

# Edison Timeseries Distribution Analysis in the 2020 Presidential Election

Eric Quinnell, PhD; Anonymous, PhD; 1/5/2021 (rev a)

## Executive Overview

This report is a supplemental data appendix to the report “2020 Presidential Election Startling Voting Spikes” by Quinnell, Young, Cox, Davis, Blehar, Droz, and Anonymous. In the original report, we looked at vote “Dumps.” We defined a Dump as being a 25,000+ vote differential between Presidential candidates, received/recorded at one time.

This supplement displays the same data and analysis in a different form – specifically in a Gaussian or “Bell Curve” standard normal distribution form for all states. The data is from the Edison time-series set recovered on November 25<sup>th</sup>, 2020.

These new visualizations uncovered additional findings regarding the time-series data. Findings of note include:

- A total of almost **4 million NEGATIVE VOTES** occurred between election night (November 3<sup>rd</sup>) and the final Edison timestamp
- 1,006 of the 21,452 datapoints are **NEGATIVE VOTES**
- Not all **NEGATIVE VOTES** are corrected – e.g. New York deleted 500k+ votes on November 8<sup>th</sup>, never to be recovered
- Only two states – Hawaii and Delaware – lack **NEGATIVE VOTES**
- Trump had the majority of time-series updates in his favor (6,208 data pairs) vs Biden (4,467 data pairs)
- Biden averaged 577 votes per time-series update in his favor – the average is dominated by heavily by multi-sigma dumps extremely outside the mean
- 7 states have a skewed tail in favor of Trump (meaning “Dumps” dominate in Trump’s favor)
- 38 states have a skewed tail in favor of Biden
- The top 5 of Trump’s largest dumps in his favor are a result of **NEGATIVE VOTES**

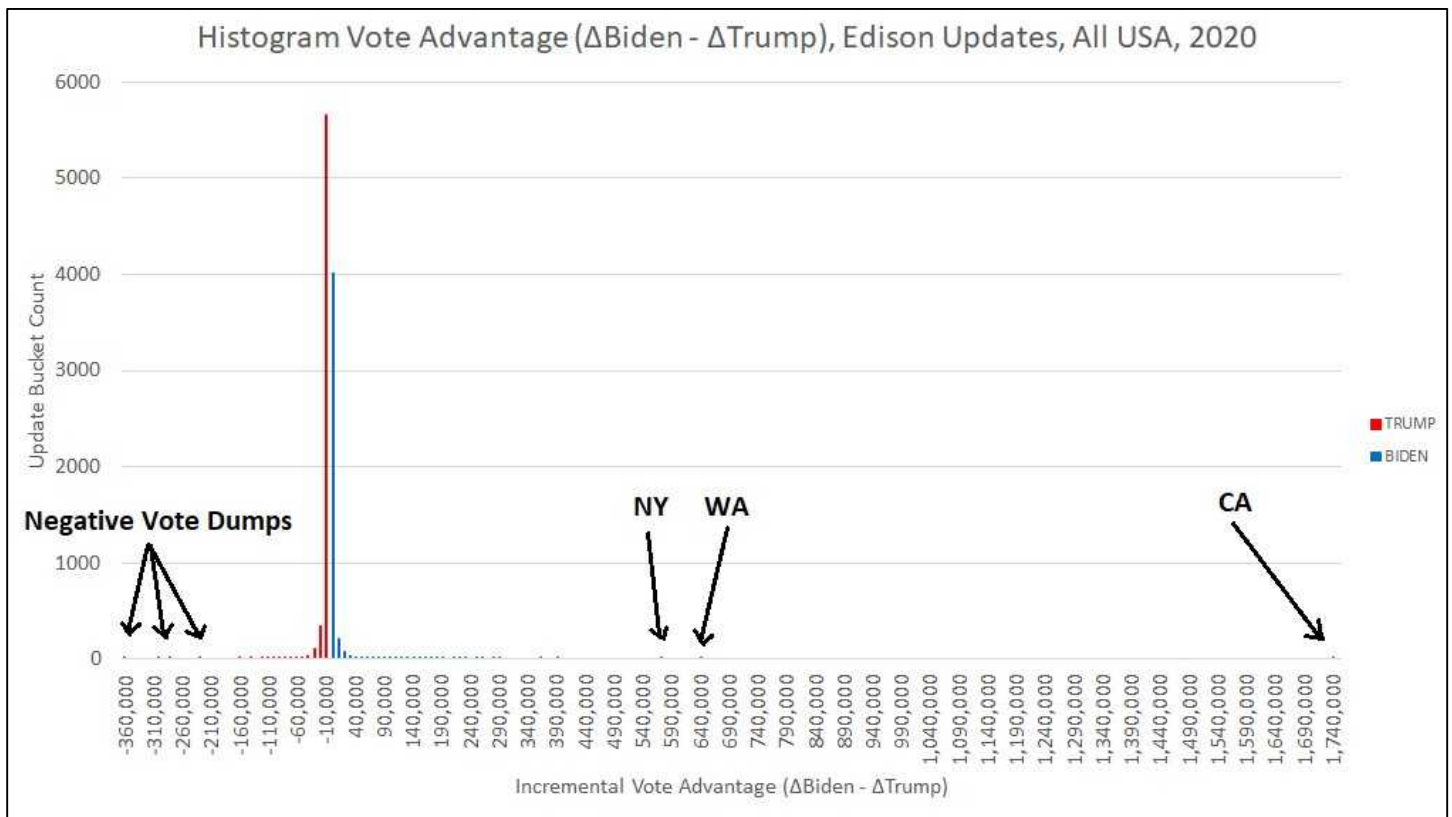
The following sections are raw data summaries presented in histograms and quantization for the whole USA as well as per state. Note some of these values and terms are intended for analysts with deeper math specializations – for further explanation feel free to contact one of the authors of the initial report listed above.

Skew is assumed as compared to the standard normal value of 0, while kurtosis is assumed as compared to the standard normal of 3. The USA summary of both values is **spoiled by a singular data pair from California to the tune of 1.74 million votes in Biden’s favor in a single time-stamp**. Each state’s skew and kurtosis values are more reasonable comparisons to the standard.

