

State	Approx. Total Voter Registration	Poll times	Voting Tech Trend	Voting Tech Deployment Model	Prominent Voting Tech Vendors	Voting Tech Comments	Electronic Poll Books?	Any particular technology risks?	Any recent news or “buzz”?
Alabama ★	3,600,000	7 AM to 7 PM	Hand-marked paper + BMDs for accessibility	By County	ES&S has most of the state’s counties		Yes	Many older BMDs for accessibility (AutoMARK)	
Arkansas ★	1,800,000	7:30 AM to 7:30 PM	Mostly universal-use BMDs for all voters (ES&S ExpressVote)	By County	ES&S has most of the state’s counties	Arkansas joins these other Super Tuesday jurisdictions in using BMDs for all voters: Los Angeles County; several large counties in Texas; Mecklenburg, NC; and several counties in TN.	Yes	BMDs for all voters carries additional risks: 1) barcodes; 2) questionable voter-verification practices; 3) potentially longer lines  10 counties in Arkansas are using new tech for the first time	Jefferson County using very old (2005) iVotronic DREs <a href="https://www.arkansasonline.com/news/2020/feb/25/voting-machines-ability-in-doubt-202002-1/">https://www.arkansasonline.com/news/2020/feb/25/voting-machines-ability-in-doubt-202002-1/</a>
California ★	20,500,000	7 AM to 8 PM	Mostly by-mail voting + BMDs for accessibility	By County	Dominion Hart InterCivic	Los Angeles County is an exception to mostly by-mail practices; LA will use BMDs for all voters	Yes	New vote centers (Voter’s Choice Act) + new tech raises the stakes considerably. <a href="https://www.reuters.com/article/us-usa-election-california-insight/massive-changes-to-california-voting-spark-fears-of-iowa-style-primary-chaos-idUSKBN20J1J7">https://www.reuters.com/article/us-usa-election-california-insight/massive-changes-to-california-voting-spark-fears-of-iowa-style-primary-chaos-idUSKBN20J1J7</a>	LA County will be using its VSAP system for the first time; <a href="https://www.latimes.com/california/story/2020-02-24/california-presidential-primary-could-hinge-on-big-voting-changes-in-los-angeles">https://www.latimes.com/california/story/2020-02-24/california-presidential-primary-could-hinge-on-big-voting-changes-in-los-angeles</a>  Also, there are reports of confusion among “no party preference” (NPP) voters who may not realize they need to request an NPP-Democratic ballot, if they want to vote in the Democratic presidential primary.  <a href="http://www.capradio.org/articles/2020/01/06/california-election-officials-address-confusion-over-no-party-preference-voting-in-states-presidential-primary/">http://www.capradio.org/articles/2020/01/06/california-election-officials-address-confusion-over-no-party-preference-voting-in-states-presidential-primary/</a>
Colorado ★	4,000,000	7 AM to 7 PM	All-by-mail voting + BMDs for accessibility	Statewide	Dominion	All by-mail with central count; in-person early voting “service centers”	Yes		

