Motivation

- **Help America Vote Act of 2002** - Reform voting processes, changes include:
  - New electronic equipment
  - No punch cards
- **2016 Presidential Election** - Department of Homeland Security reports 21 states targeted\(^1\)
- **Research** - Cyber, physical, and human vulnerabilities of election process
- **Analyze** - State of Maryland’s election process including:
  - Optical scanners
  - Poll books
  - Election judges
- **Mitigation** - Resolve vulnerabilities to manage risk
- **Impact** - Assess risk to:
  - Improve processes
  - Decrease threats


### Influence Diagram - Cyber

- **Cyber**
  - Ballot Marking Device
  - Flash Drives
  - Optical Scanner
  - Memory Cards
  - Network
  - Database
  - Electronic Poll Books

### Influence Diagram - Human

- **Human**
  - County Tech
  - Challengers & Watchers
  - Election Judges
  - Board of Elections Staff
  - Election Day Support Staff

### Influence Diagram - Physical

- **Physical**
  - Supply Chain
  - Equipment Security
  - Chain of Custody
  - Forge Reports

### Election Process

**What’s Next?**

- **Measure Risk** - Vulnerabilities measured for probability of occurrence and impact
- **Scorecard** - Rate risk based on probability of occurrence and impact; ratings include:
  - High
  - Medium
  - Low
- **Best Practices** - Effective processes to implement including:
  - Education materials
  - Signs & posters