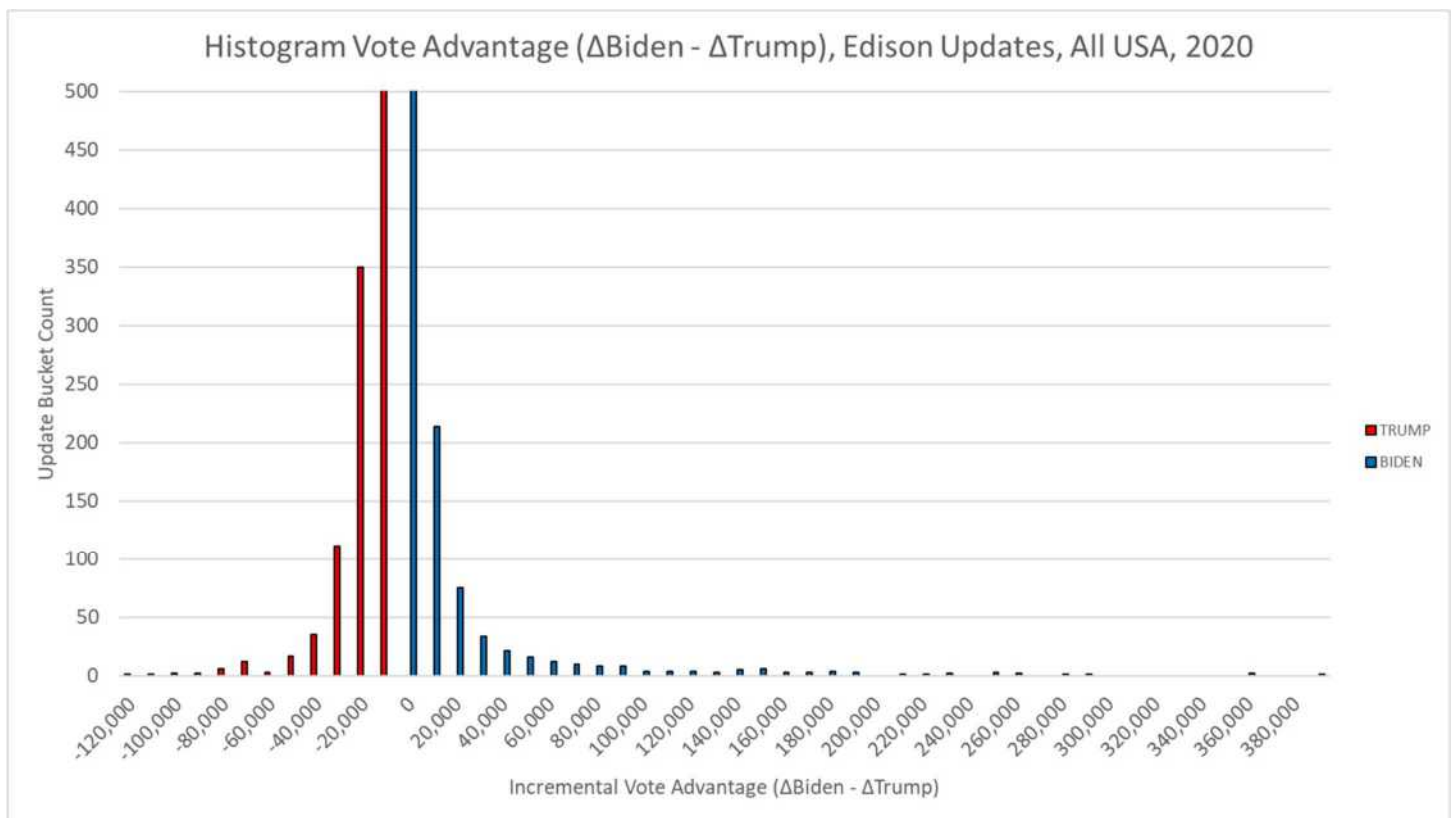
## USA Combined Time-series Statistics

(Biden - Trump) Increment	AVERAGE	STDEV	SKEW	KURT	MAX (Biden)	MIN (Trump)	Total Vote Datapoints	Negative Vote Datapoints
USA	577	25711	34	2065	1741745	-359800	21,452	1,006

Negative Votes	Trump	Biden	Total
USA	-1,352,912	-2,643,604	-3,996,516
AZ	-4,763	-15,754	-20,517
FL	-28,430	-126,129	-154,559
GA	-33,372	0	-33,372
MI	-36,465	-46,284	-82,749
NV	0	-2,343	-2,343
NY	-130,292	-566,779	-697,072
PA	-420,530	-677,736	-1,098,266
VA	-169,818	-694,859	-864,677
WI	-5,286	-18,757	-24,043



Largest Outliers	Votes	State	Time	Note
<b>Trump Gain</b>	359,800	NY	2020-11-08 16:03:14 UTC	Part of -500k vote purge. False Gain
<b>Biden Gain</b>	1,741,745	CA	2020-11-04 04:25:00 UTC	Massive super-centralized poll closing??

