

Every Minute Counts: Voter Operations & Experience

North Carolina

2026 EDITION

This guide provides detailed information on how to utilize the application featuring the digital timer, including timer interface elements and state-specific process descriptions.

PROCESS STEPS

01

Arrival

02Waiting for
Check In**03**

Check In

04Waiting for
Ballot Marking**05**

Ballot Marking

06Waiting for
Ballot Submission**07**

Ballot Submission

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APP TESTING

It is recommended that you test the app prior to official data collection to become familiar with the process steps and interface. When you are testing the app, please indicate this by typing “TEST” into all text field inputs on the polling place questionnaire. Please also write “TEST” in the notes for the Arrival step of each observation. This will ensure that these times are not falsely included in any final analyses and are properly removed from the database.

PARTICIPANT GUIDE

Introduction

Elections in the United States are run by thousands of local jurisdictions, each with their own voting methods, staffing requirements, location layouts, and procedures. As a result, what is understood about the voting process tends to come from isolated reports. Collecting systematic, comparable data is essential to the study of American elections, helping to improve accessibility, reduce administrative burden, mitigate associated costs, and strengthen public trust in the system.

Every Minute Counts: Voter Operations & Experience (EMC*VOX) supports this need by standardizing the collection of systematic data on the voting process at scale. The project brings together a cross-institutional team of researchers from universities across the United States to observe polling places at voting sites nationwide.

To do this, the Engineering for Democracy Institute, in collaboration with the Elections Research Center, has developed a digital timer application specifically programmed to represent the unique stages of the voting process in each state.

This guide provides detailed information on how to utilize the application featuring the digital timer, including timer interface elements and state-specific process descriptions.



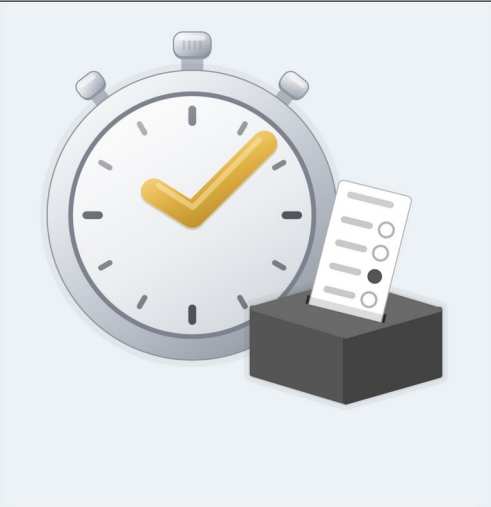
PARTICIPANT GUIDE

Signing In

Each participant will be assigned a unique username and password by the university faculty lead, which will connect them to their specific state's process steps. Once signed in, participants will be able to see a list of all the polling places where data collection was previously recorded or add a new location.

APP TESTING

It is recommended that you test the app prior to official data collection to become familiar with the process steps and interface. When you are testing the app, please indicate this by typing "TEST" into all text field inputs on the polling place questionnaire. Please also write "TEST" in the notes for the Arrival step of each observation. This will ensure that these times are not falsely included in any final analyses and are properly removed from the database.



Welcome Back

Enter the username and password to continue.

