The Center for New Data

Observing Democracy Memo

Access to Polls: Assessment of Early Vote Wait Times in Georgia's General Election and Potential Effects of Voting Restrictions in Runoff

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Preface

The Center for New Data

The Center for New Data is a 501(c)(3) non-profit organization dedicated to unlocking large and complex datasets for use in the broader public interest. Born as a research alliance out of the COVID-19 pandemic by a cross-functional group of policy experts, technologists, and entrepreneurs, the Covid Alliance developed novel social distancing metrics before expanding "data for good" projects that now include democracy promotion. The Center puts its technology in the hands of an inclusive set of partners that can drive social impact research on consequential public policy topics.

Observing Democracy

Observing Democracy is a flagship program of the Center for New Data. The program is a novel data initiative working with organizations to strengthen democracy by providing concrete data and transparent methodology on election administration. To provide a credible and comprehensive record for public consumption, we primarily focus on leveraging pseudonymized geolocation data — along with voter files and census records — to document key metrics of election activity, including polling wait times and travel times.

We are committed to the responsible use of data, including ethical standards for data collection, rigorous protections for privacy preservation, and robust defenses against security lapses or breaches. We are also committed to leveraging this data in pursuit of creating public value and accelerating non-partisan research, policy work, and knowledge-creation.

Supporting a Broader Ecosystem of Voting Rights & Election Observation Efforts

The Center for New Data's Observing Democracy program is just the latest entry to a long-standing field of efforts working towards transparency, integrity, and fairness of elections. Our intention is to complement existing efforts to measure election experiences, conduct related academic research, and document and foster on-the-ground change as is done by election-related policy organizations internationally and abroad.

Presidential Commission on Election Administration Recommendations

The bipartisan Presidential Commission on Election Administration (PCEA), created under President Obama by Executive Order on March 28, 2013, was tasked to identify best practices in election administration and to make recommendations to improve the voting experience.

The PCEA's final report asserted that "No citizen should have to wait more than 30 minutes to vote; jurisdictions can solve the problem of long lines through a combination of planning, including use of the tools noted in this Report, and the efficient allocation of resources". Observing Democracy's analysis uses voting time above and below 30 minutes as a primary basis for assessment.

Our calculations of vote times are calculated as time on-site, which consist of wait-times and time for voting *per se*, i.e., signing in with poll station clerks and the casting of ballots.

Guided and Trusted by Expert Advisors

Our organization has been trusted and guided by a range of domain experts. Advisors include leaders from international election observation, democracy strengthening, information operations, health informatics, disaster response, and data governance and privacy. These advisors have provided guidance on the strategic use of data, data engineering and processing steps, and the design of interactive dashboards that add value to researchers, analysts, and policymakers.

To learn more about Observing Democracy's team and program advisors, visit newdata.org/who-we-are.

Data Sharing with Trusted Non-Partisan Partners

Observing Democracy's media partners include the Washington Post, ProPublica, the Center for Public Integrity, and MIT Technology Review. These organizations use aggregated data via interactive dashboards to support fact-checking operations and in-depth investigative journalism.

Technology and data partners include Immuta, X-MODE, Veraset, Onemata, Aleada Consulting, L2Political, Limbik, and many others.

Key Findings

Early Vote Times Across Georgia

The numbers reported below were produced by the Center for New Data's replication of *Chen et al* (NBER, 2019), following the primary parameter set (chosen for its robustness, assessed with sensitivity tests). Note that vote times are defined as time on-site, which includes wait-times *plus* the time to sign-in with poll station clerks and to cast a ballot.

Early Vote Times Statewide

- Statewide, the average measured vote time in Georgia was 44 minutes.
- The top 10 counties with the longest average vote times were: Pickens (82 minutes), Charlton (81 minutes), Harris (81 minutes), Houston (81 minutes), Stephens (81 minutes), Monroe (81 minutes), Clarke (77 minutes), Wilkinson (77 minutes), Laurens (77 minutes), Newton (75 minutes). (**See A.1.**)
- The 10 counties with the shortest average vote times were: Wilcox (8 minutes), Atkinson (12 minutes), Taliaferro (12 minutes), Long (14 minutes), Clay (15 minutes), McDuffie (17 minutes), Baker (17 minutes), Rabun (17 minutes), Oglethorpe (17 minutes), Webster (17 minutes).

Early Vote Times Inside and Outside of the Atlanta Metro Area

- The counties that comprise the Atlanta metropolitan area had average vote times of: Coweta (74 minutes), Douglas (69 minutes), Cobb (50 minutes), Clayton (49 minutes), DeKalb (47 minutes), Fulton (44 minutes), Henry (43 minutes), Gwinnett (42 minutes), Fayette (41 minutes). (**See A.2.)**
- The ten non-metro counties with the highest average vote times were Pickens (82 minutes), Stephens (81 minutes), Charlton (81 minutes), Monroe (80 minutes), Houston (80 minutes), Harris (80 minutes), Clarke (77 minutes), Wilkinson (76 minutes), Laurens (75 minutes), and Newton (75 minutes)
- The county with the longest average vote time in ATL metro was Coweta County (74 minutes). This is 10% shorter than the estimated time on-site in Pickens County, and longer than 145 counties statewide. (Georgia has 159 counties total.)
- The county with the shortest average vote time in ATL metro was Fayette (41 minutes), 105 counties statewide had vote times shorter than this.

Early Votes Placed on Weekend and at Polls Slated for Closure

Weekend-vote and poll-closure statistics were computed referencing ballot return data from the Georgia Secretary of State and voter demographic data provided by L2 Political.

Early Vote Activity at Polls Slated for Potential Closure

- 42 early vote polling locations are marked for closure for the run-off as of 12/6/2020. Those polling locations accounted for more than 223,000 in-person early votes (8.7% of the statewide total).
- Of the ten polling locations in Georgia with the highest estimated portion of voters spending longer than 30 minutes on-site, half (five) are slated for closure (see **A.3.**). Namely:
    - "Porter Memorial Library" in Newton County (where 94% of determined-likely voters took longer than 30 minutes)
    - "Atlanta West Pentecostal Church" in Douglas County (92%)
    - "Northeast - The Art Place" in Cobb County (85%)
    - "South Central S. Cobb Regional Library" in Cobb County (84%)
    - "Smyrna Community Center" in Cobb County (83%).
- Voters at polling locations slated to close were on-site for an average 49 minutes to vote. In contrast, voters at other polling locations spent on average 43 minutes (~12% shorter vote time).