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<b>Maine</b> ★	1,000,000	6 AM to 8 PM	Hand-marked paper + BMDs for accessibility	By Townships	ES&S has all counties in Maine	A few townships hand-count their paper ballots	<b>Not permitted</b>		
<b>Mass.</b> ★	4,400,000	7 AM to 8 PM	Hand-marked paper + BMDs for accessibility	By Townships	Premier/Diebold Dominion		<b>Yes</b>	Much of Massachusetts’ equipment is old; Premier/Diebold AccuVote OS, and old AutoMARK BMDs.	
<b>Minnesota</b> ★	3,300,000	7 AM to 8 PM	Hand-marked paper + BMDs for accessibility	By County	Mostly ES&S	Minnesota does not permit BMDs to print barcoded ballots that look different from the hand-marked paper versions.	<b>Yes</b>	Many older BMDs for accessibility (AutoMARK)	For the first time, when MN primary voters select a ballot in the primary, their partisan preference will be recorded. And the MN SOS will be required to give the four major political parties lists of which voters picked which ballot. Some voters regard this as such an invasion of privacy that they may skip the primary.  <a href="https://www.kare11.com/article/news/politics/parties-split-over-ballot-privacy-issue/89-9615ebd2-9101-4339-bebd-9c937bc49836">https://www.kare11.com/article/news/politics/parties-split-over-ballot-privacy-issue/89-9615ebd2-9101-4339-bebd-9c937bc49836</a>
<b>North Carolina</b> ★	6,900,000	6:30 AM to 7:30 PM	Hand-marked paper + BMDs for accessibility  With some important exceptions; see risks column to the right →	By County	Mostly ES&S;  A handful use Hart InterCivic	In recent years, North Carolina abolished DREs and required counties to move to technology with a paper trail.	<b>Yes</b>	Mecklenburg County (750k registered voters), the largest in the state, will be using BMDs for <b>all</b> voters. BMDs for all voters brings additional risks, including:  1. Barcodes; 2. Questionable voter-verification practices; 3. Potentially longer lines.	North Carolina is a hotbed of recent changes: a long, drawn-out certification process; statewide refresh of voting technology, away from DREs; lots of counties using new tech for the first time; and questions about how equitably new tech has been distributed. Will there be long lines?  <a href="https://carolinapublicpress.org/29848/analysis-new-mecklenburg-voting-equipment-ready-for-super-tuesday/">https://carolinapublicpress.org/29848/analysis-new-mecklenburg-voting-equipment-ready-for-super-tuesday/</a>
<b>Oklahoma</b> ★	2,000,000	7 AM to 7 PM	Hand-marked paper + paperless DRE controller for accessibility	Statewide	• Hart InterCivic	OK uses a unique optical scanner, customized for the state. It includes an audio-tactile “controller” for voters with disabilities.	<b>Not currently used</b>	While most voters will hand mark their ballot and insert it into the scanner, voters with disabilities do <b>not</b> get a paper trail...their vote is stored electronically, directly on the scanner.  Also, the state’s customized Hart system is now nearly a decade old.	

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Tennessee ★	4,000,000	7 AM to 7 PM	Paperless DREs	By County	<ul style="list-style-type: none"> <li>Hart InterCivic</li> <li>ES&amp;S</li> </ul>	See risks column to the right →	Yes	<p>Paperless DREs. Of all the states participating in Super Tuesday, no state has a greater proportion of jurisdictions using paperless DREs than Tennessee.</p> <p>Also, many counties are using the older Hart eSlate DRE, which was last certified by NASED in 2006 and has not been updated since then.</p> <p>Furthermore, of the very few counties not using DREs, most of the remainder are using BMDs <i>for all voters</i>...so, bottom line, TN is an unusually “technology-vulnerable” state.</p>	<p>Shelby County (Memphis) recently announced that it will not be replacing its old paperless Premier/Diebold AccuVote TSX machines before the November Presidential Election, as originally promised.</p> <p><a href="https://www.localmemphis.com/news/local-elections/no-new-voting-machines-in-shelby-county-for-the-november-election/">https://www.localmemphis.com/news/local-elections/no-new-voting-machines-in-shelby-county-for-the-november-election/</a></p>
Texas ★	16,000,000	7 AM to 7 PM	Very mixed patchwork; combination of paperless DREs, hybrid BMDs, and hand-marked paper	By County	<ul style="list-style-type: none"> <li>Hart InterCivic</li> <li>ES&amp;S</li> </ul>	<p>A number of high-profile large counties are using BMDs for <i>all</i> voters, including:</p> <p>Dallas County (4000 machines for 1.3M registered voters),</p> <p>Bexar County (2500 machines for 1.1M registered voters)</p> <p>Tarrant County (1.1M registered voters)</p> <p>Travis County (775k registered voters)</p>	Yes	<p>TX has a large number of jurisdictions using paperless DREs. Some of those DREs are quite old. Perhaps even more unusual, however, are the number of counties in Texas (some quite large) that “re-upped” their voting system with <i>even newer paperless DREs</i> (some as recently as 2017-2018).</p> <p>Large counties using newer paperless DREs include Hidalgo (358,000 registered voters); Brazoria (210,000 registered voters); and Galveston (210,000 registered voters).</p> <p>Also, see &lt;&lt;&lt; voting tech comments. Several large jurisdictions are using BMDs for all voters.</p>	<p>Texas’s continued commitment to technology-intensive implementations that concern security experts is noteworthy and atypical.</p> <p><a href="https://www.politico.com/story/2019/08/05/election-security-texas-1445537">https://www.politico.com/story/2019/08/05/election-security-texas-1445537</a></p>
Utah ★	1,700,000	7 AM to 8 PM	All-by-mail voting + BMDs for accessibility	Statewide	<ul style="list-style-type: none"> <li>ES&amp;S</li> </ul>		Yes	<p>Utah has been interested in mobile voting for overseas and disabled voters, and some of its counties have been prominent users of the <b>Voatz</b> mobile app, which was found to have serious security vulnerabilities.</p> <p><a href="https://www.sltrib.com/news/politics/2020/02/14/new-study-raises/">https://www.sltrib.com/news/politics/2020/02/14/new-study-raises/</a></p>	