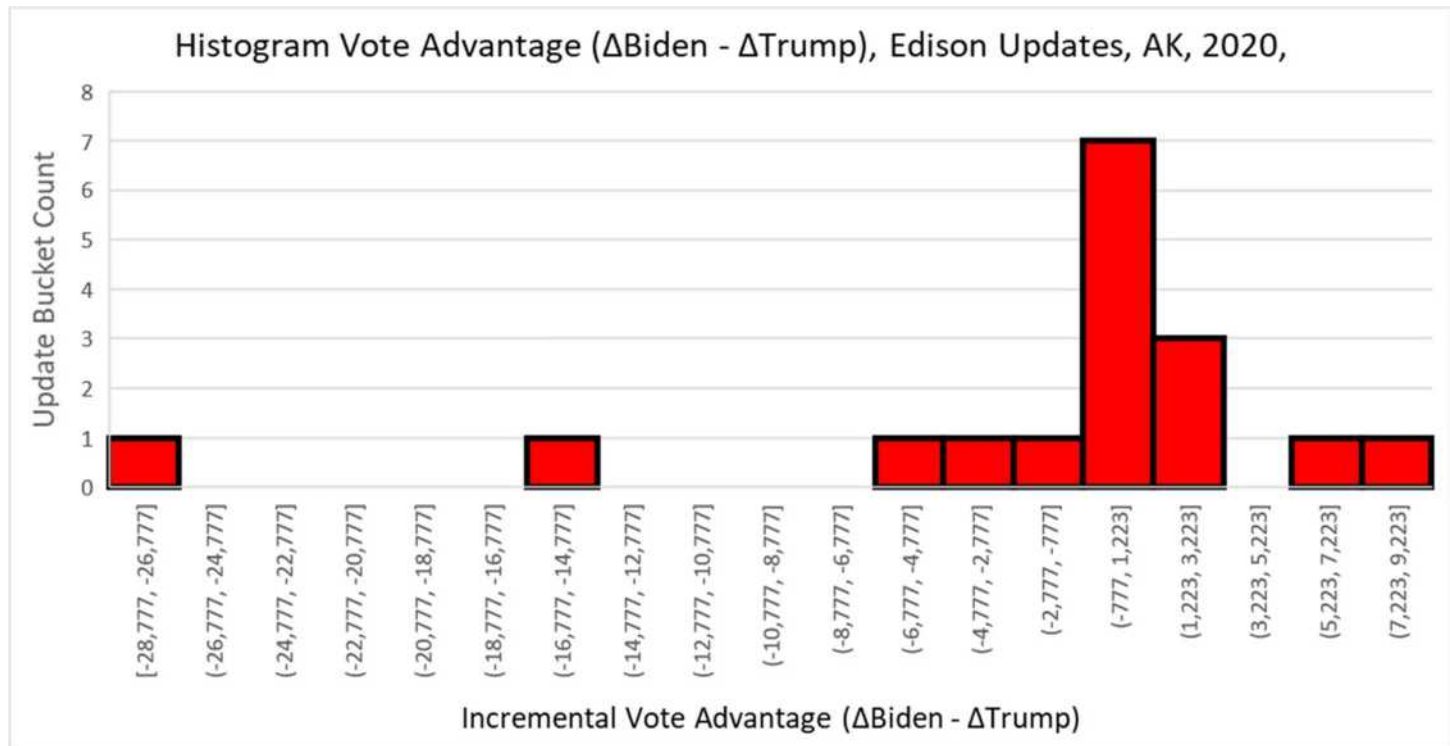


## Per-State Timeseries Update Statistics

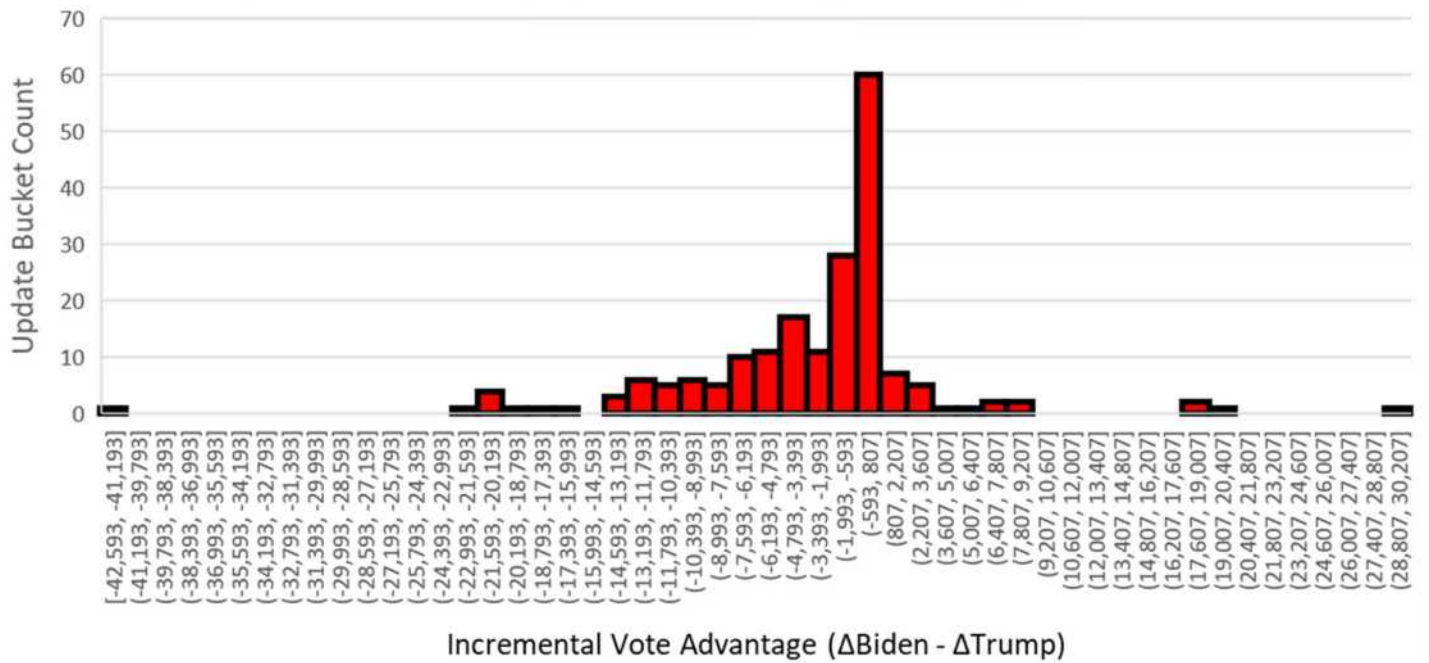
	(Biden - Trump) Increment + adv Biden, -adv Trump				Biden Gain	Trump Gain
State	AVERAGE	STDEV	SKEW	KURT	MAX	MIN
AK	-2111	8320	-2	6	7295	-28777
AL	-3058	7114	-1	8	29675	-42593
AR	-1657	4547	0	17	30108	-25056
AZ	80	16961	7	52	143100	-37918
CA	23276	127758	11	151	1741745	-38268
CO	2800	17867	6	46	162159	-18592
CT	1489	4168	4	17	27933	-4832
DC	6785	8470	2	2	32588	-359
DE	7366	23405	2	6	76422	-10917
FL	-1194	21524	4	32	192127	-76265
GA	17	7947	5	65	107040	-40335
HI	24128	61193	3	7	173943	-5517
IA	-586	6095	7	80	69393	-16820
ID	-3507	5565	0	7	21281	-23961
IL	3775	22209	6	40	189359	-35566
IN	-2028	6676	3	23	50460	-27975
KS	-735	4328	4	50	44401	-23711
KY	-1791	6371	5	62	70927	-32407
LA	-5327	14167	2	17	78942	-40256
MA	2628	7666	12	189	134027	-10183
MD	10289	37412	5	24	256260	-37182
ME	163	1675	10	159	27235	-7150
MI	275	8347	7	131	135290	-66546
MN	620	11595	9	99	141388	-25914
MO	-2389	11759	4	29	95480	-43302
MS	-861	4207	1	37	38156	-25505
MT	-874	2874	1	15	16866	-11883
NC	-297	24847	13	185	360340	-88320
ND	-1282	2774	-2	9	7373	-14412
NE	-2203	11291	0	18	59233	-60069
NH	193	903	3	14	5768	-2555
NJ	3685	21162	4	29	159137	-79274
NM	1467	9525	7	52	74503	-10591
NV	438	9144	7	55	74000	-13496
NY	3923	48434	6	93	578620	-359800
OH	-2248	23343	3	31	178328	-116527
OK	-3798	5506	0	11	28680	-24198
OR	4311	28222	8	70	253206	-16278
PA	118	19210	-2	88	190882	-271410
RI	2564	13965	6	40	91005	-6630

SC	-1478	7457	-1	18	47338	-47620
SD	-714	1444	0	8	7388	-6994
TN	-5595	17724	1	16	88234	-84326
TX	-1816	26652	6	56	265215	-101250
UT	-3316	10593	-2	18	45933	-65957
VA	1532	36004	1	45	291921	-292643
VT	1429	2883	2	5	13647	-413
WA	3501	43711	14	208	645038	-14805
WI	63	7768	10	149	118215	-22752
WV	-3185	5260	0	9	23621	-23588
WY	-2219	3028	-1	2	5375	-11991
State	AVERAGE	STDEV	SKEW	KURT	MAX	MIN
USA	577	25711	34	2065	1741745	-359800

