29(2): 22-23. 2003.

"Teaching Introductory Probability Theory." The Political Methodologist 10(2): 2-4. 2002.

"Ballot cost Gore thousands of votes" (with Henry E. Brady and Jonathan N. Wand). *The San Diego Union–Tribune*, p. G<sub>3</sub>, November 19, 2000.

#### Work in progress

"Race and the Reduction of Early In-Person Voting in Georgia" (with Enrijeta Shino and Daniel A. Smith).

"Evidence from Maine on the effect of the COVID-19 pandemic on methods of absentee ballot delivery."

"Did ballot design oust an incumbent senator? A study of the 2018 midterm election in Florida" (with Michael D. Martinez and Daniel A. Smith).

#### Congressional testimony

"Voting in America: The Potential for Polling Place Quality and Restrictions on Opportunities to Vote to Interfere with Free and Fair Access to the Ballot," Subcommittee on Elections, Committee on House Administration, United States House of Representatives. June 11, 2021.

#### **Awards**

Elizabeth Howland Hand-Otis Norton Pierce Award for outstanding undergraduate teaching, Dartmouth College, 2020-21.

Best Paper Award, State Politics and Policy Section, 2013 Annual Meeting of the American Political Science Association. *Getting Your Souls to the Polls: The Racial Impact of Reducing Early In-Person Voting in Florida* (with Daniel A. Smith).

#### Grants

Committee for Scholarly Innovation and Advancement Awards, Dartmouth College, February, 2014. Project title: "The Dynamics of Voting Lines in Miami-Dade County." Financial support: \$32,000.

The Rockefeller Center for Public Policy and the Social Sciences, Dartmouth College, May, 2006. Project title: "Large Scale Survey of Americans in Multiple Congressional Districts." Financial support: \$8,500.

National Science Foundation, SES-041849, July, 2004. Project title: "A Ballot-Level Study of Intentional and Unintentional Abstention in Presidential Election Voting." Financial support: \$65,749.

Nelson A. Rockefeller Center for the Social Sciences, Dartmouth College, January, 2004. Project title: "Intentional Invalid Votes in Leon County, Florida." Financial support: \$1,115.

American Enterprise Institute, August, 1999. Project title: "Tenure in Office and Congressional Voting" (with Kenneth W. Shotts). Financial support: \$182,500.

University Research Grants Committee, Northwestern University, February, 1999. Project Title: "Representation, Policy Uncertainty, and Divided Government." Financial support: \$4,087.

Stanford University Graduate School of Business, 1997–1998 Academic Year. Dissertation Research Grant.

#### Recent conference presentations

"Auditing the 2020 General Election in Georgia: Residual vote rates and a confusing ballot format," 2021 Annual Meeting of the Southern Political Science Association, conducted remotely.

"Ballot design, voter intentions, and representation: A study of the 2018 midterm election in Florida," 2019 Annual Meeting of the American Political Science Association, Washington, DC.

"Ballot design, voter intentions, and representation: A study of the 2018 midterm election in Florida," Election Sciences, Reform, and Administration conference, 2019, University of Pennsylvania.

"Did ballot design oust an incumbent senator? A study of the 2018 midterm election in Florida," Congressional Elections & the Presidency: Politics in 2018, March 30, 2019, Saint Anselm College, Manchester NH.

"Estimating the Differential Effects of Purging Inactive Registered Voters," 2018 Annual Meeting of the American Political Science Association, Boston MA.

"Estimating the Differential Effects of Purging Inactive Registered Voters," Election Sciences, Reform, and Administration conference, 2018, University of Wisconsin-Madison.

Keynote address, "Mortality, Incarceration, and African-American Disenfranchisement," *Balancing the Scales: The United States in an Age of Inequality*, November 11, 2016, John F. Kennedy Institute, Freie Universität Berlin.

"Missing Black Men and Representation in American Political Institutions," 2016 Annual Meeting of the Midwest Political Science Association, Chicago, IL.