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Vermont ★	500,000	10 AM to 7 PM	Hand-marked paper + BMDs for accessibility	By Township	Premier/Diebold (old technology)		No	Vermont’s townships use a lot of old equipment from a defunct vendor – Premier/Diebold AccuVote OS scanners.  It’s also unusual that many townships use a ballot-marking device from vendor Democracy Live that has never been through federal EAC certification. (Democracy Live is not a traditional voting system vendor; the company focuses mainly on online sample ballots and remote accessible vote-by-mail systems.)	
Virginia ★	5,600,000	6 AM to 7 PM	Hand-marked paper + BMDs for accessibility	By County By City	Very mixed <ul style="list-style-type: none"><li>• Dominion</li><li>• Unisyn</li><li>• Hart InterCivic</li><li>• ES&amp;S</li></ul>	Virginia has relatively new paper-based voting systems, due to a major technology refresh that took place in the last three years.	Yes		In September 2017, the Virginia Department of Elections de-certified all DRE voting equipment in Virginia and required jurisdictions to use voting systems with a voter-verifiable paper audit trail.  <a href="https://thehill.com/business-a-lobbying/349896-virginia-scrap-touchscreen-voting-machines">https://thehill.com/business-a-lobbying/349896-virginia-scrap-touchscreen-voting-machines</a>  <a href="https://techcrunch.com/2017/09/08/virginia-dre-voting-machines-hack/">https://techcrunch.com/2017/09/08/virginia-dre-voting-machines-hack/</a>

### Comments and Observations – Selected State Issues to Keep an Eye On

Below are additional comments and even some compare and contrast (in California) where reasonable minds differ internally. Essentially, here are issues to watch and look for that go further than the summary table above. These are things we will be monitoring from the Institute, and topics to discuss with Eddie about on/off-air. These are less about specific technical issues and more about each state’s distinctive practices and potential issues. These are grouped approximately per their particular class of issue.

**Colorado:** Expect some confusion about the combination primary and caucus, but not a lot of technology to be used. For the first time, this year the presidential primary is not a party-run caucus, but rather a regular election run by CO's county elections office, in the same manner as other CO elections: by-mail ballots for all, and a 15 day window to vote in person at Vote Centers that also provide same-day registration. But that's *only* voting for presidential candidates. The rest of the election is still run as a caucus for state and local office. Results will come separately, with presidential primary results partially reported Tuesday night. All CO ballots are counted centrally in each county, so there is not a lot of tech to see: ballot marking devices in the voter-centers, as well as e-poll-book-like voter check-in stations that are part of CO's purpose built state wide voter check-in system. The latter has had technical glitches in prior elections, but given the high rate of by-mail ballot return thus far, and the 15 days of voting already underway, there are few voters to be affected by any technical issues. Another thing to watch for is whether turnout for the presidential primary tracks the significant increase in voter registration for Democrats, about 20% increase in 2-years.

**California:** Expect a relatively smooth election in most counties, but all eyes on LA County's big transition election: for the first time, *no more* precinct voting, *no more* antique machines, and instead by-mail voting available to everyone, and an 11-day period for voting in person using LA's new BMDs at vote centers that also provide same-day registration. The vast majority of CA's voters outside of LA are in counties that also have the "Colorado model" (by mail or multi-day Vote Center voting) but unlike in LA, in-person voters will have the same familiar options of hand marked paper ballots or accessible voting machines that they have seen before, in vote centers that they've had the chance to use before.