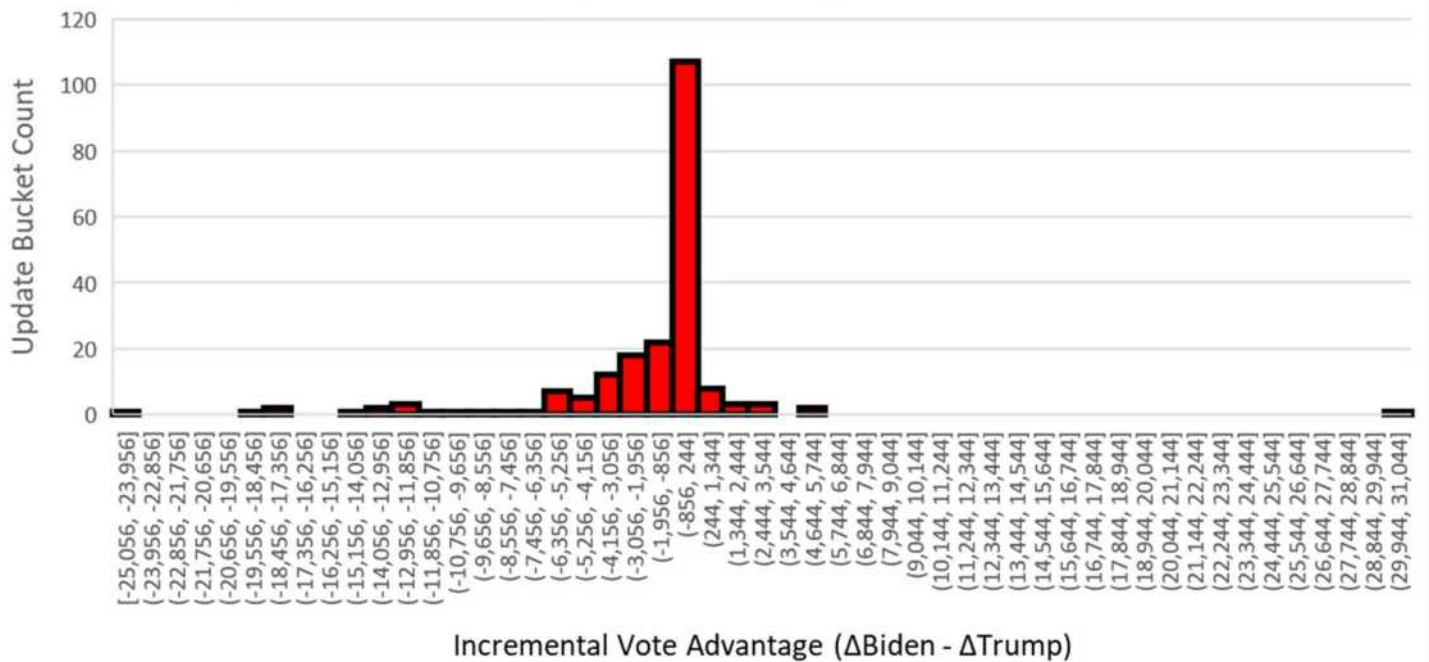
## Per-State Timeseries Histograms



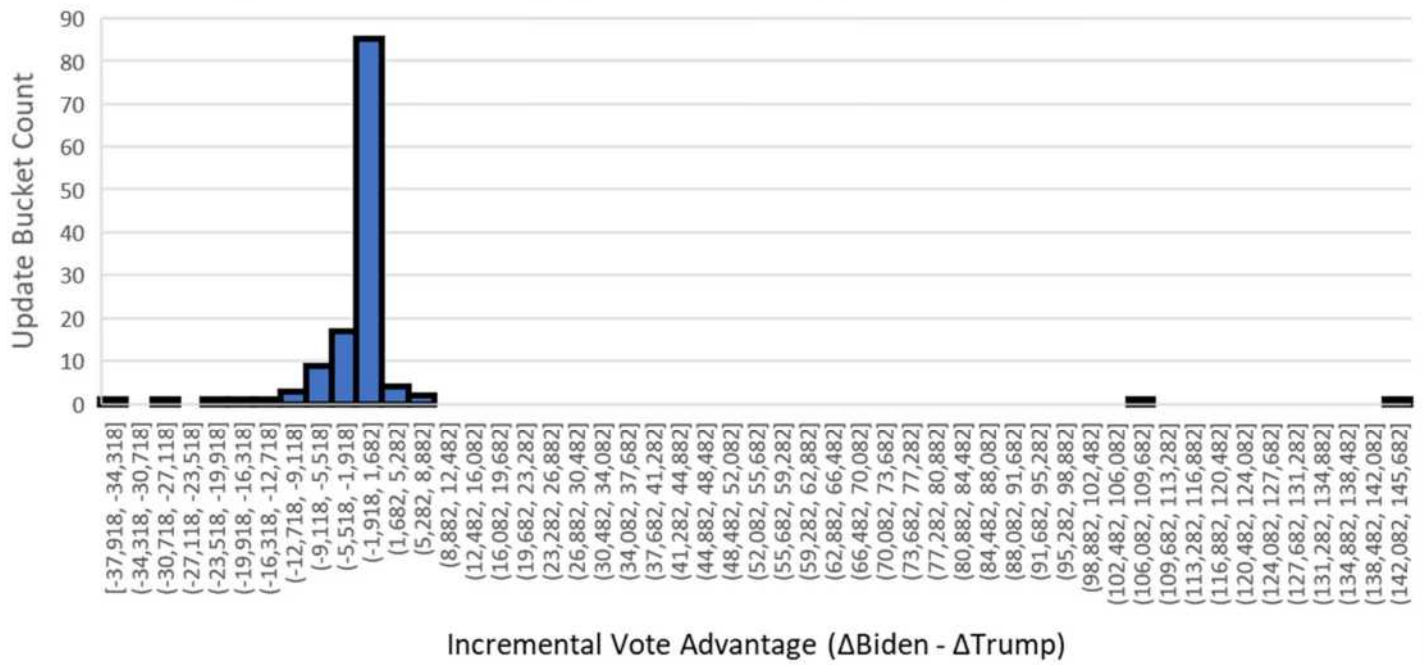
Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, AL, 2020,



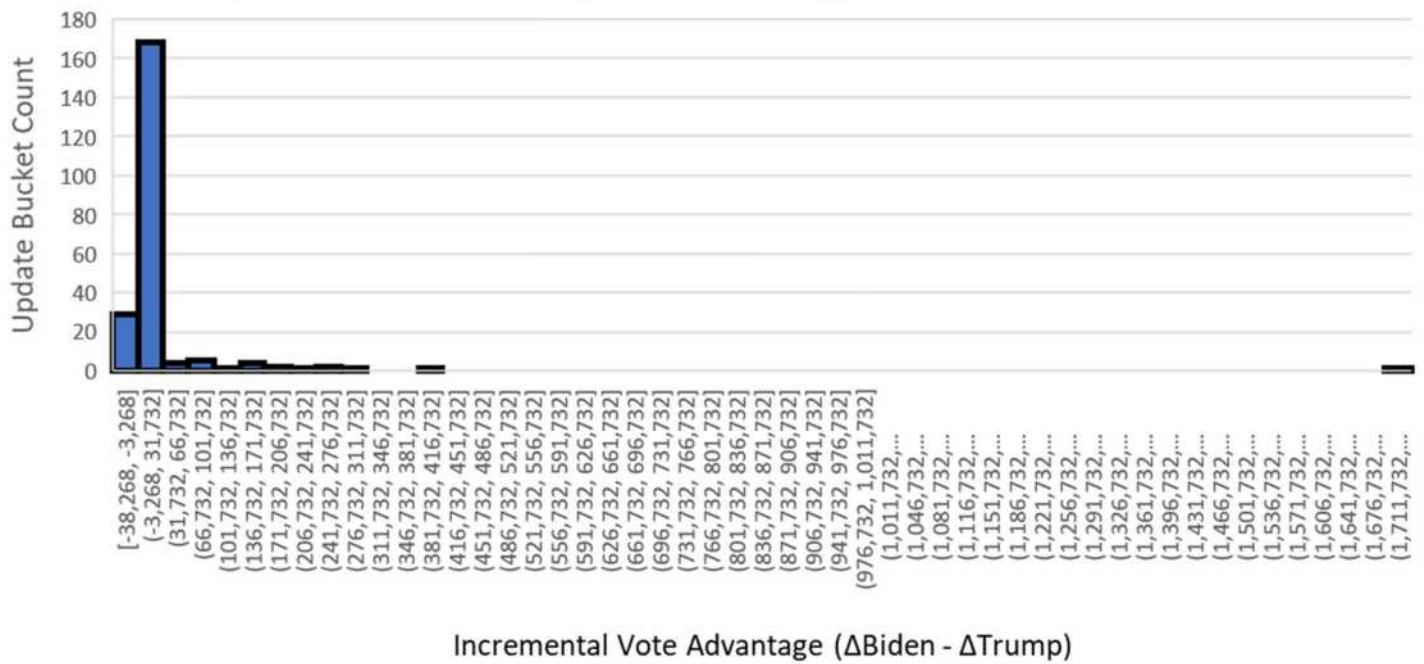
Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, AR, 2020,



Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, AZ, 2020,

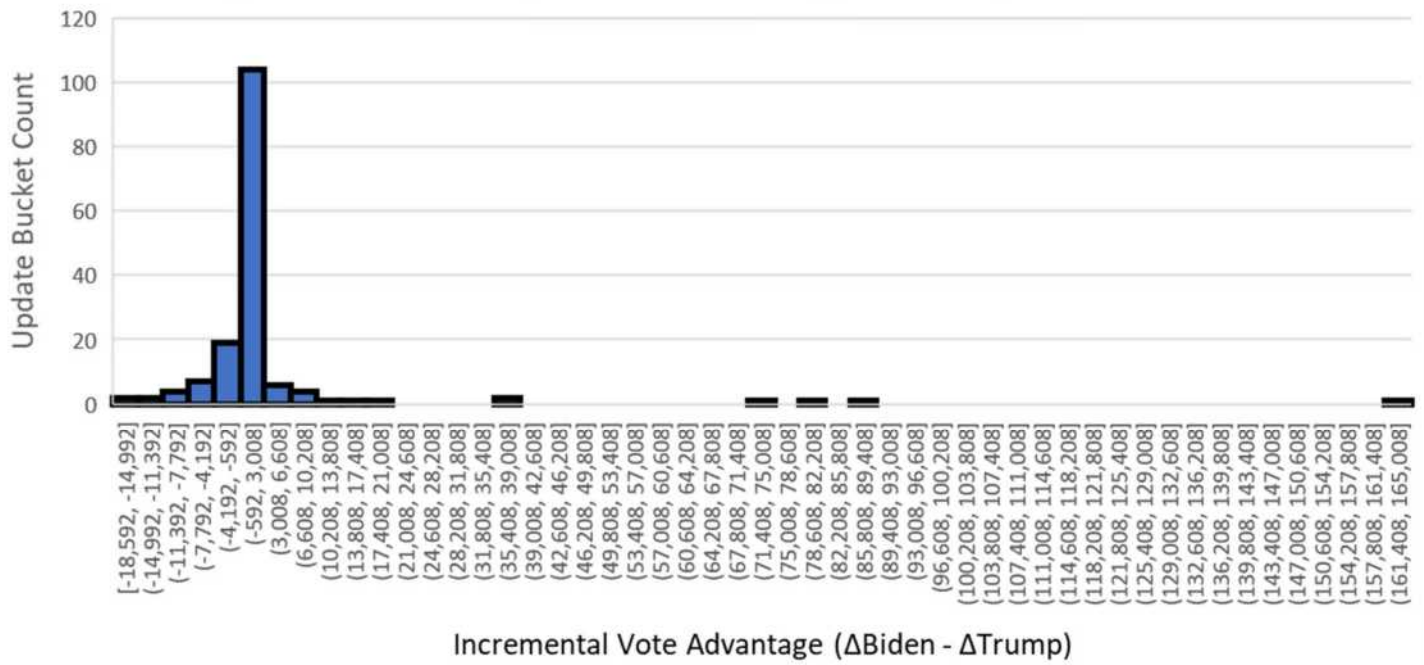


Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, CA, 2020,

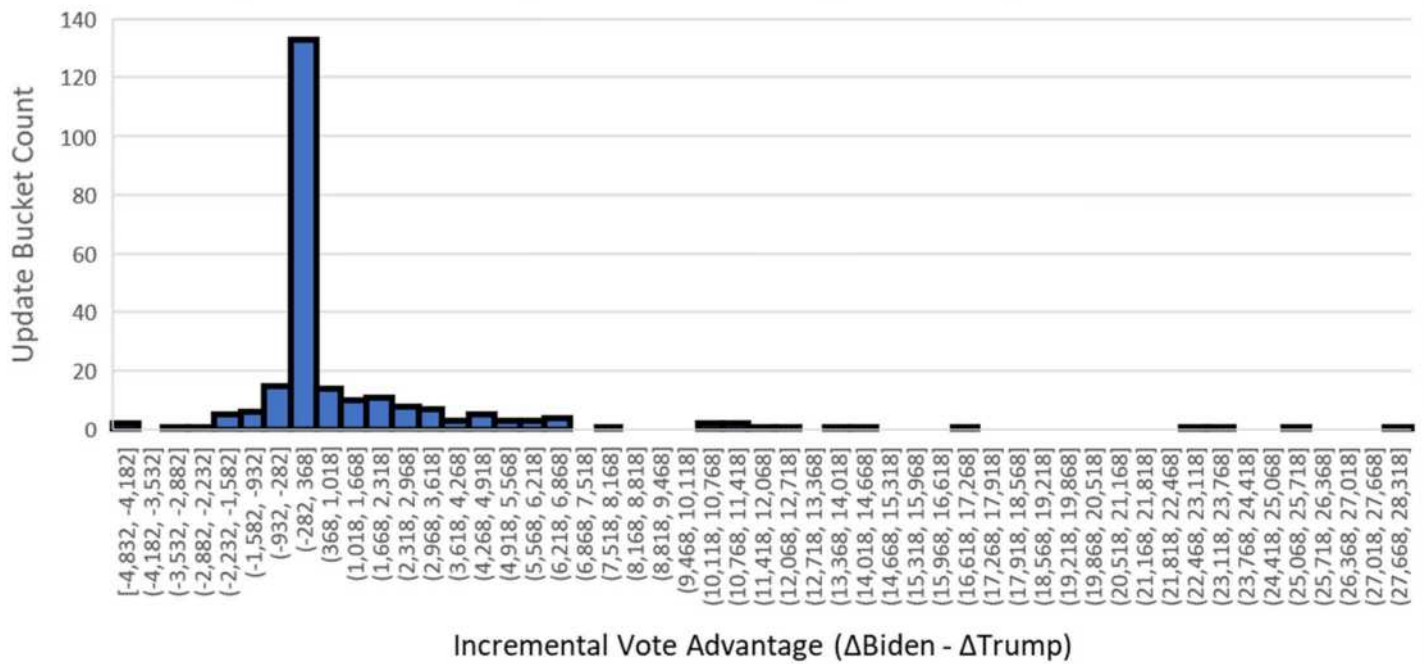




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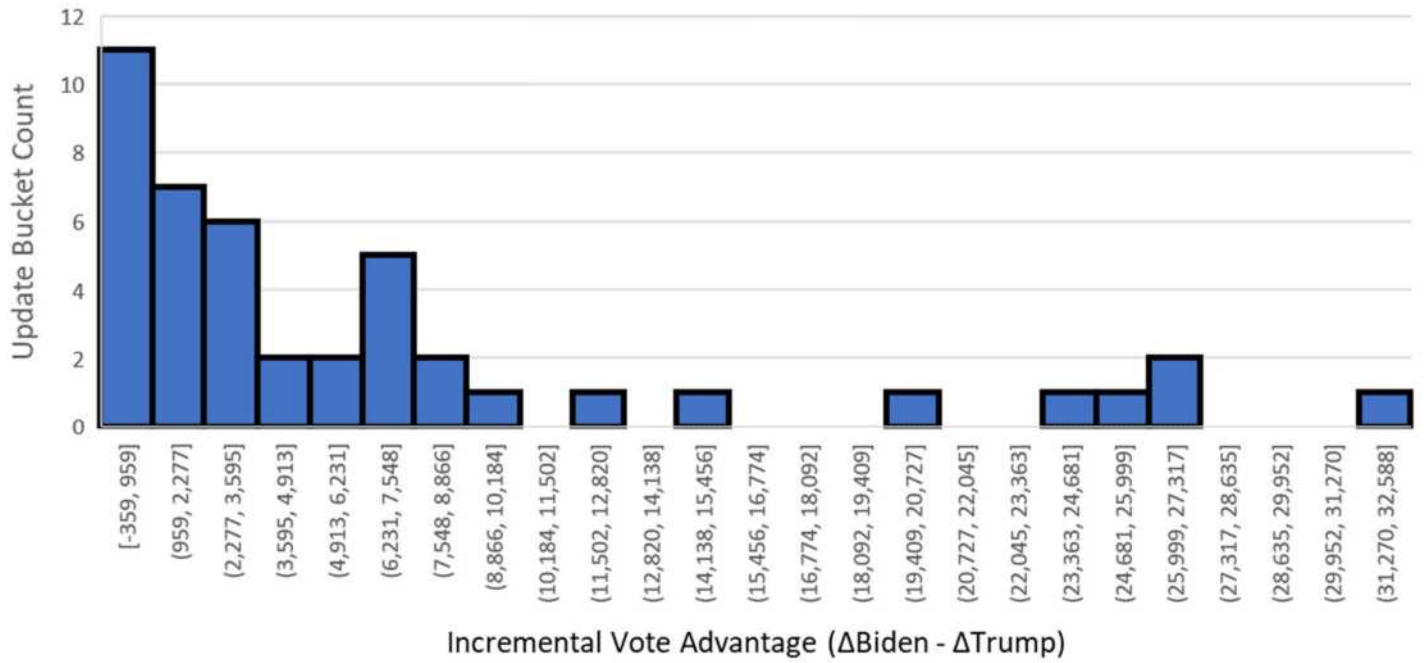


Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, CT, 2020,

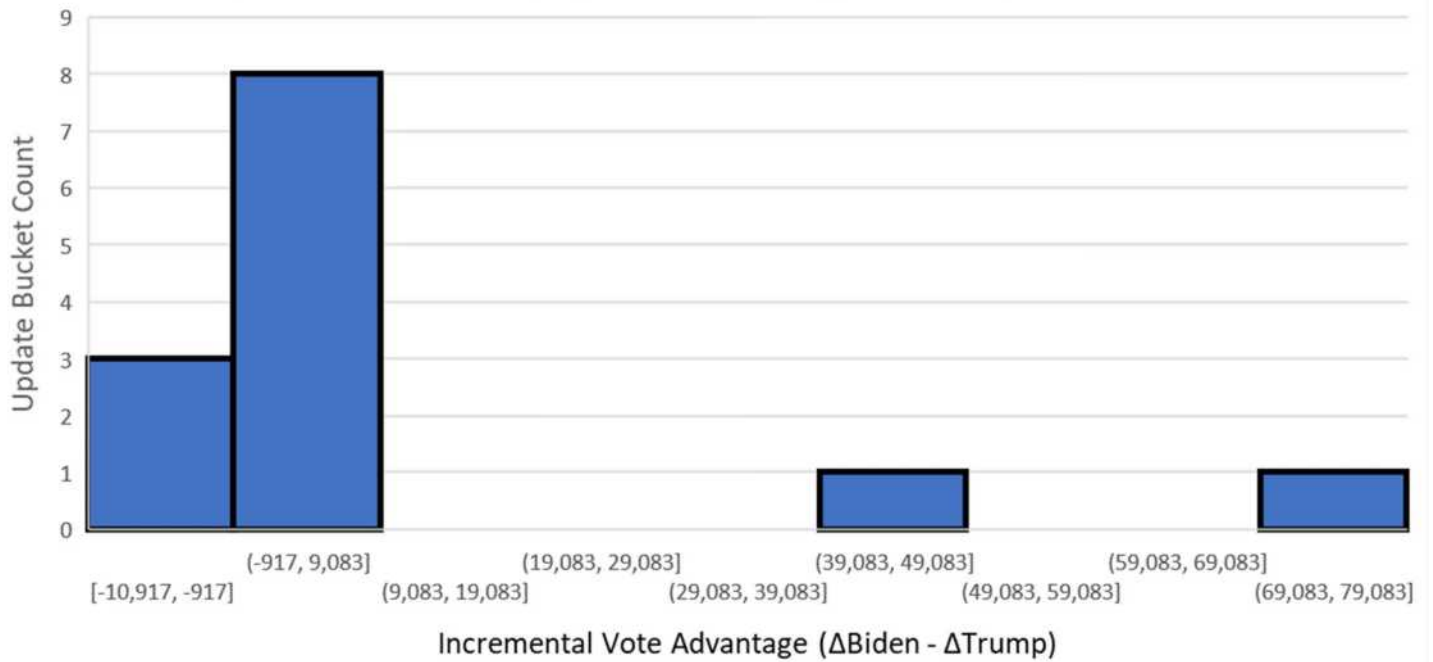




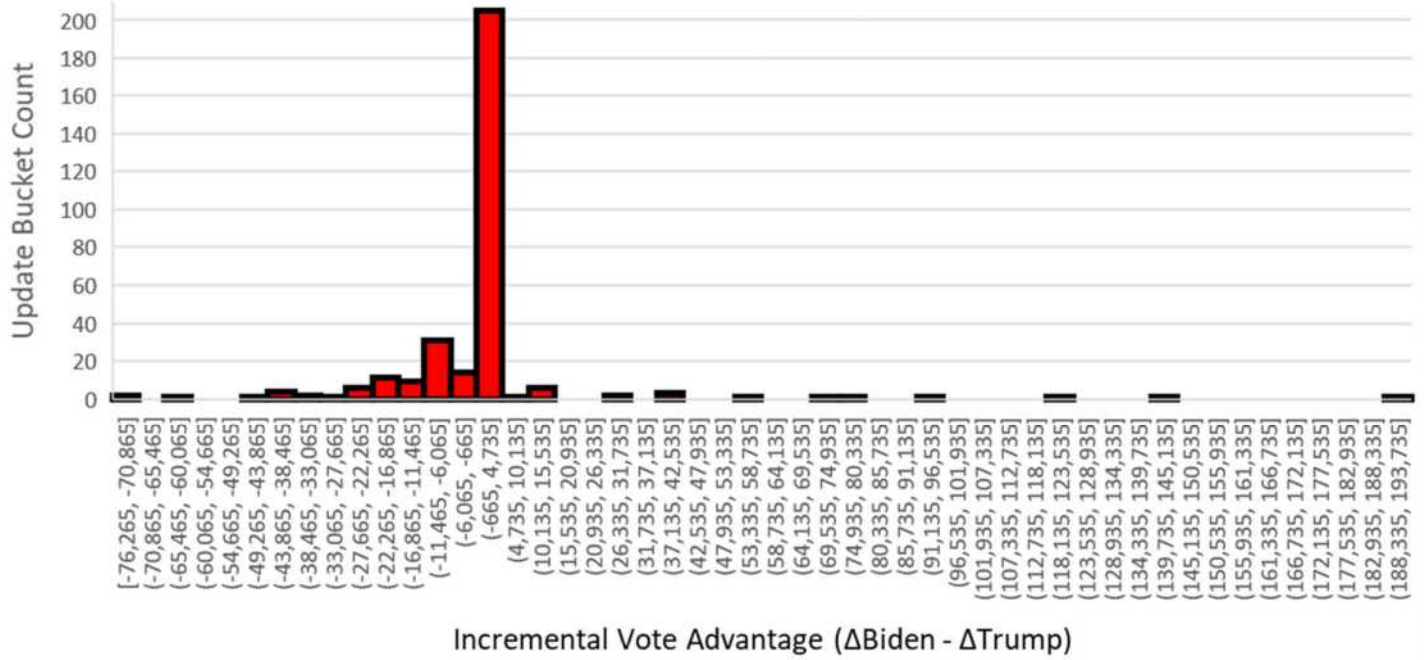
Histogram Vote Advantage ( $\Delta$ Biden -  $\Delta$ Trump), Edison Updates, DC, 2020,



