

**Complex Elections: Making Voting More Robust and Trustworthy
(Technical Report)**

**The Struggle over Voting Methods in the United States
(STS Research Paper)**

**An Undergraduate Thesis Portfolio
Presented to the Faculty of the
School of Engineering and Applied Science
In Partial Fulfillment of the Requirements for the Degree
Bachelor of Science in Computer Science**

by

William Bigger

date submitted, in May 9, 2023

Preface

In America's decentralized election system, voters demand convenient, fast, and auditable elections. Many Americans distrust their electoral process.

In Virginia, Chesterfield County's General Registrar employed interns under the state's Cyber Navigator Program to draft an incident response plan to comply with the state's Locality Election Security Standard. Election offices must navigate the court system, state law, and county services. Policy and infrastructure recommendations were proposed to Chesterfield County's General Registrar to better comply with incident response standards and integrate with other county functions.

To earn and retain public trust, U.S. elections authorities must respond to competing pressures within strict legal and resource constraints. Elections lie in a contested liminal space between public authorities and divergent private pressures, making reform contentious. A better understanding of the forces influencing confidence in elections may serve efforts to improve public trust in them.