"A Simulation Study of Precinct Resources and Voter Wait Times in Hanover, New Hampshire," New Research on Election Administration and Reform, 2015, Massachusetts Institute of Technology, Cambridge, MA.

"Rejected Absentee Ballots in Florida," 2015 Annual Meeting of the Midwest Political Science Association, Chicago, IL.

#### Invited seminars

University of Iowa, 1999 University of Mannheim, 2011 Boston University, 2000 Dartmouth College, 2000 Harvard University, 2000 University of Minnesota, 2000 University of Rochester, 2000 Laval University, 2012 University of Wisconsin, Madison, 2000

Yale University, 2000

Columbia University, 2001 University of California, Berkeley, 2002

University of Illinois, 2002 Brown University, 2003 Temple University, 2003

University of Chicago, 2003 New York University, 2004

Princeton University, 2004 University of Michigan, 2005

George Washington University, 2006 Emory University, 2006

Harvard University, 2007 Loyola Law School, 2007

Columbia University, 2007 University of Chicago, 2007 Yale University, 2007 Stanford University, 2008 Columbia University, 2008 Northwestern University, 2008 Princeton University, 2008

Duke University, 2009

Hertie School of Governance, 2010 Emory University, 2010

University of Heidelberg, 2011 University of Passau, 2012 University of Göttingen, 2012 Freie Universität Berlin, 2012 University of Montreal, 2012 Middlebury College, 2013

University of Illinois, Champaign, 2013 University of Illinois, Chicago, 2013 University of Wisconsin, Madison, 2013

Yale University, 2014 University of Virginia, 2015

University of California, San Diego, 2015

American University, 2015

Massachusetts Institute of Technology, 2015 Princeton University, 2015 University of California, Los Angeles, 2016 The Ohio State University, 2016

Freie Universität Berlin, 2016

Deutsch-Amerikanisches Institut, Nürnberg, 2017

Universität Bonn, 2018

Freie Universität Berlin, 2018 Northwestern University, 2018 University of Pittsburgh, 2019 University of Salzburg, 2019 Universität Bonn, 2019 Freie Universität Berlin, 2019 Humboldt University, 2019

University of North Carolina, Charlotte, 2019

#### Professional activities

Division Chair, Representation and Electoral Systems, 2017 Annual Meeting of the Midwest Political Science Association.

Associate Editor, Research & Politics. November, 2016-present.

Editorial Board, American Politics Research, September, 2015-present.

Editorial Board, Political Analysis, January, 2010-present.

Editorial Board, USENIX Journal of Election Technology and Systems, March 2013-June 2016.

Editorial Board, American Political Science Review, 2010-2012.

Editorial Board, American Journal of Political Science, 2006-2009.

"Race, Voting Procedures, and New Developments in Voting Rights," panel organized for the 2013 Annual Meeting of the Midwest Political Science Association.

Division Chair, Formal Theory, 2007 Annual Meeting of the American Political Science Association.

Co-editor, The Political Methodologist, Fall 2004–Spring 2006.

Publications Committee, Society for Political Methodology, 2005–2006, 2015–present.

#### Dartmouth College activities

Chair, American Politics Search Committee, Department of Government, August 2018–March 2019.

Chair, Committee on Priorities, July 2015–June 2016.

Committee on Priorities, July 2013-June 2015, Fall 2019-present.

American politics search committee, Department of Government, August 2014–December 2014.

Research Computing Director search committee, October 2013-October 2014.

Senior Search Committee, Department of Government, 2013.

Research Computing Advisory Committee, Spring 2013.

Chair, American Politics Search Committee, Department of Government, 2012-2013.

Recruitment Planning Committee, Department of Government, 2010 and 2012-2013.

Committee on Standards, 2008-2010.

Task Force on Collaboration and Social Software, 2007-2008.

Biostatistics search committee, Dartmouth Medical School, 2006-2007.

