

**Empirical Validation of Automated Redistricting Algorithms on the Virginia  
House of Delegates District Map**

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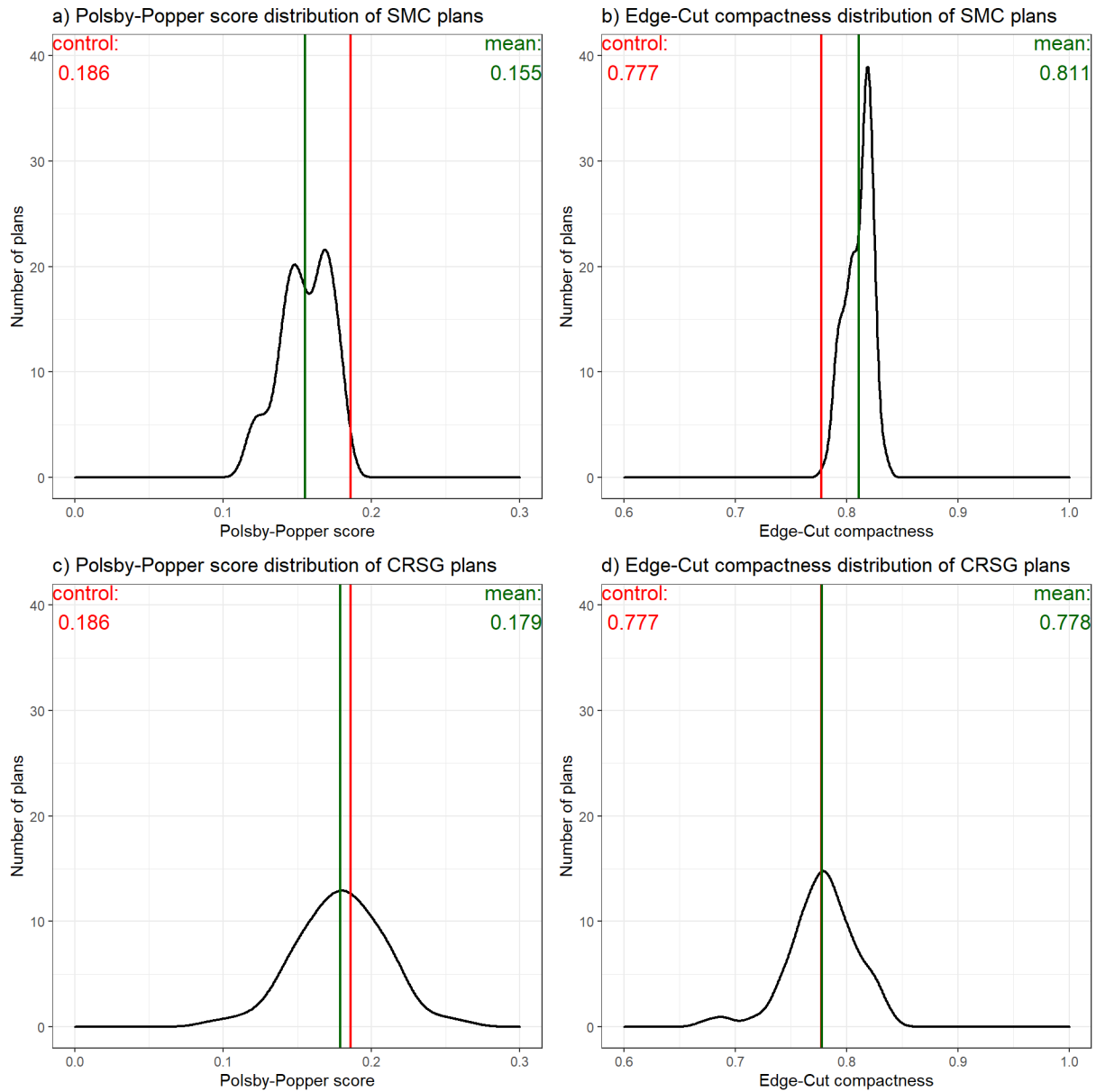
May 20th, 2021

## Results

This section provides an overview of the results from my method.