### Contrasting Viewpoints within the Institute

On occasion, to provide a full view of our thinking, we present differing viewpoints on issues where we agree that a contrast is important for us to fully vet an issue. We consider this the core of our intellectual honesty. California's LA County represents one such situation and may be of interest given NBC News recent coverage.

**Viewpoint #1:** Contrary to the comment in the table above, Los Angeles County *is not* an exception to mostly by-mail practices. It's like many counties that permit anybody to choose to vote-by-mail or to use Vote Centers. LA County is *notable* because this is the first election run in that way, and at a very large scale compared to most counties, with all new purpose specific built equipment, and with a BMD-for-all model in the Vote Centers.

By contrast, in San Mateo County they too have Vote Centers (*and have had them for some time*), but people can choose a Hand-Marked Paper Ballot (HPMB) or the same DRE+VVPAT that has been in use for years; importantly, San Mateo county did *not* change the voting technology at the same time they changed the voting venue and method.

Viewpoint #2: LA County *is* an exception, because...

- 1) Unlike other CA counties, LA County is NOT sending by-mail ballots to everyone; voters must proactively request one; and
- 2) Based on the most recent things we've monitored in social media, there are plenty of Vote Centers where:
  - a. They are *not* providing Federal Write-In Ballots, and
  - b. It appears that – *as we have feared* – poll workers have *not* been adequately trained on how to distribute them, or on how to educate voters about how to fill them out.

So, yes, LA County *is* an exception and they are *not* actually delivering on the so-called promise of “choice.” The default is clearly a Ballot Marking Device (BMD), and voters must jump through (poorly implemented) proverbial “hoops” if they want a hand-marked ballot as their alternative.

**Utah**: Perhaps the biggest under-reported story in Utah is Utah County's offer to overseas and disabled voters the use of the **Voatz** internet-voting service that was recently the focus of a controversial security assessment by **MIT** researchers. For the vast majority of Utah voters, it is a “Colorado model” voting experience with most counties sending by mail ballots to all voters, who can also vote in person by hand or with an accessible voting machine in a vote center. For the latter, many counties have moved to more recent BMDs, but Salt Lake County with about a third of the state's population, still provides accessible voting using the antique **Accuvote TSX** voting machine with a paper roll, but no actual ballots.

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**Virginia**: The Commonwealth has made great strides in recent years to abandon paperless voting and antique machines, to a system of voter choice between hand mark and machine mark paper ballots counted by modern scanner. 2020 is the first year where VA voters can vote early absentee without having to attest to one of a complex set of excuses to be eligible. Watch for the effect of this innovation for increase in voters who don't vote in person on Election Day.

Virginians are evidently hungry for the convenience: among the 16 states that require a voter to make an excuse-based absentee ballot request for each election (including Super Tuesday states AL, AR, and TX), Virginia voters have had high rates of absentee voting despite the hurdles not present in most other states.

**North Carolina**: The top issue to watch is a tale of two voting technologies, though we might see some patches of confusion over voter ID, which is *not* required in this election though in the past there has been some inconsistency in training of local election workers. One of the voting methods is the “BMD-for-all” system with new voting machines that have been controversial in NC and elsewhere.

The potential issues there are the same as SC and GA, but unlike those states, only in some counties including NC: Mecklenburg the most populous as well as 20 other counties. The other 79 counties will be providing the more familiar choice of hand marked ballots or accessible voting machine.

Early voting may also be the source of some voter confusion. In NC early voting is actually one-stop absentee voting at voter centers open over a 17 day period, though not open every one of those days, with schedules varying by county. Voter can (re)register up to a deadline, or do same-day registration during early voting. Voters trying to register close to the 25-day-before-election deadline may not actually know for sure if their registration or address change happened in time, so there is some scope for confusion about whether an early voting has to do same-day registration. Another NC nuance is that early ballots are actually absentee ballots, and a few may not be eligible to be counted. The variance between number of early voters and number of counted early ballots should be small, but worth examining after all ballot-counting is complete.