Research Computing Oversight Committee, 2006.

Council on Computing, 2005-2007.

Clement Chair search committee, Department of Government, 2005-2006.

#### Northwestern University activities

Program Committee, Mathematical Methods in the Social Sciences, 2001-2002.

American Politics Search Committee, Department of Political Science, 2000–2001, 2001-2002.

Formal Theory Search Committee, Department of Political Science, 1997–1998.

#### Teaching interests

Statistical methods: introductory and applied statistics, research design, computing in R.

American politics: representation, election irregularities, election administration.

Political economy: game theory.

#### Reviewer for

American Journal of Political Science American Political Science Review American Politics Quarterly American Politics Review British Journal of Political Science Cambridge University Press Chapman & Hall

Congress & the Presidency Du Bois Review Economics & Politics Election Law Journal Electoral Studies

Emerging Markets Finance & Trade Interest Groups & Advocacy

Int'l Journal of Environmental Research and Public Health John Wiley & Sons, Inc.

Journal of Legal Studies

Journal of Money, Credit and Banking

Journal of Politics Journal of Public Economics

Journal of Quantitative Analysis in Sports Journal of Race, Ethnicity, and Politics Journal of Theoretical Politics Journal of Women, Politics & Policy Legislative Studies Quarterly The National Science Foundation

Nonprofit Policy Forum Perspectives on Politics Policy Studies Journal

Political Analysis Political Behavior

Political Research Quarterly Political Science Quarterly

Political Science Research and Methods

Political Studies Politics & Gender

Politics, Groups, and Identities

Polity

Prentice Hall Higher Education Group Proceedings of the National Academy of Sciences Public Administration

Public Choice Public Opinion Quarterly PS: Political Science and Politics Quarterly Journal of Economics Quarterly Journal of Political Science

Race and Social Problems Science Advances The Social Science Journal Social Science Quarterly Sociological Methods & Research The Sociological Quarterly

Springer

State Politics & Policy Quarterly

Time-Sharing Experiments for the Social Sciences

The University of Michigan Press W. W. Norton & Company

World Politics

#### Foreign language

German: C1 (telc Prüfung, Ausstellung July 27, 2017).

#### Other employment

Intelligence Analyst and Military Officer, United States Air Force, Foreign Technology Division, Wright-Patterson Air Force Base, 1989-1992.

> Last updated: November 5, 2021 http://www.dartmouth.edu/~herron/cv.pdf

## **B** Appendix: Details on Montana voterfiles

Plaintiffs' Counsel provided me with eight voterfiles, corresponding to the 2014, 2016, 2018, and 2020 primary and general elections. These files were contained in zip archives that are listed in Table 8.

Table 8: Zip archives containing voterfiles

Election	Name of zip archive
2014 Primary	2014 - Primary.zip
2014 General	2014 - General.zip
2016 Primary	2016-06-16 - Primary 2016.zip
2016 General	2016-11-16 - General 2016.zip
2018 Primary	2018 - Primary.zip
2018 General	2018 - General.zip
2020 Primary	2020-06-16 - Primary 2020.zip
2020 General	2020-11-16 - General 2020.zip

Each zip archive contains two text files that together constitute a single voterfile. Table 9 specifies the name ("File") of the file that lists voters and their identifying details, the number ("Voters") of registered voters in each of the eight voterfiles, the latest birth date ("Latest birth date") in each file, and the number ("Missing birth dates") of voter records with missing or improperly formatted birth dates. Compared to the several millon voter records across the voterfiles used in this report, the total number of records (four) with missing or malformed birth dates is very small.