Username

Password

Sign In

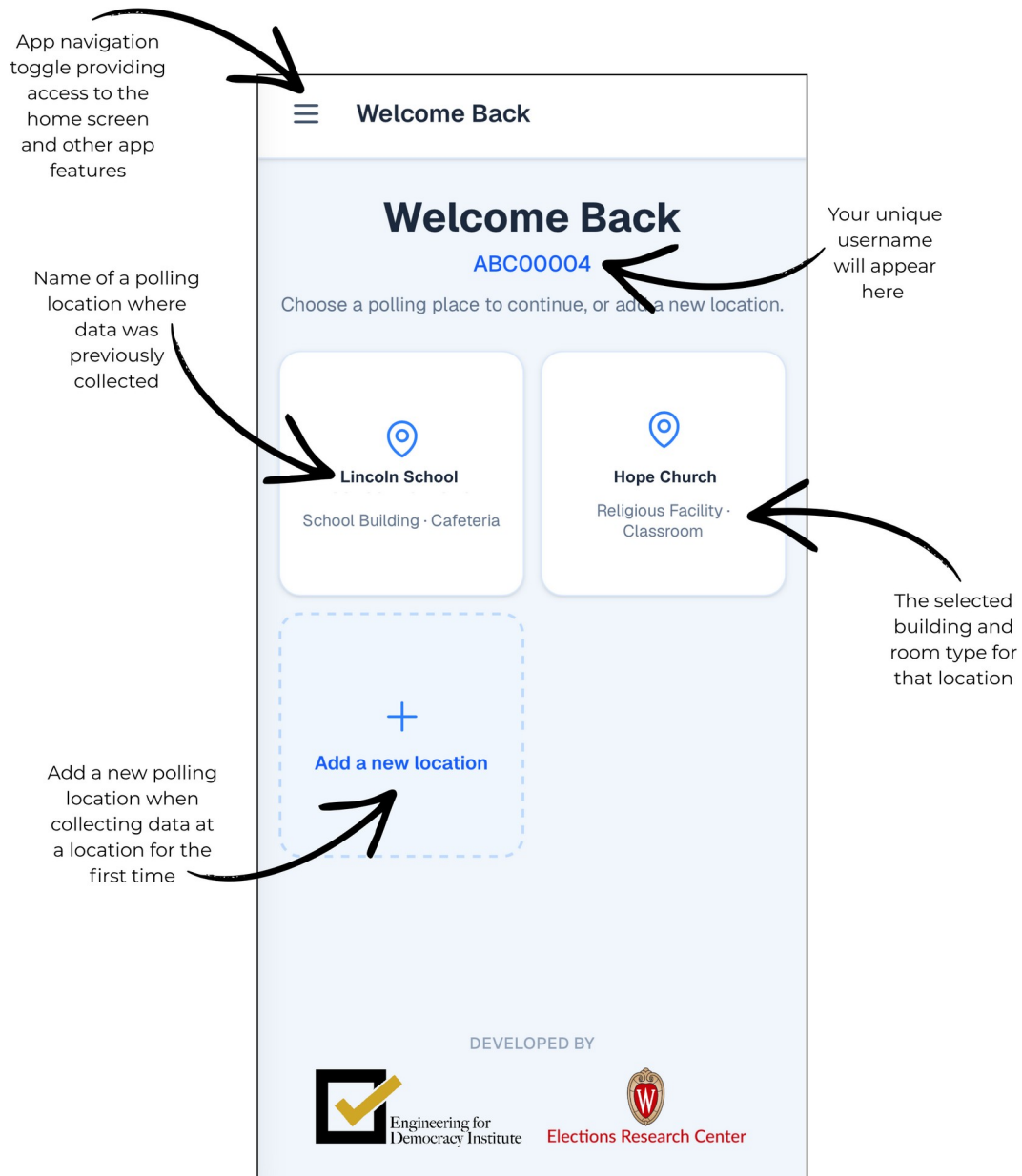
Click to sign into the app after your assigned username and password have been entered

All participants will be assigned a unique username and password to access their state's version of the timer

PARTICIPANT GUIDE

Home Screen

Once signed in, you will be brought to the timer home screen. On the home screen, you will be able to navigate to any polling place you have already collected voter wait times at, as well as “Add a new location” when visiting a polling place for the first time.



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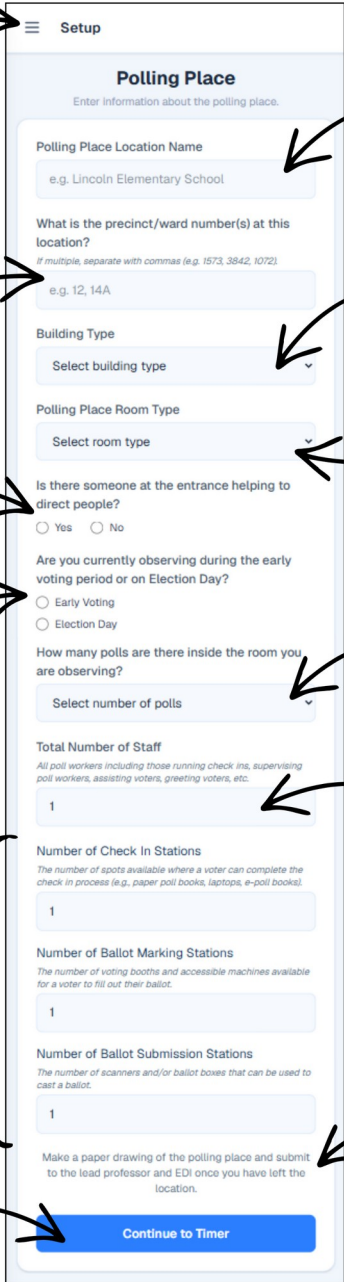
Polling Place Questionnaire