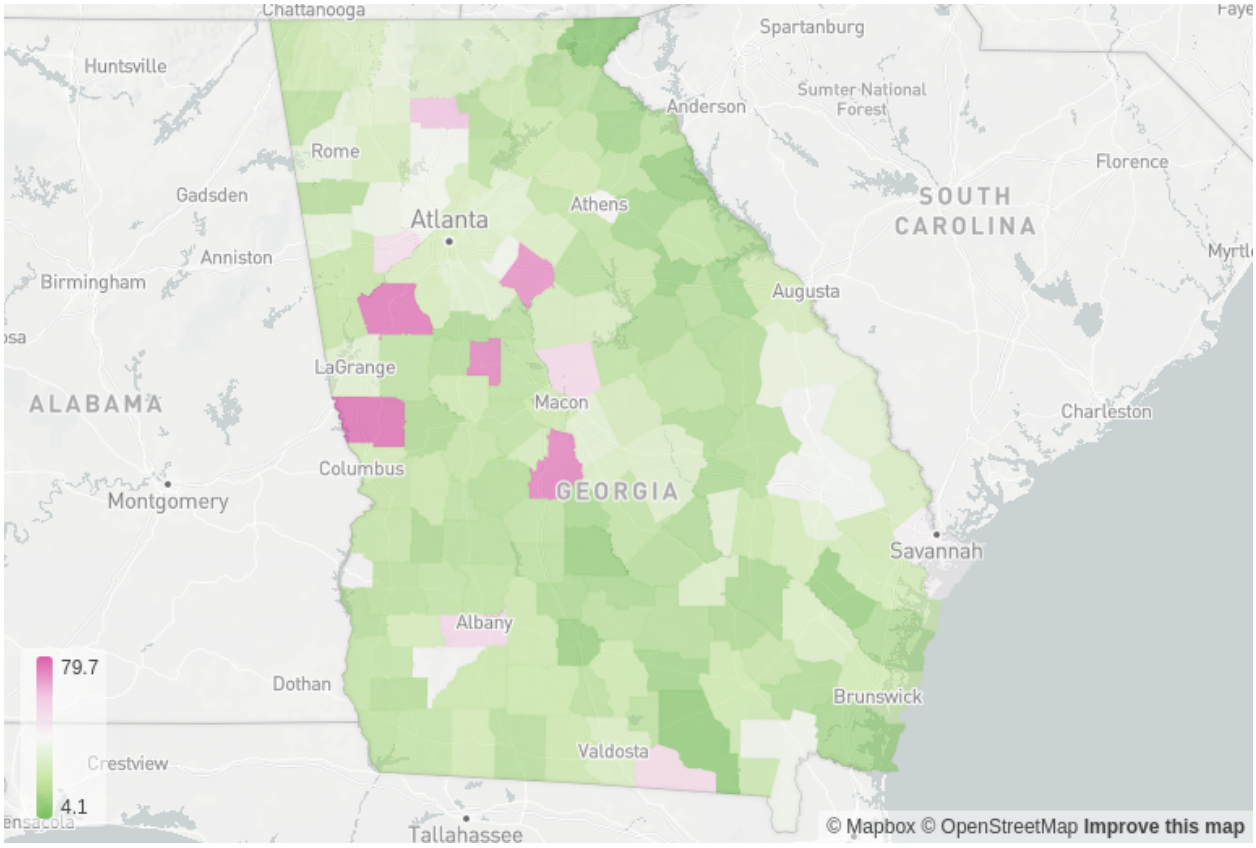
Weekend Early Voting

- 264,511 Georgians voted on weekends, accounting for 10% of all GA voters.
- In 100 of Georgia's 159 counties, Hispanic Americans voted on weekends at higher rates (relative to early vote weekday votes) than white voters in the same county (see A.4.).
- Among the top 50 most populous counties, Camden County showed the highest rate of weekend voting (27%); Carroll showed the smallest (3%) (see **A.5., A.7.).**
- 107 counties showed African Americans voting on weekends at higher rates than voters identifying as white in the same county (see **A.6.**).
- Individuals identifying as white were the least likely to cast their vote on weekends (8.6%), compared to those identifying as Asian (13.1%), African-American (11.8%), and Hispanic (11.4%) (see county-level measures on **A.6.).**
- Weekend closures would likely disproportionately burden Georgians with less flexibility around work schedules or other weekday commitments.