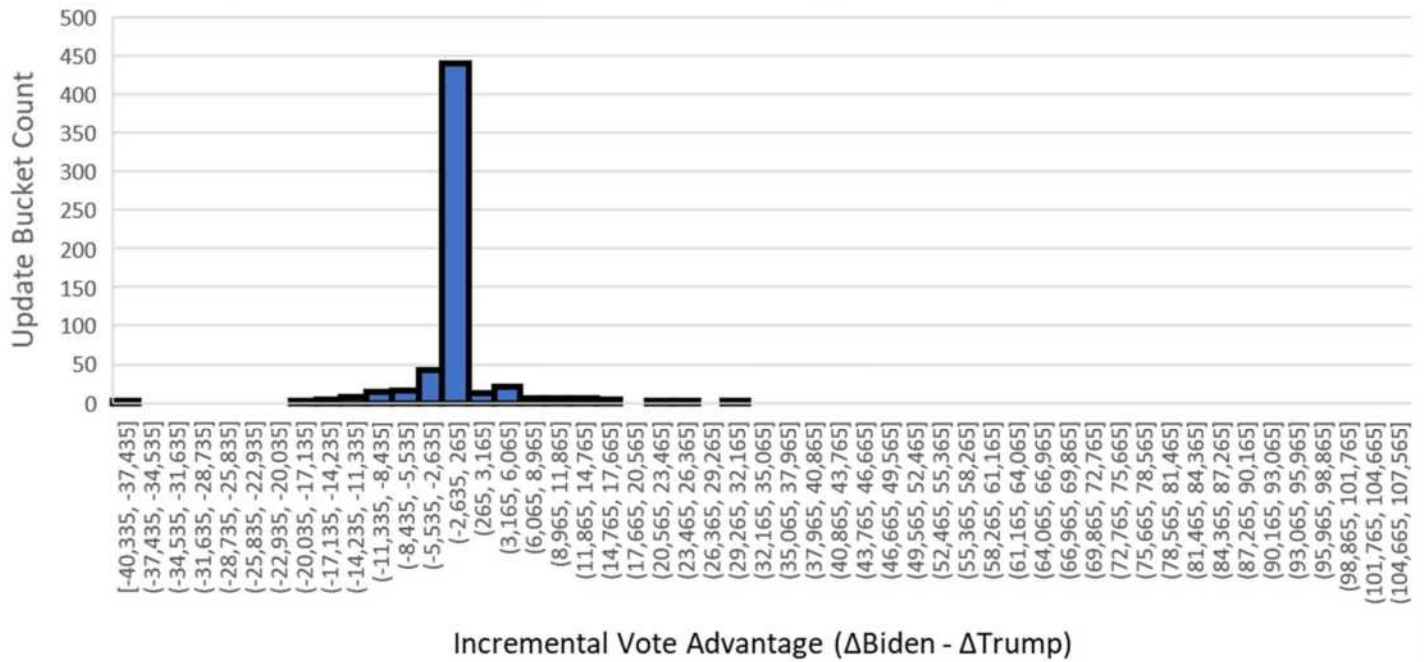
Histogram Vote Advantage ( $\Delta$ Biden -  $\Delta$ Trump), Edison Updates, DE, 2020,



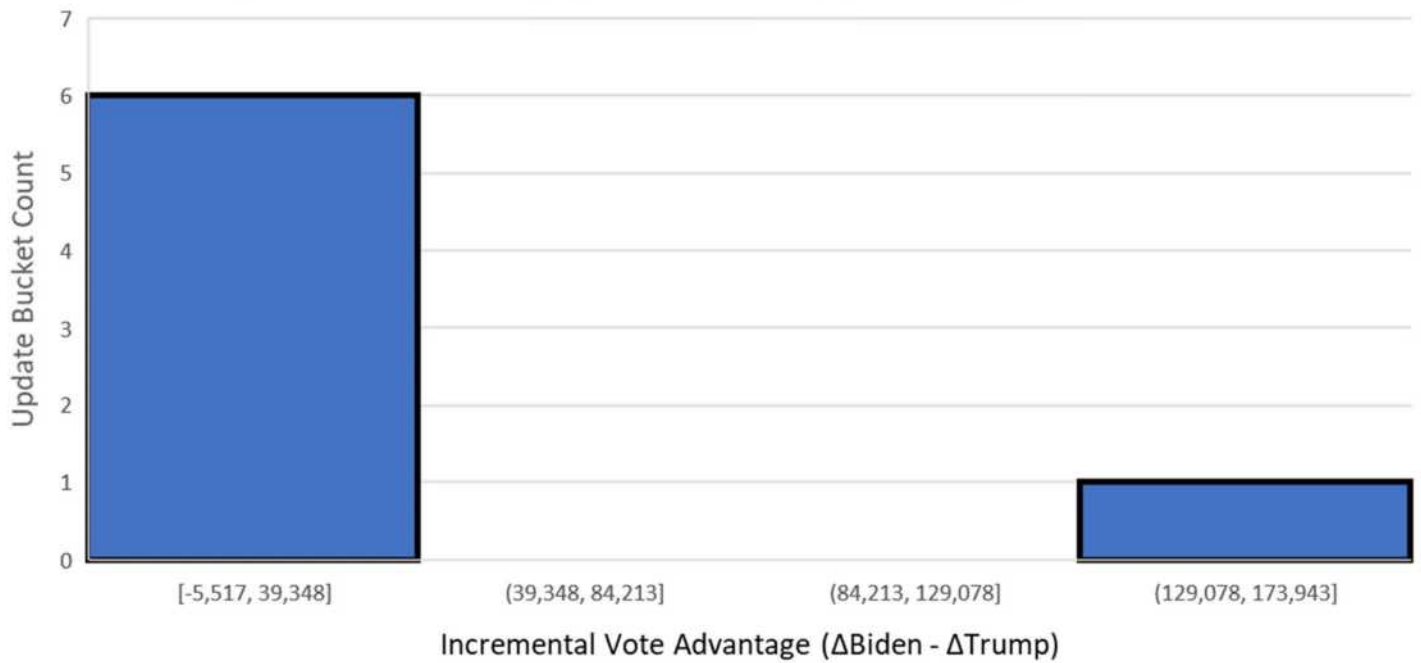
Histogram Vote Advantage ( $\Delta$ Biden -  $\Delta$ Trump), Edison Updates, FL, 2020,