Before beginning data collection, each user needs to fill out the polling place questionnaire which includes questions about the location and equipment and staffing numbers. If there are multiple participants collecting data at the same polling place, agree on all answers on the setup questionnaire before submitting to ensure consistency across data.

Along with the questionnaire, each team should create a paper drawing of the polling place indicating key elements of the location such as voting station locations, voter paths, entrance and exit doors, and their observer area. Drawings should be made on the attached Polling Place Interior Layout Sketch sheet.

NOTE

The specific questions asked in the polling place questionnaire vary depending on the state. The questions shown in this example may not directly reflect the questions you will be asked. Be sure to test the app prior to data collection to ensure you understand what each question is asking you to indicate.



The screenshot shows the 'Polling Place' setup screen in an app. The title is 'Polling Place' with a subtitle 'Enter information about the polling place.' The form contains several sections:

- Polling Place Location Name:** A text input field with the example 'e.g. Lincoln Elementary School'.
- What is the precinct/ward number(s) at this location?:** A text input field with the example 'e.g. 12, 14A' and a note 'If multiple, separate with commas (e.g. 1573, 3842, 1072)'.
- Building Type:** A dropdown menu with the option 'Select building type'.
- Polling Place Room Type:** A dropdown menu with the option 'Select room type'.
- Is there someone at the entrance helping to direct people?:** Radio buttons for 'Yes' and 'No'.
- Are you currently observing during the early voting period or on Election Day?:** Radio buttons for 'Early Voting' and 'Election Day'.
- How many polls are there inside the room you are observing?:** A dropdown menu with the option 'Select number of polls'.
- Total Number of Staff:** A text input field with the example '1' and a note 'All poll workers including those running check ins, supervising poll workers, assisting voters, greeting voters, etc.'
- Number of Check In Stations:** A text input field with the example '1' and a note 'The number of spots available where a voter can complete the check in process (e.g., paper poll books, laptops, e-poll books)'.
- Number of Ballot Marking Stations:** A text input field with the example '1' and a note 'The number of voting booths and accessible machines available for a voter to fill out their ballot.'
- Number of Ballot Submission Stations:** A text input field with the example '1' and a note 'The number of scanners and/or ballot boxes that can be used to cast a ballot.'

At the bottom, there is a blue button labeled 'Continue to Timer' and a note 'Make a paper drawing of the polling place and submit to the lead professor and EDI once you have left the location.'

Annotations with arrows point to various elements:

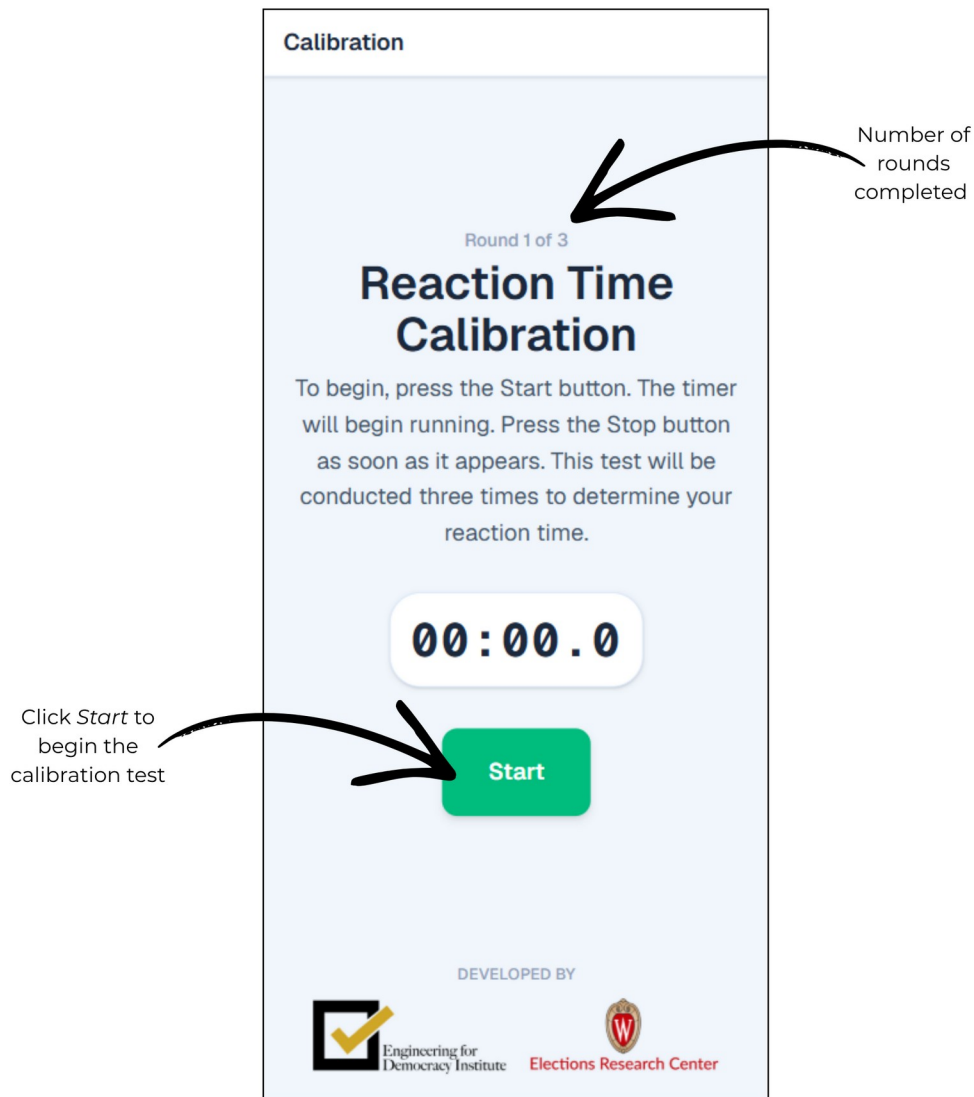
- 'App navigation toggle providing access to the home screen and other app features' points to the hamburger menu icon.
- 'Text input for the name of the polling place' points to the 'Polling Place Location Name' field.
- 'Text input to indicate what precinct/ward/poll is voting at the location' points to the 'What is the precinct/ward number(s) at this location?' field.
- 'Indicate if there is a greeter at this polling place' points to the 'Is there someone at the entrance helping to direct people?' question.
- 'Indicate when you are collecting this data' points to the 'Are you currently observing during the early voting period or on Election Day?' question.
- 'Enter the number of stations for each of the listed process steps *stations listed will depend on the state*' points to the 'Number of Check In Stations', 'Number of Ballot Marking Stations', and 'Number of Ballot Submission Stations' fields.
- 'Advance to the timer once all questions are answered and the sketch is drawn' points to the 'Continue to Timer' button.
- 'Text input to indicate what type of building is being used for the polling place' points to the 'Building Type' dropdown.
- 'Dropdown to indicate what type of room is being used for the polling place' points to the 'Polling Place Room Type' dropdown.
- 'Dropdown to indicate the number of precincts/wards/polls in the polling place room' points to the 'How many polls are there inside the room you are observing?' dropdown.
- 'Text input to indicate the total number of staff at the polling place' points to the 'Total Number of Staff' field.
- 'Reminder to sketch a drawing of the polling place layout' points to the note at the bottom of the form.

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Reaction Time Calibration

Before starting the time study, each user will be prompted to complete a reaction test to account for that participant's reaction delay, which will be factored into the final analysis.