Appendix Tables and Figures

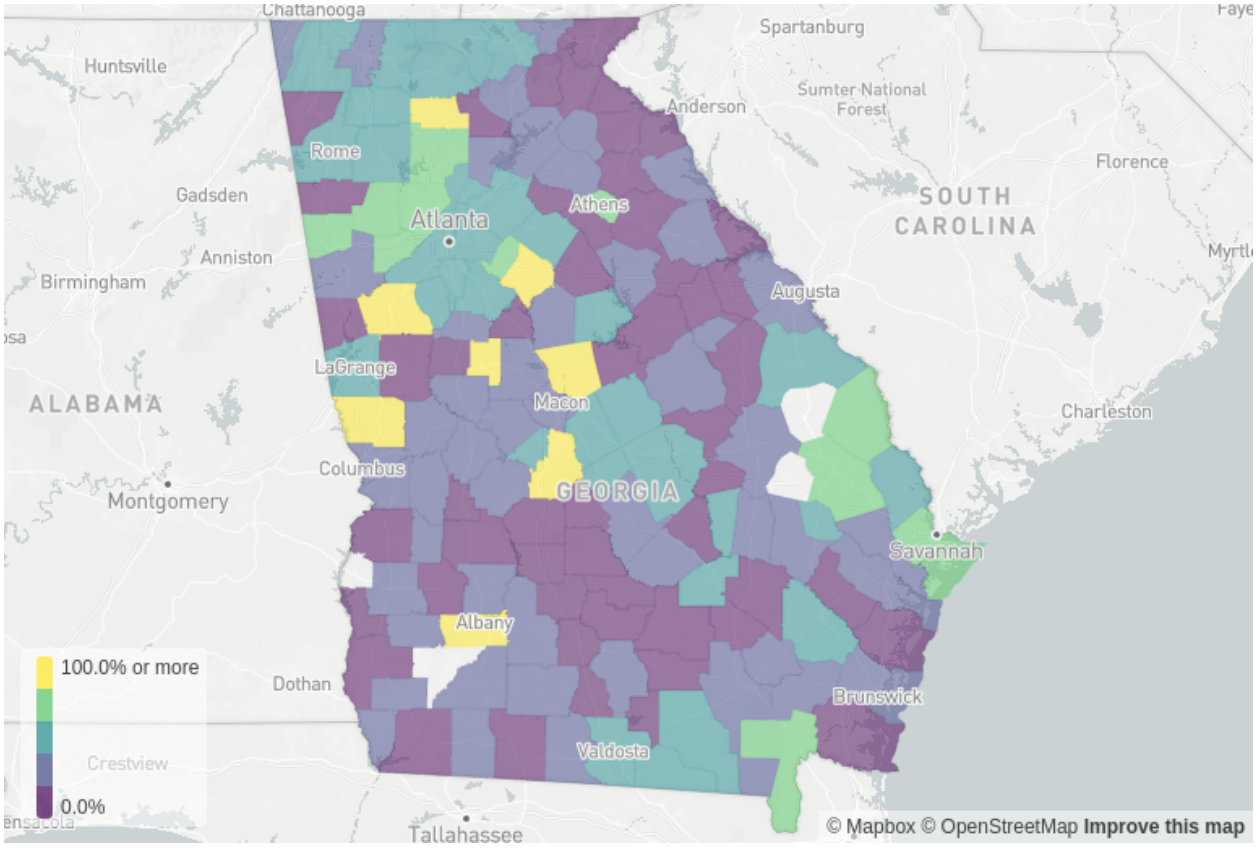
A.1. Statewide Early Vote Time Maps

Median Minutes On-Site



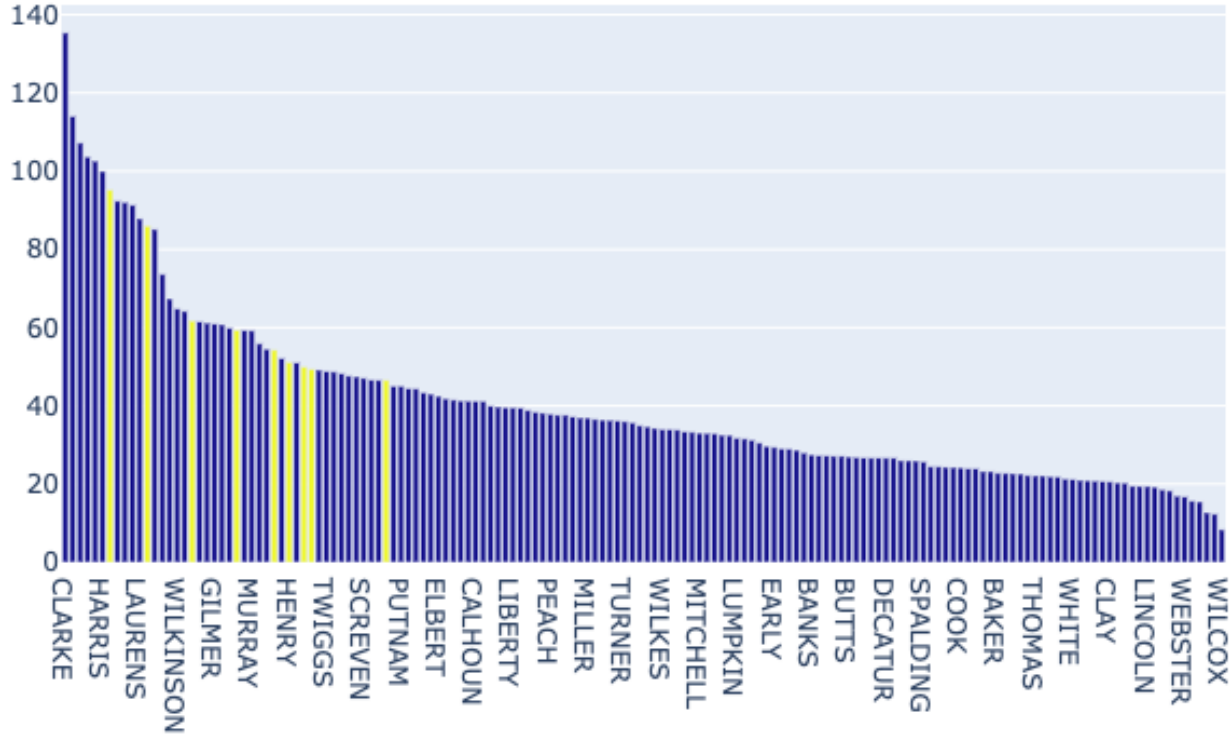
Estimated Share of Early Vote Times Over 30 Minutes

Below are plotted for each county the estimated share of voters with average vote times longer than 30 minutes. Note that vote times include vote times plus time for voting *per se*.



A.2. Early Vote Times by County

The plot below visualizes vote times by county using the 75th percentile of calculated voting times by county. To distinguish the Atlanta metro area from the rest of the state, Atlanta metro counties are shown in yellow, with non-Atlanta-metro counties in blue.



