

## URI Professor Gretchen Macht's \$700,000 grant project seeks to improve the in-person voting experience amid COVID-19

*Project will enable researchers to examine voting process layouts to ensure public health safety and enhance efficiency*



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KINGSTON, R.I. [URI] – Professor **GRETCHEN MACHT**, director of the URI Voter Operations and Election Systems (URI VOTES) project, has been awarded several grants totaling \$700,000 to conduct research and recommend steps to help several polling locations across multiple states execute successful in-person voting.

“Adding necessary safety measures to help mitigate the spread of COVID-19 could potentially impact lines and waiting times in the upcoming election,” said Macht, assistant professor of mechanical, industrial and systems engineering. “Our work here at URI will help develop recommendations to make voting as positive an experience as possible in terms of both safety and waiting times.”

Her research results are expected to improve safety and efficiency at voting locations during the upcoming election, and resulting tools will provide valuable planning guidance to others in the future.

The project will explore the implications of designing voting processes, meant to mitigate COVID-19, at certain voting facilities across the country including Rhode Island, Michigan and Los Angeles County. To accomplish this, Macht and her team will use voting technology data from each facility. They will integrate the data with layout planning specific to each locale to create simulation models that

also account for social distancing, sanitization procedures, and other logistical changes meant to prevent the spread of the virus. And, based on their findings, they will recommend resource allocations, and physical layout changes for each individual location.

The URI research team will utilize virtual reality to provide election administrators with greater accuracy in its models.

According to Macht, her team will be looking at physical layouts in terms of what needs to fit and occur within the layout, how those elements are oriented, and what resources are needed to make it all happen.

For example, Macht noted that if you were to designate one person to wipe down voting equipment between every use, and that person covers an eight-hour period, you would need to consider numerous factors, including: a) that person’s potential exposure to COVID-19 while undertaking their tasks; b) the equipment and supplies needed for those tasks to be completed; c) the most efficient way to implement the cleaning procedures; d) the integrity of the voting process during any new measures; and, e) the impact of the time needed to clean on voter wait times and queues.

Because regulatory changes can occur rapidly as the virus evolves and case numbers change from state to state, researchers have the added challenge of following state policies relating to public health and social recommendations, in near real time.

Tradeoffs between COVID-19 process changes and voting system performance will be measured for different types of voting systems, including paper ballot and mechanical ballot systems, according to Macht. “We’ll be able to generate customized guidelines for the election officials we are working with. It is not going to be a ‘one-size fits all’ approach.

“Election administrators everywhere want to make sure the system works so that people have the opportunity and will want to participate. If we can execute elections in November where lines are minimal and it is safe for everyone to vote, then we will have been successful,” said Macht.

Funders for this URI VOTES research include the Democracy Fund, the Stanford-MIT Project on Healthy Elections, and other anonymous donors. ❖

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