Participants will complete the reaction test three times by clicking the **Stop** button when it appears on screen. Once the test is complete, users will be immediately directed to the voting process timer.



PARTICIPANT GUIDE

Timer Interface

When using the timer, regardless of the process step, the following features will be available for a majority of, if not all of, the steps.



PARTICIPANT GUIDE

Process Steps

Below, you will find details explaining what elements are being tracked under each of the voting steps included in this timer. Each process step includes a description and details regarding when the timer should be started and stopped to track each step.

NOTE

Only check an applicable flag if you are certain that issue has occurred. Use the Notes section to indicate when something happens that may have an impact on the voter's processing time (e.g., not on voter roll at check-in, stopping to talk to a neighbor, etc.) or to share other comments that may be helpful during data analysis. **Do NOT include identifying voter information in the Notes section, such as physical characteristics, name, address, or political affiliations.**

FLAG MARKERS ■ Continue tracking with this timer throughout the process. ■ Ends the timer when stored.

01 Arrival

The Arrival step initiates the timer.

To promote an unbiased, randomized selection of observed voters, study participants should begin timing the voting process for the next voter that walks through the door once they have completed the previous voter observation.

If observing at the same location as other study participants, ensure that each timed voter is different and that no two observers are timing the same voter.

Start Timer

Begin timing when the voter walks through the doorway. If the line extends outside of your view, start timing once the voter comes into your view.

If you are with other observers for this study, come to a mutual agreement on where this starting point is to ensure consistent data collection.

02 Waiting for Check In

 **Store Timer** When the voter arrives at the check in table to begin their interaction with the poll worker(s).

FLAGS	DESCRIPTION
Line extends out of view	The line to check in currently extends outside of your view so you are unable to see when a new voter enters the queue. If this is the case, start timing the moment they enter your view and select this flag to indicate that they had waited longer than tracked by the timer.
Reneged	Voter entered the line to wait for check in and started to wait to be serviced but exited the line before reaching the check in station. ■ Ends the timer when stored.
Given same day registration form in line	Voter was given a form to complete same day voter registration while waiting in line.
Completed registration at the same day registration table	Voter went to the same day registration table before going to the check in table. ■ Continue tracking with this timer throughout the process.
Visited greeter	Voter spoke with a greeter to check their precinct/ward number, voting location, voter registration, etc. ■ Continue tracking with this timer throughout the process.

03 Check In

-  **Store Timer** When the voter turns their body away from the check in table and begins walking away. If the voter receives their ballot at the check in station, ensure they have the ballot in hand before storing the time.

FLAGS	DESCRIPTION
Wrong precinct/ward table	Voter was determined to be at the wrong precinct/ward/poll table during the check in process and directed to the correct table within the same voting location. <ul style="list-style-type: none">■ Continue tracking with this timer throughout the process.
Wrong location	Voter was determined to be at the wrong voting location during the check in process. <ul style="list-style-type: none">■ Ends the timer when stored.
Provisional ballot	Voter was given a provisional ballot. <ul style="list-style-type: none">■ Continue tracking with this timer throughout the process.
Completed registration at the same day registration table	While at the check in station, voter was directed to the same day registration table. <ul style="list-style-type: none">■ Continue tracking with this timer throughout the process.
Voter challenged by observer	An observer challenged the voter while they were checking in. <ul style="list-style-type: none">■ Continue tracking with this timer throughout the process.

04 Waiting for Ballot Marking

-  **Store Timer** When the voter walks up to a ballot marking booth, station, or machine.

05 Ballot Marking

For all voters, indicate if they are hand marking their ballot or if they are using a ballot marking device by selecting the respective flag.

 **Store Timer** When the voter turns to walk away from the voting booth, station, or machine. If they have a paper ballot that will be submitted at a separate station, make sure the ballot is in their hand before storing the timer.

FLAGS	DESCRIPTION
Hand marked ballot	Voter used a paper ballot and hand marked it.
Ballot marking device	Voter used a ballot marking device or accessible machine to mark their ballot.
Reissued ballot	Voter “spoiled” their ballot and received a new one. ■ Continue tracking with this timer throughout the process.
Used voter assistance to fill out ballot	Voter was assisted by another person to cast their vote (this does not include a poll worker who assisted with technology, such as how to use an accessible machine).