A.3. Early Vote Times at Polls at Risk of Closure

Polling Location Sorted by % Vote Times > 30 min		
COUNTY NAME	SITE NAME	% TIME ON-SITE > 30 MINUTES
Newton	Porter Memorial Library	93.6%
Douglas	1270 - Atlanta West Pentecostal Church	91.8%
Cobb	3 NE - The Art Place	84.5%
Cobb	5 S Central - S. Cobb Regional Library	83.8%
Cobb	A11 Smyrna - Community Center	82.8%
Cherokee	Rose Creek Public Library	79.5%
Paulding	Dianne Wright Innovation Center	67.8%
Paulding	Burnt Hickory Park	67.3%
Forsyth	Coal Mountain Park Community Bldg	64.6%
Cobb	8 NW - W. Cobb Regional Library	62.7%
Cobb	3 NE - Ben Robertson Community Center	61.6%
Floyd	Garden Lakes Baptist/Fellow Hall	54.0%
Cherokee	Hickory Flat Public Library	51.2%
Douglas	736S - Church at Chapel Hill	50.0%
Cherokee	Ball Ground Public Library	49.6%
Douglas	Woodie Fite	48.0%
Chatham	Pooler Recreation Park Gymnasium	47.1%
Bulloch	GSU	46.3%
Bulloch	Honey Bowen Building	46.0%
Cobb	A10 Powder Springs - Ron Anderson Rec Center	45.1%
Clarke	UGA Stegeman Coliseum	45.1%
Jackson	Police & Municipal Court Bldg	40.1%
Hall	Murrayville Library	38.9%
Forsyth	Sharon Forks Library	36.4%
Decatur	Fairgrounds Exhibit Hall	31.6%
Muscogee	Columbus Health Department	31.4%

Floyd	Floyd County Health Department	26.9%
Lee	The Bindery @ Oakland Library	26.2%
Bartow	Allatoona Resource Center	25.7%
Hall	Mulberry Creek Community Center	20.0%
Fayette	Fayette County Public Library	19.8%
Lee	Rebone Fire Station #5	19.2%
Ware	Ware County Administration Building	18.8%
Forsyth	Windermere Lodge	16.5%
Camden	Saint Mary's Early Voting	16.4%
Liberty	Charles M Shuman Rec Center	16.3%
Forsyth	Olde Atlanta Clubhouse	11.8%
Hall	Chicopee Woods AG Center	10.5%
Bartow	Manning Mill Park Facility	9.5%
Forsyth	Cumming Recreation & Parks Room	8.9%

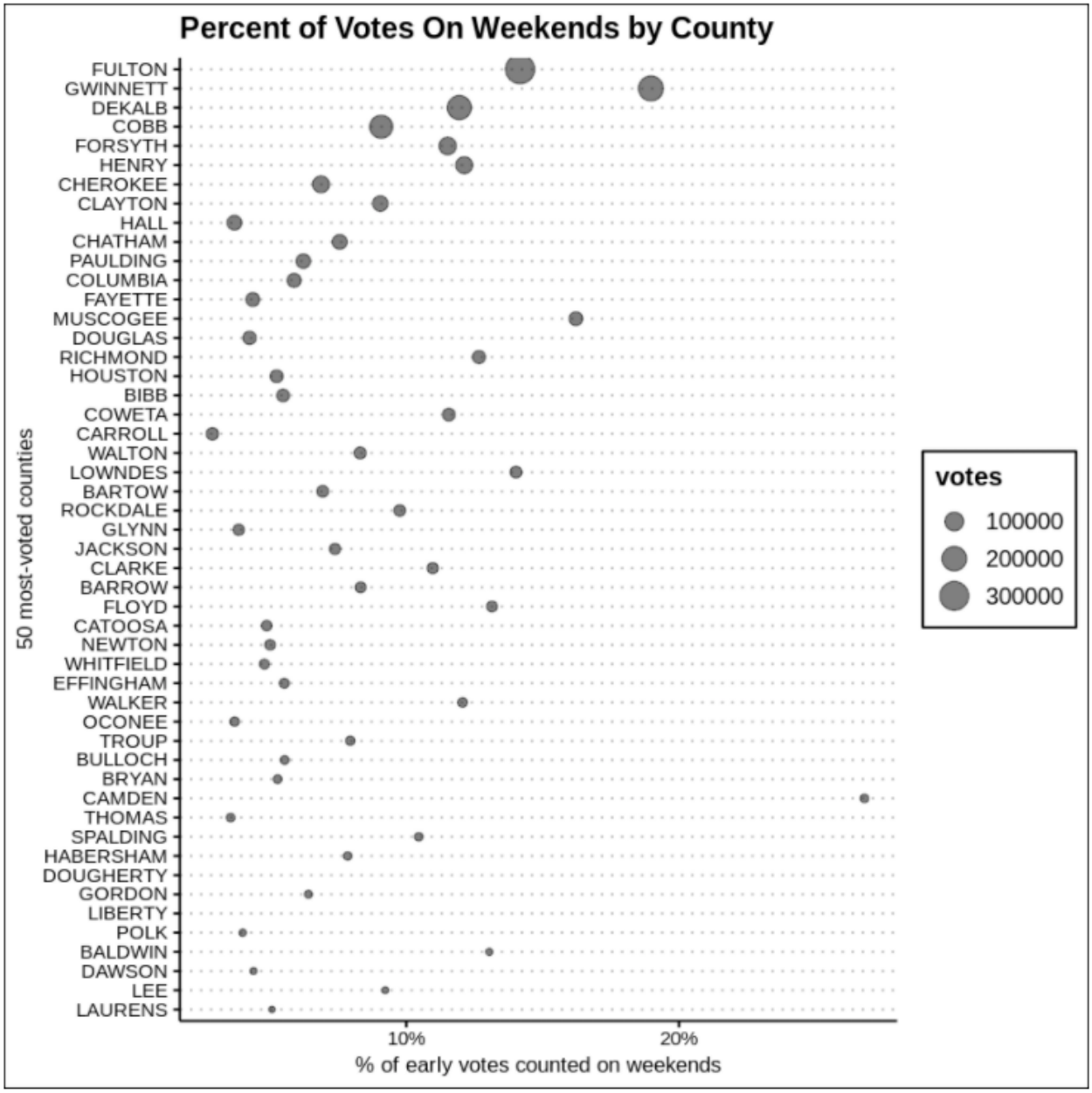
A.4. Early Vote Use of Polls at Risk of Closure by Racial Group