Table 9: Summary of birth dates in Montana voterfiles

Election	File	Voters	Latest birth date	Missing birth dates
2014 Primary	SOS077835.txt	659,622	November 7, 1996	2
2014 General	SOS077833.txt	674,231	September 2, 1997	1
2016 Primary	SOS077839.txt	648,837	March 13, 1999	0
2016 General	SOS077837.txt	694,195	September 2, 1999	0
2018 Primary	SOS077843.txt	679,736	March 19, 2001	0
2018 General	SOS077841.txt	711,615	September 27, 2001	0
2020 Primary	SOS077851.txt	696,320	January 23, 2003	1
2020 General	SOS077847.txt	752,222	August 7, 2003	0

- **78** Before processing the files listed in Table 9, I removed trailing tabs and Windows carriage returns from each data line.
- Each file in Table 9 contains a header line that lists field names. The field for voter birth date is birth\_date, and the field for mailing state is MA\_STATE. When the latter has the value of "MT" or is empty, I treat the associated voter as living in Montana.
- As a check on the consistency of the data in my voterfiles, for each of the eight elections considered in this report I calculated the number of voters born in the year that is 18 years prior to the election year, the number of voters born 19 years prior to the latter year (i.e., one year before the voter eligibility cutoff year), the number of voters born 20 years prior to the election year (i.e., two years before the voter eligibility cutoff year), and the number of voters born 21 years prior to the latter year (i.e., two years before the voter eligibility cutoff year). Counts of these voters appear in Table 10.

Table 10: Registered voter birth years in Montana voterfiles

	Years before eligibility cutoff			
Election	3	2	1	0
2014 Primary	8,642	7,524	3,948	1,024
2014 General	9,115	8,147	5,637	4,066
2016 Primary	7,523	6,656	4,927	1,795
2016 General	9,161	8,436	7,606	6,359
2018 Primary	8,897	8,186	4,315	1,377
2018 General	9,934	9,230	6,893	5,611
2020 Primary	8,528	7,914	4,632	1,459
2020 General	10,359	9,795	8,029	6,404

Turning to the top row of this table ("2014 Primary"), there 1,024 voters in the 2014 primary election voterfile born in 1996 (18 years before 2014), 3,948 voters born in 1995, 7,524 voters born in 1994, and 8,642 voters born in 1993.

- There is a common pattern across the eight rows in Table 10: the younger the age cohort in a given electorate, the fewer the number of registered voters.
- Table 11 lists the eight history files that contribute to Table 7 in the body of the report.

Table 11: History files

Election	File
2014 Primary	SOS077836.txt
2014 General	SOS077834.txt
2016 Primary	SOS077840.txt
2016 General	SOS077838.txt
2018 Primary	SOS077844.txt
2018 General	SOS077842.txt
2020 Primary	SOS077852.txt
2020 General	SOS077848.txt

Within each history file, I identified voters for the 2014, 2016, 2018, and 2020 primary and general elections by selecting on election date (field name of ELECTION\_DATE). History file entries with duplicated voter identification numbers (Voter ID) were dropped to avoid double-counting. Voters with participation code (VMM\_ID) of two ("2") were treated as having turned out to vote in-person. For the 2016, 2018, and 2020 elections, a voter with participation codes of one ("1") or four ("4") was treated as having turned out to vote absentee if the status (BALLOTSTAGE/STATUS) of the voter's absentee ballot was either "Processed/Rejected" or "Processed/Accepted." For the 2014 primary and general election history files, the field BALLOTSTAGE/STATUS does not exist. For these two elections, a voter with participation codes of one ("1") or four ("4") was treated as having turned out to vote absentee if the received date of the voter's absentee ballot (RECEIVE\_DATE) was not empty.

<sup>&</sup>lt;sup>22</sup>See fn. 17 for references to the codes in the history file field VMM\_ID.

#### **CERTIFICATE OF SERVICE**

I, Rylee Sommers-Flanagan, hereby certify that I have served true and accurate copies of the foregoing Affidavit - Affidavit to the following on 01-12-2022:

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Service Method: eService

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Service Method: Email

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Blackfeet Nation (Plaintiff) Service Method: Email

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Dated: 01-12-2022