06 Waiting for Ballot Submission

 **Store Timer** When the voter walks up to an available scanner or ballot box to submit their ballot.

07 Ballot Submission

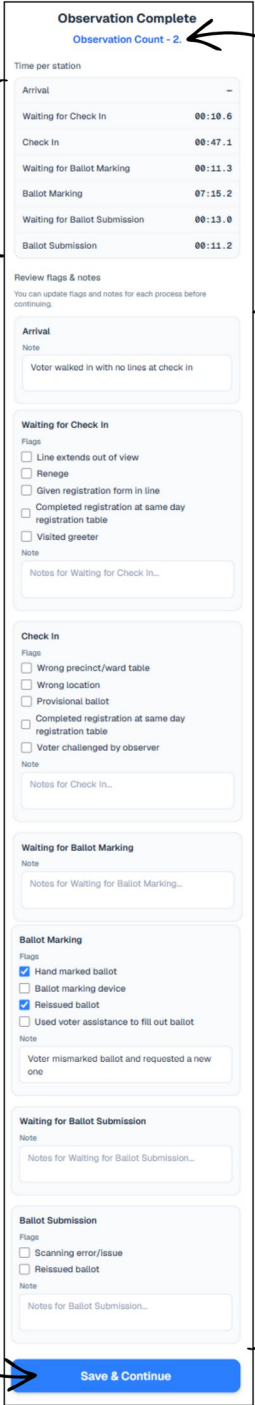
 **Store Timer** When the voter’s ballot has been submitted and they turn to walk away from the scanner or ballot box.

FLAGS	DESCRIPTION
Scanning error/issue	Voter had an issue with the scanner accepting their ballot on the first try.
Reissued ballot	Voter “spoiled” their ballot and received a new one. ■ Continue tracking with this timer throughout the process.

PARTICIPANT GUIDE

End Observation Review

After the timing data for the final step in the voting process is stored, a screen will appear displaying all data and times collected for this voter. Users will have the ability to edit notes and flags on each step when on this screen. Once the data has been reviewed and updated if necessary, the data will be submitted and stored to the study database.



Observation Complete
Observation Count - 2

Time per station

Process	Time
Arrival	-
Waiting for Check In	00:10.6
Check In	00:47.1
Waiting for Ballot Marking	00:11.3
Ballot Marking	07:15.2
Waiting for Ballot Submission	00:13.0
Ballot Submission	00:11.2

Review flags & notes
You can update flags and notes for each process before continuing.

Arrival
Note
Voter walked in with no lines at check in

Waiting for Check In
Flags
☐ Line extends out of view
☐ Renege
☐ Given registration form in line
☐ Completed registration at same day registration table
☐ Visited greeter
 Note
Notes for Waiting for Check In...

Check In
Flags
☐ Wrong precinct/ward table
☐ Wrong location
☐ Provisional ballot
☐ Completed registration at same day registration table
☐ Voter challenged by observer
 Note
Notes for Check In...

Waiting for Ballot Marking
Note
Notes for Waiting for Ballot Marking...

Ballot Marking
Flags
☒ Hand marked ballot
☐ Ballot marking device
☒ Reissued ballot
☐ Used voter assistance to fill out ballot
 Note
Voter mismarked ballot and requested a new one

Waiting for Ballot Submission
Note
Notes for Waiting for Ballot Submission...

Ballot Submission
Flags
☐ Scanning error/issue
☐ Reissued ballot
 Note
Notes for Ballot Submission...