### Overall Measures

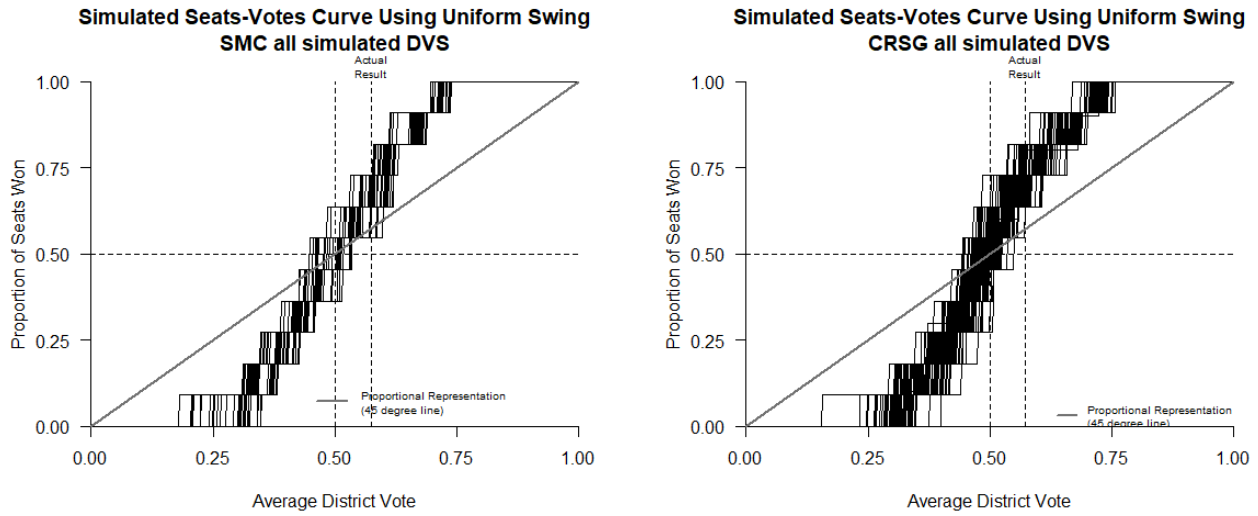
#### Compactness



**Figure 10**

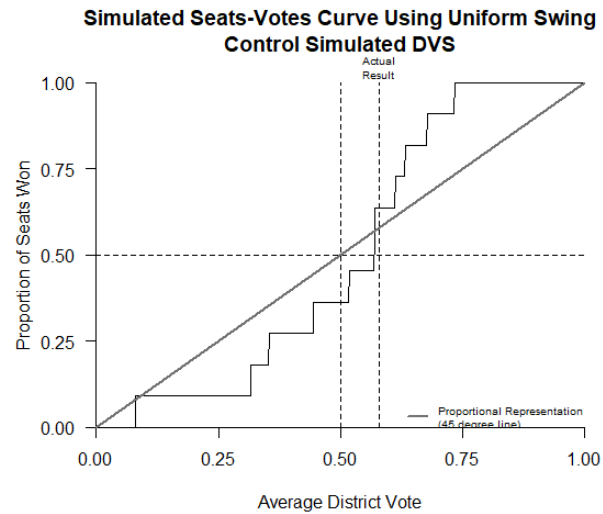
*Distributions of compactness measures.*