Expected Number of Early Votes Affected by Closures, by Race

RACIAL GROUP	VOTES AFFECTED BY CLOSURES	VOTES *NOT* AFFECTED BY CLOSURES	PERCENT OF VOTES AFFECTED BY CLOSURES
African American	41,880	702,027	5.6%
Asian	2,731	27,923	8.9%
Hispanic	12,153	95,022	11.3%
American Indian, Alaska Native, Native Hawaiian, Pacific Islander & additional people	20,010	162,178	11.0%
White	146,714	1,346,691	9.8%

A.5. Rates of Weekend Early Voting by County

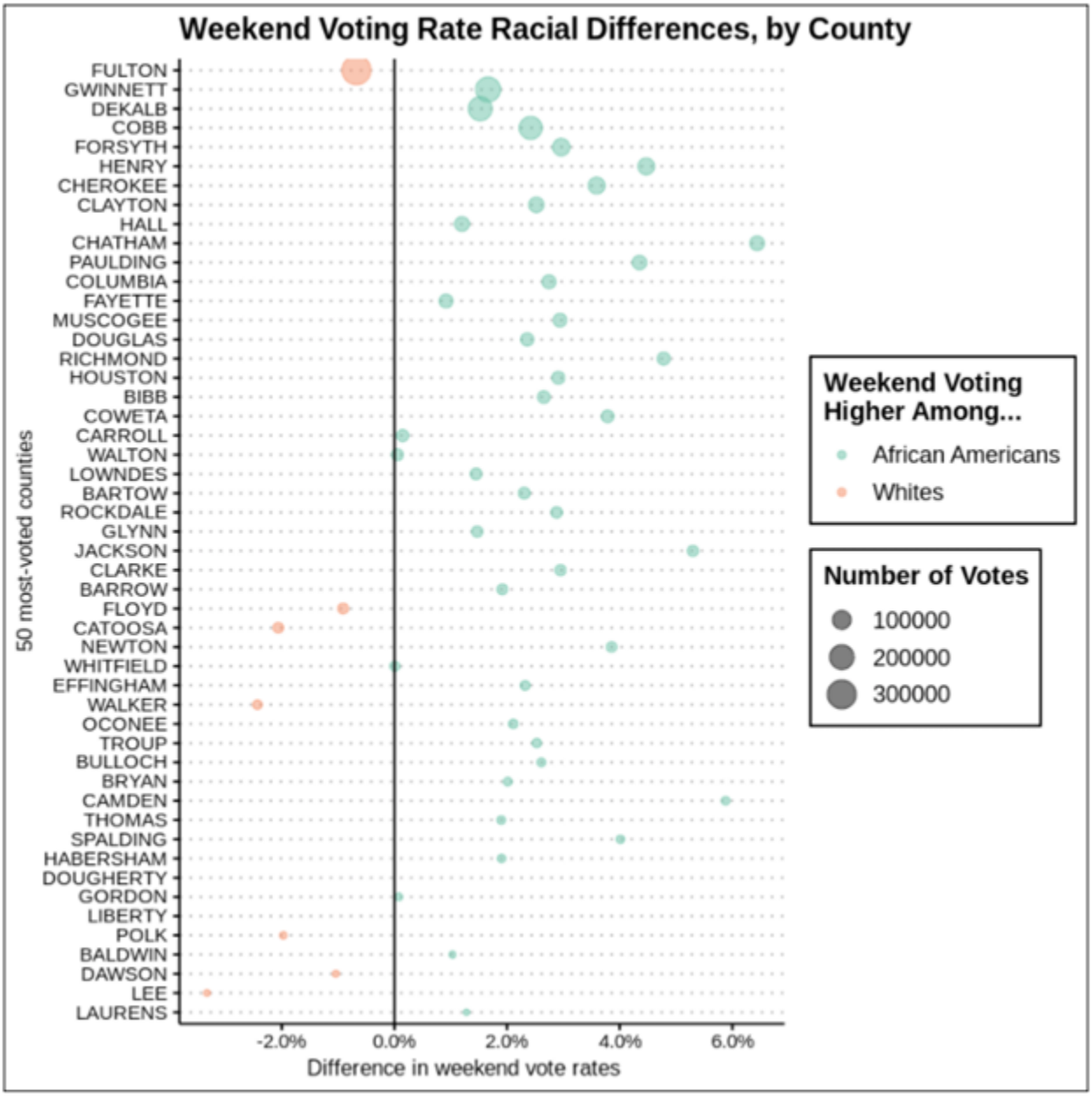
The below chart shows in-person weekend early vote rates for the 50 counties with the greatest number of in-person early votes in the state.