Save & Continue

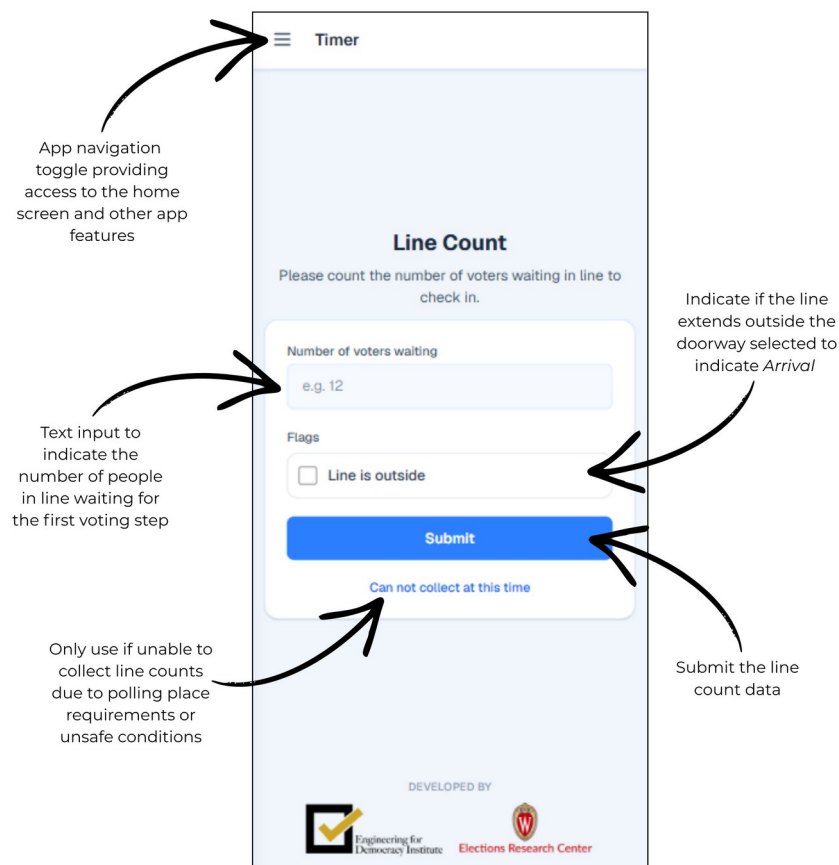
PARTICIPANT GUIDE

Line Count

Roughly every 20 minutes, you will be prompted to submit a count of how many people are waiting in line at that moment. This pop-up will only appear once you have completed an entire observation and submitted the times and notes after review. The line count pop-up will not interrupt an active voter observation.

Indicate how many people are actively waiting to be serviced at the check in station that are not currently being assisted by a poll worker. If no one is waiting to be helped, please enter 0 into the counter. If the line extends outside of the doorway selected as the point to begin the Arrival timer, please indicate this with the flag.

If you are unable to complete the task due to safety concerns or if you have been instructed to not move from the designated observer area, you may indicate such with the “Can not collect at this time” button which will prompt you for a reason why. **Only use this feature if absolutely necessary to ensure valid and accurate data collection.**



The screenshot shows a mobile app interface titled "Timer" at the top. Below the title is a section titled "Line Count" with the instruction "Please count the number of voters waiting in line to check in." There is a text input field labeled "Number of voters waiting" with the example text "e.g. 12". Below this is a "Flags" section with a checkbox labeled "Line is outside". At the bottom of the form is a blue "Submit" button and a link that says "Can not collect at this time". The footer of the app shows logos for the Engineering for Democracy Institute and the Elections Research Center, with the text "DEVELOPED BY" above them.

App navigation toggle providing access to the home screen and other app features

Text input to indicate the number of people in line waiting for the first voting step

Only use if unable to collect line counts due to polling place requirements or unsafe conditions

Indicate if the line extends outside the doorway selected to indicate Arrival

Submit the line count data

PARTICIPANT GUIDE

Data Collection Tips

In preparation for data collection:

- Download the app to your phone
- Test signing in and using the app prior to data collection (include “TEST” in notes and text boxes)
- Bring a fully charged phone and a portable charger
- Turn off sleep or screen timers (Auto Lock Timer on iPhone) on phone to prevent it from turning off while timing
- Bring a water bottle, snacks/lunch (plan to eat outside of the polling place)
- Bring all paperwork and writing utensils necessary for data collection
- Wear closed, comfortable shoes

During data collection:

- Remain in the designated observer area
- Keep a distance from the voter you are observing
- Do not express any opinions towards the process or political affiliation, including with clothes or accessories
- Do not take pictures or videos of the space
- Do not speak to the media or other observers about the project. If they are interested, provide the project website link: <https://elections.wisc.edu/everyminutecounts/>
- Do not make assumptions about what you are allowed to do or where you can go
 - If unsure, check with a poll worker first
- Remember: you are a guest in their space – be kind and considerate of the space and workers

FACULTY LEAD SECTION

Topics to Cover with Participants

The following are topics that should be covered with study participants by the university faculty lead prior to collecting data. These are topics in which the requirement, response, or action may vary depending on local and state requirements.