## Partisan Fairness



(a) *SMC Seats-Votes Curve*

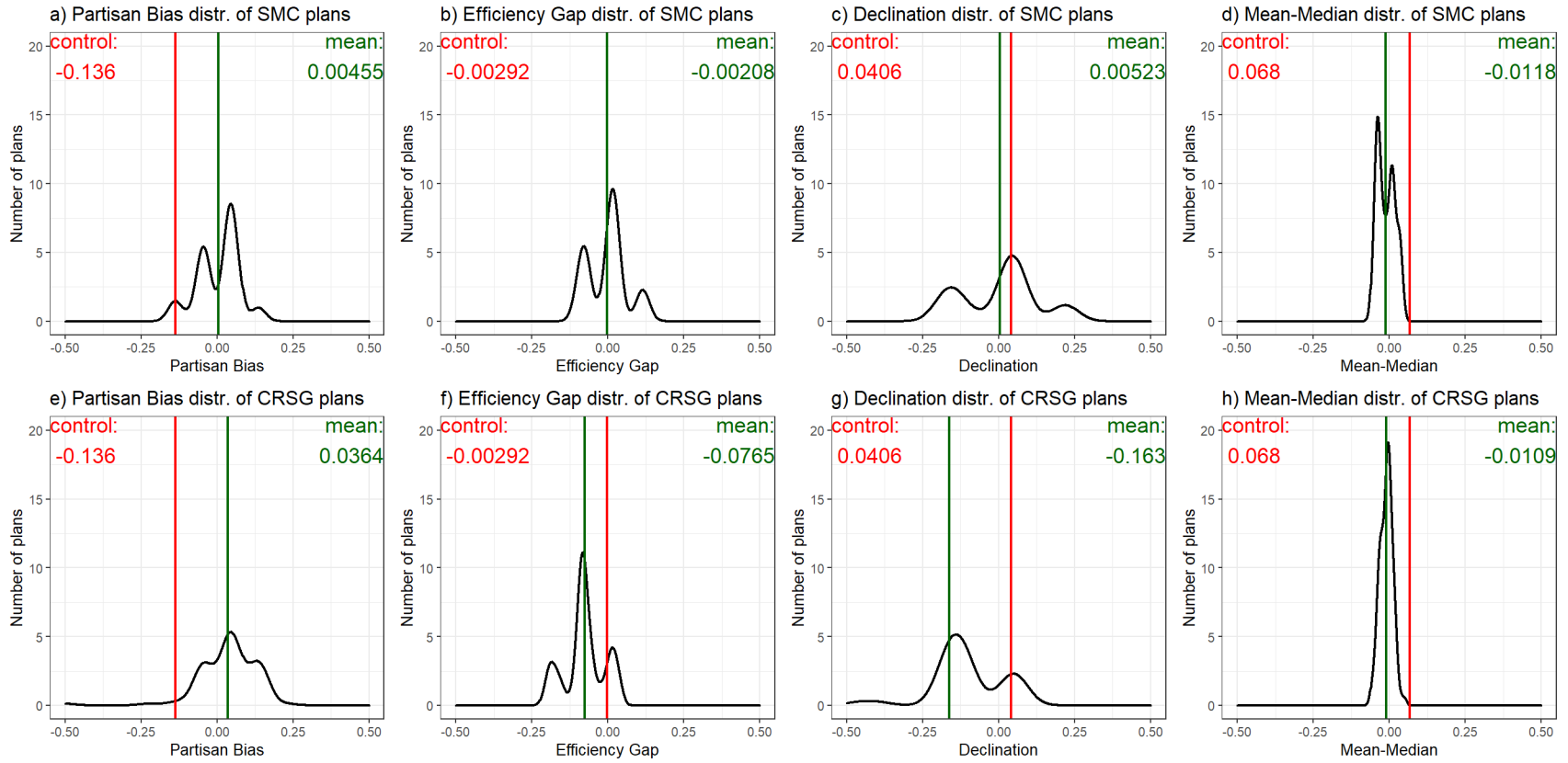
(b) *CRSG Seats-Votes Curve*



(c) *Real Seats-Votes Curve*

**Figure 11**

*Seats Votes Curves*



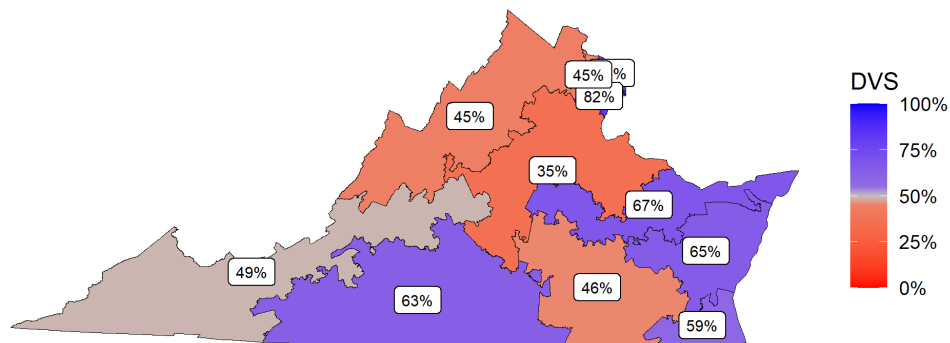
**Figure 12**

*Distributions of fairness measures*

## 2018 General Election Simulation

### Election under Fairest SMC District

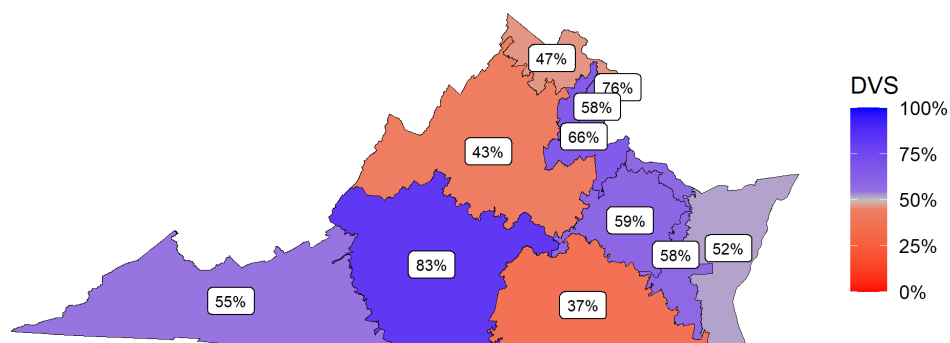