A.6. Racial Disparities in Early Vote Weekend Voting

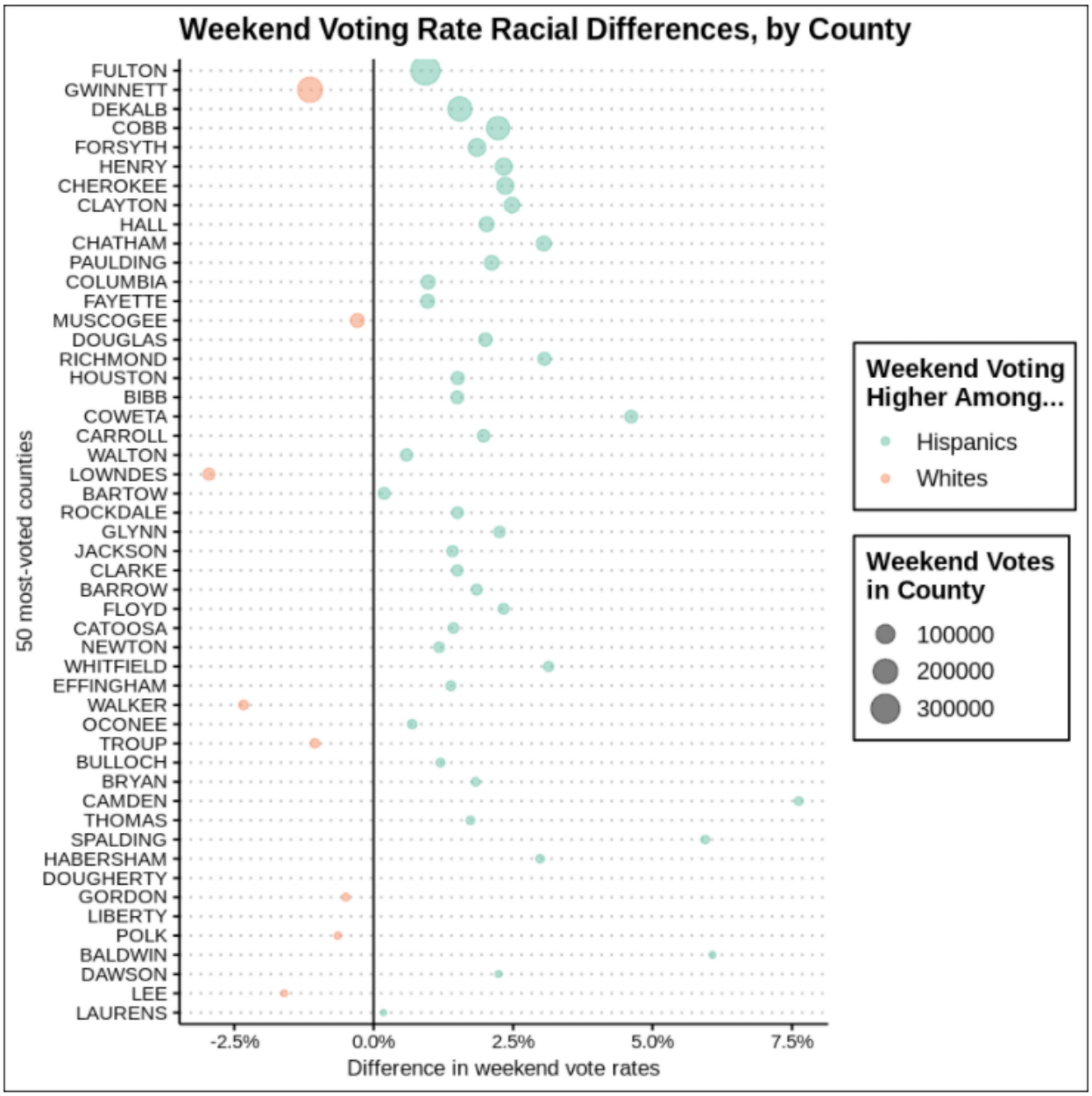
African American Weekend Vote Rate Compared to White Weekend Vote Rate

The fifty counties with the most in-person early votes cast are charted below, in descending order. The dots mark the difference between the share of votes by African-American and white people that were cast on weekends. **Green** dots show counties where African Americans voted on weekends at *higher* rates than whites; **orange** dots show the reverse (where whites voted on weekends at higher rates than African Americans).



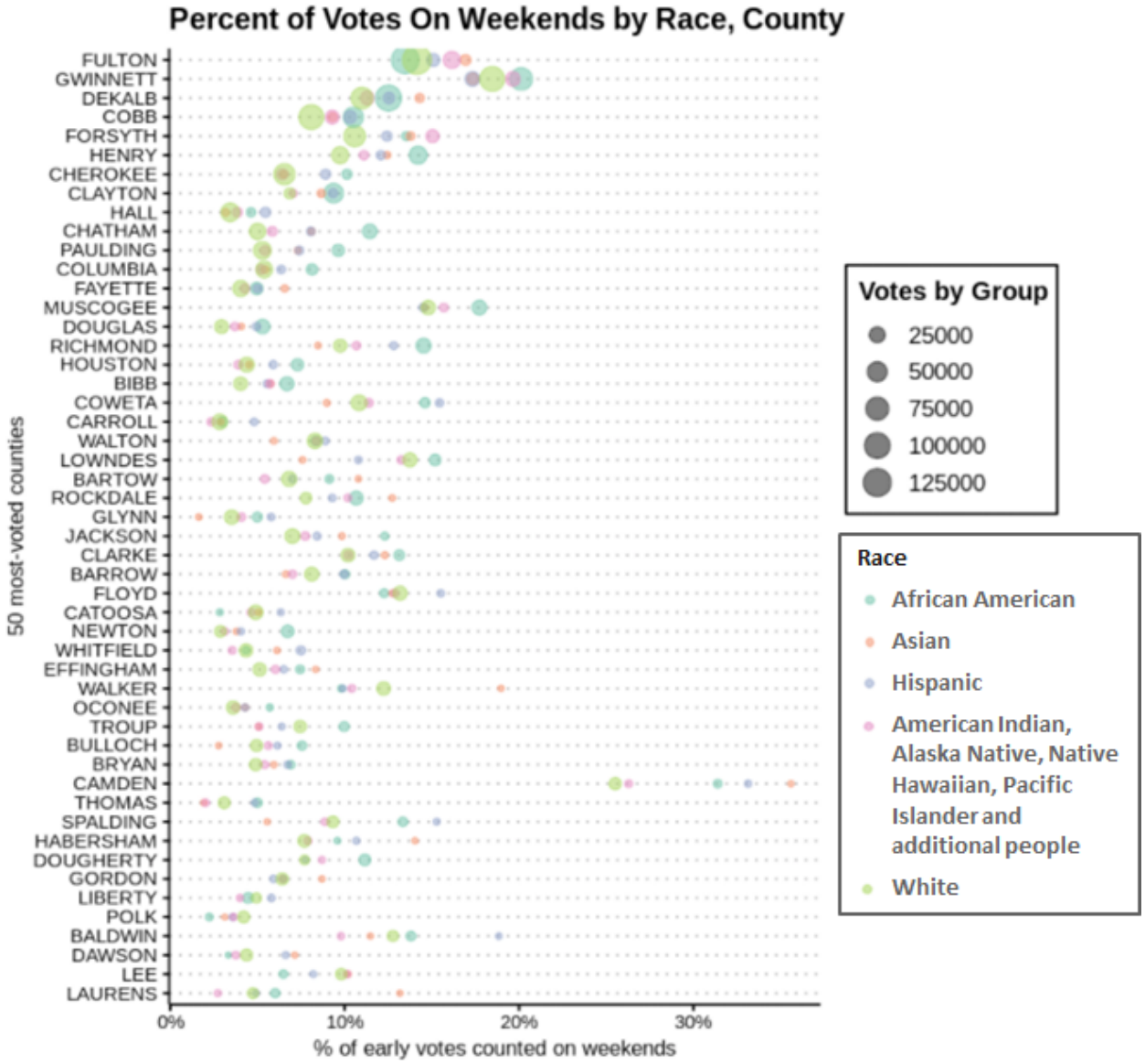
Hispanic American Weekend Vote Rate Compared to White Weekend Vote Rate