All participants should be instructed on the following:

- Local regulations for election observers
- State and local policies on speaking to voters and poll workers
- The preferred responses if participants are asked about the project by voters, press, poll workers, and/or election officials
- Response if poll workers are uncomfortable with students observing
 - EDI recommends leaving the polling place and visiting another location to prevent any confrontation or discomfort from either party
- Necessary paperwork/permissions that may need to be shared with poll workers upon arrival at the polling place
- Appropriate clothing (no political themes, weather appropriate (if applicable), etc.)
 - Depending on your area, you may want to recommend that students wear university branded clothing to help poll workers identify them as a part of the study

North Carolina



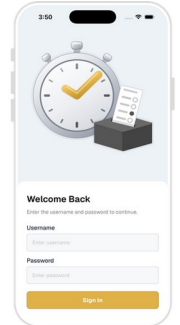
Bring to the Polling Place

☐ The App

REQUIRED

Download the app to your phone

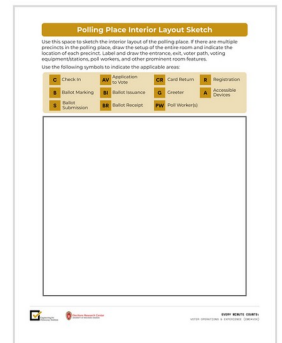
Bring a fully charged phone and a portable charger



☐ Polling Place Interior Layout Sketch Sheet

REQUIRED

Each team should create a paper drawing of the polling place indicating key elements of the location such as voting station locations, voter paths, entrance and exit doors, and their observer area.



☐ North Carolina Process One Pager

OPTIONAL • HIGHLY RECOMMENDED

A printable, one page description of North Carolina's voting process steps with indication of when the timer for each step should be stored. The page includes a brief checklist reminder of the study elements all participants are asked to collect while at each polling place. There are also reminders of the main timer button features and when they should be used.



Polling Place Interior Layout Sketch

Use this space to sketch the interior layout of the polling place. If there are multiple precincts in the polling place, draw the setup of the entire room and indicate the location of each precinct. Label and draw the entrance, exit, voter path, voting equipment/stations, poll workers, and other prominent room features.

Use the following symbols to indicate the applicable areas:

C Check In	AV Application to Vote	CR Card Return	R Registration
B Ballot Marking	BI Ballot Issuance	G Greeter	A Accessible Devices
S Ballot Submission	BR Ballot Receipt	PW Poll Worker(s)	



North Carolina



LOCATION CHECKLIST

- ☐ Questionnaire
- ☐ Layout Sketch
- ☐ Reaction Test
- ☐ Voter Time Studies
- ☐ Line Count

Start

Start the timer when a new voter walks through the doorway

Store

Stop the timer when the voter completes the current step to automatically advance to the next step

Back

Returns to the previous step and continues the timer on that step

End Voter Observation

Stops the timer and deletes the time for the current step, but saves all other data and times associated with that voter observation

Reset All Steps

Deletes all time data collected from the observed voter and resets the timer

1



Arrival

Start: Begin when voter walks through the doorway

2



Waiting for Check In

Store: Voter arrives at the check in table

3



Check In

Store: Voter turns their body away from poll worker and begins walking away (with ballot, if applicable)

4



Waiting for Ballot Marking

Store: Voter walks up to either a ballot marking booth, station, or machine

5



Ballot Marking

Store: Voter turns to walk away from booth, station, or machine with their ballot

6



Waiting for Ballot Submission

Store: Voter walks up to an available tabulator or ballot box

7



Ballot Submission

Store: Voter's ballot has been submitted and voter begins to turn away from the ballot tabulator or box