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**Tennessee:** We expect a showcase of variations in older election technology, with variations from county to county: only handful of TN's 95 counties use the modern combination of hand-marked or machine-marked paper ballots counted by optical scan. The rest of the state uses antique voting machines for in-person voting, with 76 counties being *entirely* paperless; voters that wish to voter a paper ballot *must file a prior written request* with form and supporting documentation to support one of TN's 14 allowed excuses for requiring paper. Any significant variation in paperless vs. paper voting could also have an effect on litigation in progress: plaintiffs in paperless voting Shelby County are seeking the legal requirement for in-person hand-marked voting as a matter of equal protection with voters in hand-marked voting Hamilton County.

Also expect more of the continuing voter confusion of TN's voter ID law: for most of those without Federal or TN state government issued photo ID or handgun license, school photo ID or local IDs are not acceptable — except for those who can demonstrate one of 6 types of exemption.

A comparison of TN and neighbor NC might also suggest the effects of different choices: TN's voter ID required, no early voting available, no same day registration available, and mostly paperless voting are the inverse of NC's choices.



**Arkansas:** Another tale of 2 voting technologies — neither paperless, but one antique, with about half of the counties still using the old **iVotronic** touch screen machine, while other counties made a local decision for the same BMD-for-all approach chosen statewide by SC and GA. Only 4 counties allow in-person hand-marked voting. AR is also one of the states with voter-ID, no online or same-day voter registration, a 30-day deadline, and absentee voting only with a prior written request being approved.

**Texas:** Everything is big in Texas, with the widest variety of voting methods and technology; with every option in some county in the state; whether antique paperless voting for all, or modern voting machine voting for all, or the option of hand-mark or machine-mark. TX is another state with voter-ID, and no online or same-day voter registration, a 30-day deadline, and absentee voting only with a prior written request being approved.

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**Alabama:** Expect little change from prior elections; the whole state remains on the old system of choice between hand-marked in person voting or use of older voting machines that have a paper tape but no actual ballots. AL is another state with voter-ID, and no online or same-day voter registration, a 30-day deadline, and absentee voting only with a prior written request being approved.

**Oklahoma:** Expect little change from prior elections; the whole state remains on the old system of choice between hand-marked in person voting or use of older voting machines that have a paper tape but no actual ballots. OK has made some changes with a few days of early voting (in person absentee) as a few locations, and no-excuse absentee voting (though an application is required for each election).

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**Vermont:** The main change is the use of newer Ballot Marking Devices (BMDs) for accessible voting, statewide, where voters continue to choose between hand marked and machine marked of optically scanned ballots.. However, VT retains some of the oldest ballot scanning devices, the formerly-Diebold **Accutvote OS**. In addition to the same ease of access as Maine, homebound Vermonters can request election officials to bring the ballot to the voter to mark. But we might look for a contrast with states like AL, which like Vermont, are uniform hand/machine choice, compared to VT where there is no voter ID requirement; no required excuse for absentee voting; and voters who miss the voter registration deadline can register and vote on election day at their local election HQ.



**Maine:** Maine also has upgraded their Ballot Marking Devices (BMDs) for voter choice between hand marked and machine marked ballots, with easy access to absentee ballots, same day registration, no voter IDs, etc. But the great differentiator in Maine is *not* just a shift from caucus to primary, rather a change to statewide standard for **Ranked Choice Voting** (RCV). Though Maine started RCV in 2018, Maine primary voters won't be ranking choices in the 2020 primary, though the November 2020 election *could* be the first to elect a state's presidential electors through RCV.

**Minnesota:** We're looking for varying success in the voter experience between counties using newer vs. older equipment in this state, where counties make their own purchasing decisions for the same requirements for voting (i.e., choice of hand-marked or machine-marked of paper ballots, including support for early voting with same day registration.)

**Massachusetts:** Again, look for varying success in voter experience between counties using newer vs. older equipment in this state, where counties make their own purchasing decisions for the same requirements for voting: choice of hand-marked or machine-marked of paper ballots, including support for early voting. But compare with that with MN, which unlike MA, has same day registration.

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