The fifty counties with the most in-person early votes cast are charted below, in descending order. The dots mark the difference between the share of votes by Hispanic Americans and whites that were cast on weekends. **Green** dots show counties where African Americans voted on weekends at *higher* rates than whites; **orange** dots show the reverse (where whites voted on weekends at higher rates than Hispanic Americans).



Weekend Early Vote Rate by Racial Group, County

The chart below shows data for the 50 counties with the most recorded in-person weekend votes, broken out by percent of votes by racial group.



Weekend Early Vote Rate by Racial Group

Rates of Early Weekend-Vote by Racial Group			
RACIAL GROUP	EARLY IN-PERSON VOTES	EARLY IN-PERSON VOTES CAST ON WEEKEND	PERCENT CAST ON WEEKEND
Asian	30,531	4,012	13.1%
African American	753,892	89,012	11.8%
Hispanic	108,764	12,435	11.4%
American Indian, Alaska Native, Native Hawaiian, Pacific Islander & additional people	186,319	20,254	10.9%
White	1,517,507	130,802	8.6%

A.7. Early Vote Weekend Voting: Vote Time by Minutes

Early Vote Weekend Voting and Vote-Time for 50 Largest Counties, Sorted by Population					
COUNTY	POPULATION	PERCENT OF VOTES ON WEEKEND	MINUTES VOTE-TIME, AVERAGE	VOTE-TIME, MINUTES, 25th PERCENTILE	VOTE-TIME, MINUTES, 75th PERCENTILE
FULTON COUNTY	1,063,937	14%	38	15.9	47.5
GWINNETT COUNTY	936,250	19%	38	19.0	49.3
COBB COUNTY	760,141	9%	46	26.1	58.2
DEKALB COUNTY	759,297	12%	39	19.0	46.9
CLAYTON COUNTY	292,256	9%	44	14.0	63.7
CHATHAM COUNTY	289,430	8%	54	25.6	74.9
CHEROKEE COUNTY	258,773	7%	47	28.6	59.5
FORSYTH COUNTY	244,252	12%	24	11.2	26.8
HENRY COUNTY	234,561	12%	39	17.7	49.5
HALL COUNTY	204,441	4%	31	15.6	34.3
RICHMOND COUNTY	202,518	13%	34	19.8	39.4
MUSCOGEE COUNTY	195,769	16%	36	17.7	39.1
PAULDING COUNTY	168,667	6%	44	23.4	55.6
HOUSTON COUNTY	157,863	5%	78	46.6	103.3
COLUMBIA COUNTY	156,714	6%	30	17.2	37.0
BIBB COUNTY	153,159	5%	26	14.6	32.5
COWETA COUNTY	148,509	12%	75	53.2	96.0
DOUGLAS COUNTY	146,343	4%	63	33.3	80.4
CLARKE COUNTY	128,331	11%	64	21.5	104.2
CARROLL COUNTY	119,992	3%	25	15.0	31.0
LOWNDES COUNTY	117,406	14%	33	21.8	37.7
FAYETTE COUNTY	114,421	4%	35	16.3	43.8
NEWTON COUNTY	111,744	5%	78	42.9	104.5
BARTOW COUNTY	107,738	7%	32	18.8	37.0

WHITFIELD COUNTY	104,628	5%	33	18.4	36.6
FLOYD COUNTY	98,498	13%	42	21.4	50.7
WALTON COUNTY	94,593	8%	35	18.9	41.6
ROCKDALE COUNTY	90,896	10%	53	23.7	62.1
DOUGHERTY COUNTY	87,956	10%	65	39.8	85.9
GLYNN COUNTY	85,292	4%	32	17.2	38.2
BARROW COUNTY	83,240	8%	22	15.5	25.4
BULLOCH COUNTY	79,608	6%	44	23.1	58.1
JACKSON COUNTY	72,977	7%	30	16.1	36.4
TROUP COUNTY	69,922	8%	39	21.5	46.5
WALKER COUNTY	69,761	12%	36	15.0	43.4
CATOOSA COUNTY	67,580	5%	31	17.7	39.7
SPALDING COUNTY	66,703	10%	28	4.3	32.5
EFFINGHAM COUNTY	64,296	6%	30	17.9	39.7
LIBERTY COUNTY	61,435	5%	34	19.6	37.2
GORDON COUNTY	57,963	6%	39	21.6	44.7
CAMDEN COUNTY	54,666	27%	16	4.7	21.3
LAURENS COUNTY	47,546	5%	42	10.6	68.9
COLQUITT COUNTY	45,600	17%	26	16.1	31.5
HABERSHAM COUNTY	45,328	8%	22	13.5	22.8
BALDWIN COUNTY	44,890	13%	22	13.0	25.5
THOMAS COUNTY	44,451	4%	19	12.6	21.5
COFFEE COUNTY	43,273	4%	18	12.2	19.6
POLK COUNTY	42,613	4%	20	13.0	21.6
TIFT COUNTY	40,644	4%	14	3.6	12.6
OCONEE COUNTY	40,280	4%	23	14.9	27.0