Compared to 57.0% popular DVS



6/11 Democratic Seats

### Election under Fairest CRSG District

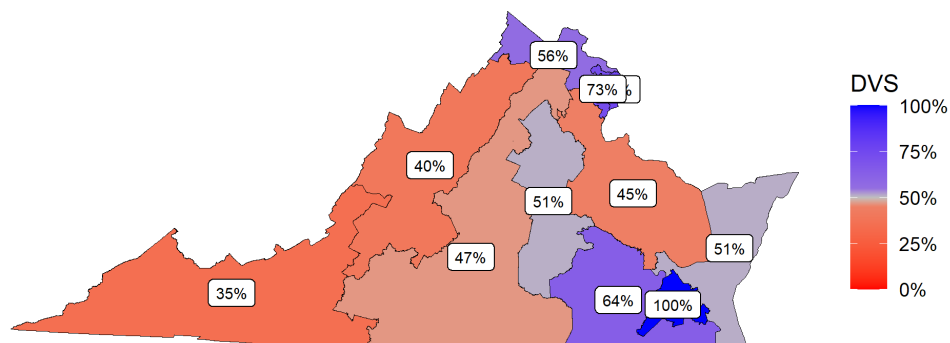
Compared to 57.0% popular DVS



8/11 Democratic Seats

### Election under Fairest Control District

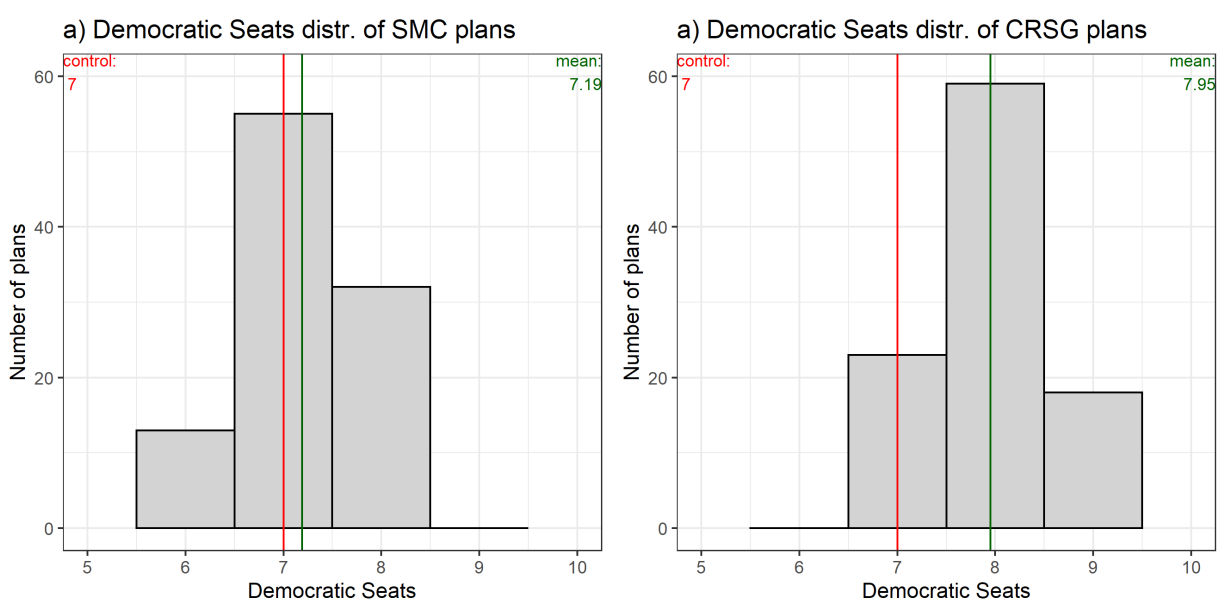
Compared to 57.0% popular DVS



7/11 Democratic Seats

**Figure 13**

*Simulated election results*



**Figure 14**

*Distributions of Democratic seats*