Early Vote Weekend Voting & Vote-Time for 50 Largest Counties, Sorted by Vote Time Average				
COUNTY	PERCENT OF VOTES ON WEEKEND	MINUTES VOTE-TIME, AVERAGE	VOTE TIME, MINUTES, 25th PERCENTILE	VOTE TIME, MINUTES, 75th PERCENTILE
HOUSTON COUNTY	5%	78	42.9	104.5
NEWTON COUNTY	5%	78	46.6	103.3
COWETA COUNTY	12%	75	53.2	96.0
DOUGHERTY COUNTY	10%	65	39.8	85.9
CLARKE COUNTY	11%	64	21.5	104.2
DOUGLAS COUNTY	4%	63	33.3	80.4
CHATHAM COUNTY	8%	54	25.6	74.9
ROCKDALE COUNTY	10%	53	23.7	62.1
CHEROKEE COUNTY	7%	47	28.6	59.5
COBB COUNTY	9%	46	26.1	58.2
CLAYTON COUNTY	9%	44	14.0	63.7
PAULDING COUNTY	6%	44	23.1	58.1
BULLOCH COUNTY	6%	44	23.4	55.6
FLOYD COUNTY	13%	42	10.6	68.9
LAURENS COUNTY	5%	42	21.4	50.7
DEKALB COUNTY	12%	39	19.0	46.9
HENRY COUNTY	12%	39	17.7	49.5
TROUP COUNTY	8%	39	21.6	44.7
GORDON COUNTY	6%	39	21.5	46.5
FULTON COUNTY	14%	38	19.0	49.3
GWINNETT COUNTY	19%	38	15.9	47.5
MUSCOGEE COUNTY	16%	36	17.7	39.1
WALKER COUNTY	12%	36	15.0	43.4
FAYETTE COUNTY	4%	35	16.3	43.8
WALTON COUNTY	8%	35	18.9	41.6
RICHMOND COUNTY	13%	34	19.6	37.2
LIBERTY COUNTY	5%	34	19.8	39.4
LOWNDES COUNTY	14%	33	18.4	36.6

WHITFIELD COUNTY	5%	33	21.8	37.7
BARTOW COUNTY	7%	32	17.2	38.2
GLYNN COUNTY	4%	32	18.8	37.0
HALL COUNTY	4%	31	17.7	39.7
CATOOSA COUNTY	5%	31	15.6	34.3
COLUMBIA COUNTY	6%	30	17.9	39.7
JACKSON COUNTY	7%	30	16.1	36.4
EFFINGHAM COUNTY	6%	30	17.2	37.0
SPALDING COUNTY	10%	28	4.3	32.5
BIBB COUNTY	5%	26	16.1	31.5
COLQUITT COUNTY	17%	26	14.6	32.5
CARROLL COUNTY	3%	25	15.0	31.0
FORSYTH COUNTY	12%	24	11.2	26.8
OCONEE COUNTY	4%	23	14.9	27.0
BARROW COUNTY	8%	22	15.5	25.4
HABERSHAM COUNTY	8%	22	13.5	22.8
BALDWIN COUNTY	13%	22	13.0	25.5
POLK COUNTY	4%	20	13.0	21.6
THOMAS COUNTY	4%	19	12.6	21.5
COFFEE COUNTY	4%	18	12.2	19.6
CAMDEN COUNTY	27%	16	4.7	21.3
TIFT COUNTY	4%	14	3.6	12.6

Methodology

Data Acquisition

The Center for New Data has acquired and processed two large commercially-available geolocation datasets, together comprising over 40 million devices daily, with an average of more than 150 pings per day from each device. This represents more than 6 billion rows of incoming data daily. Incoming data feeds are pseudonymized, which means they carry no personally identifiable information: only latitude, longitude, time, a randomly generated device ID, and additional metadata such as device and operating system characteristics. This data is longitudinal, allowing our data processing methods to map mobility activity over time without revealing personal identities of the device owner.

For context around voting, we gathered a near-complete set of national polling locations for the 2020 General Election, both for early vote and election day locations. We also acquired publicly available voter registration data, which is published by official government sources.

Key Data Sources

DATASET	PROVIDER	USE CASE
Early Voting Ballot Return Data	Georgia Secretary of State Absentee Files https://elections.sos.ga.gov/Elections/voterabsenteefile.do	Voter turnout by polling location and analysis of impacts of proposed site closures & weekend closures on likely voters
Voter Demographic Data	L2 Political	Analysis of impacts of proposed policies (site closures & weekend closures) by ethnicity
Smartphone Geolocation Data	X-MODE & Veraset	Time on-site at polling locations
Polling Locations	Primarily sourced by Center for Public Integrity, as well as through public APIs and government websites with manual cleaning and deduplication	Detection of smartphone devices near polling locations for vote-time estimates

Data Ethics and Privacy

These datasets are already in widespread use, collected by "opt-in" location settings on mobile devices, and used to power everyday services like maps, search, and rideshare and delivery services. The Center for New Data does not collect any new data from individuals, nor undertake or support ad targeting in any way. Our mission is to leverage existing data for the public interest, under state-of-the-art privacy protections and data governance models.

Using Data to Document Wait Times and Disparities

Our methods include a replication and an enhancement of a 2019 paper posted in the National Bureau of Economic Research (NBER) — "Racial Disparities in Voting Wait Times: Evidence from Smartphone Data" — which used geolocation data to examine and document racial disparities in wait times at polling locations. The paper's original authors, two of whom serve as advisors to the Observing Democracy program, were detailed in their sensitivity analysis and showed results that were robust. To update the analysis for the 2020 early vote, these methods have been replicated on our newer dataset.

Detecting Activity at the Polls

These data have enabled us to detect devices reporting stationary activity at and around polling stations. Our algorithms measure the duration of time each device spent at polling stations nationwide. We have deployed these methods during recent primary elections, early voting, and for the 2020 General Election.

Validation and Sensitivity Tests

We tested our algorithms using South Carolina's June 9th primary and early voting in Georgia and North Carolina. To calibrate our methods, we validate against on-the-ground reports of wait-times reported by county government agencies, where available. Ballot return data have provided a ground-truth for testing and calibrating our methods for determining devices detected at polls associated with individuals deemed likely to have voted. Results are largely robust to changes in certain key parameters (e.g., minimum distance from the device to the poll to qualify as a potential voter) and statistical methods (e.g., methods for determining upper and lower-bound of vote times), owing to extensive sensitivity testing performed by our data science team.