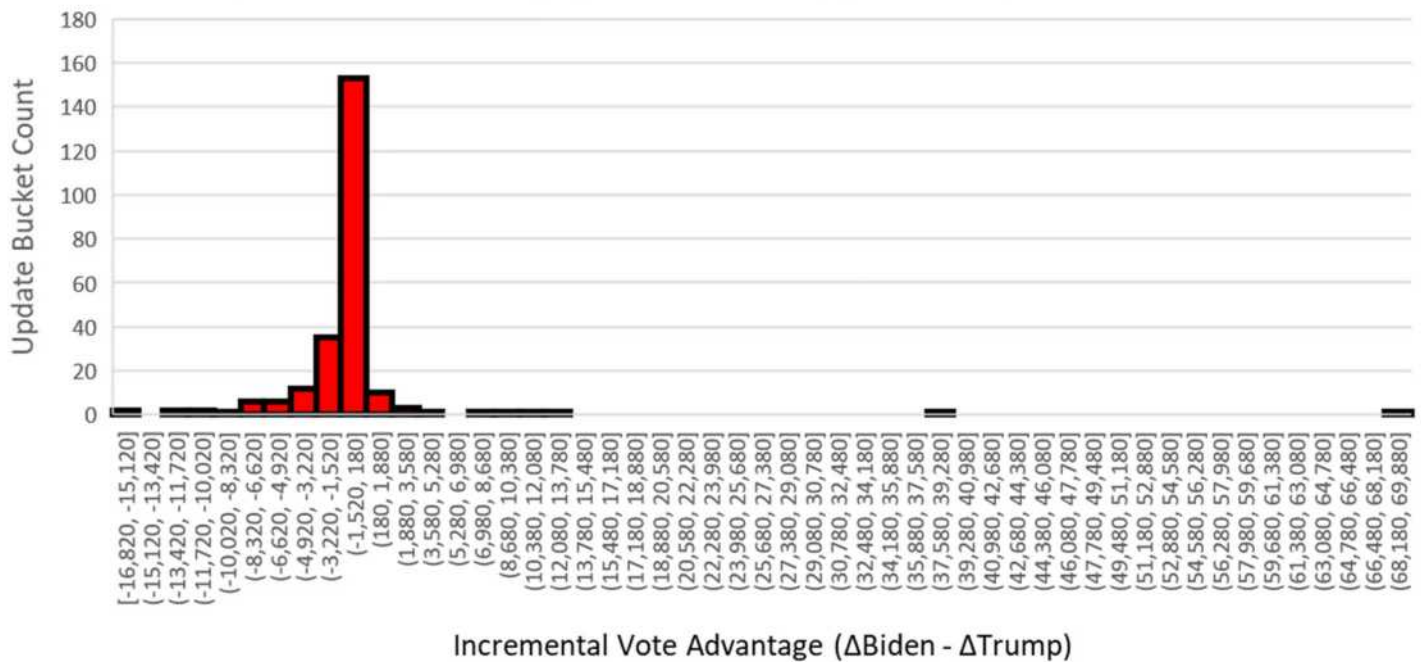
Histogram Vote Advantage ( $\Delta$ Biden -  $\Delta$ Trump), Edison Updates, GA, 2020,



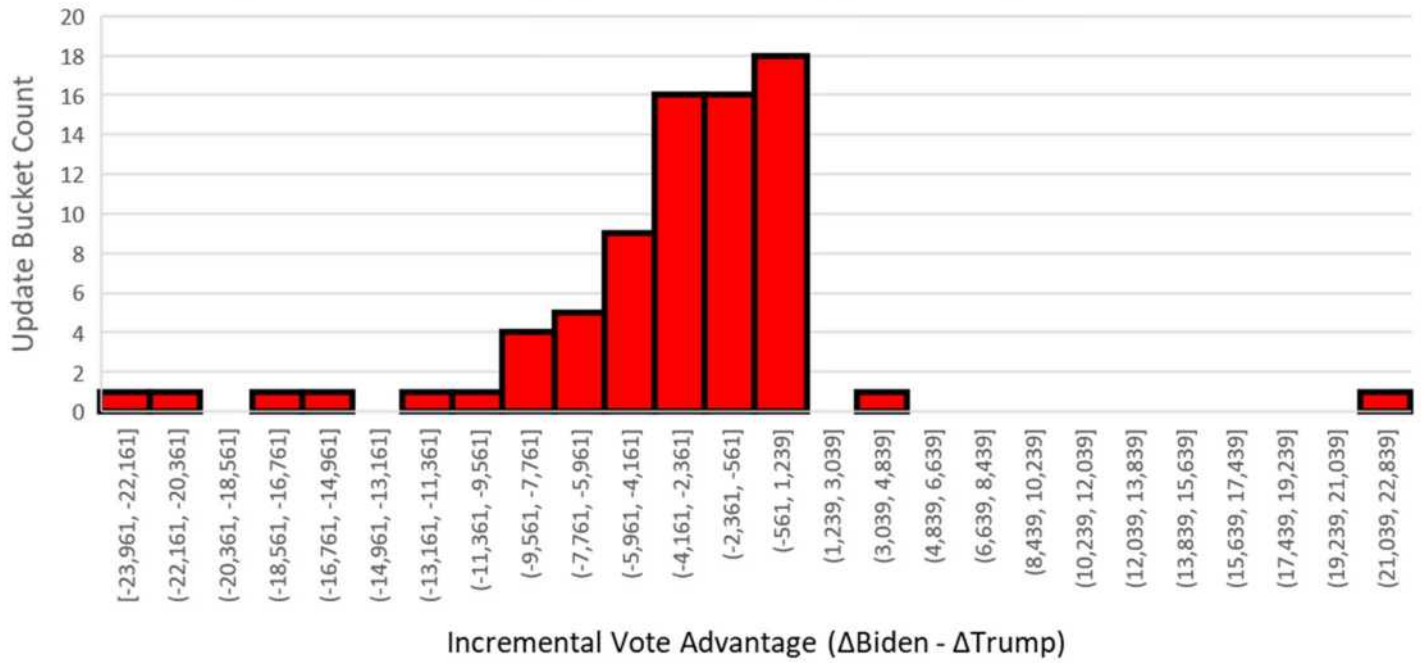
Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, HI, 2020,



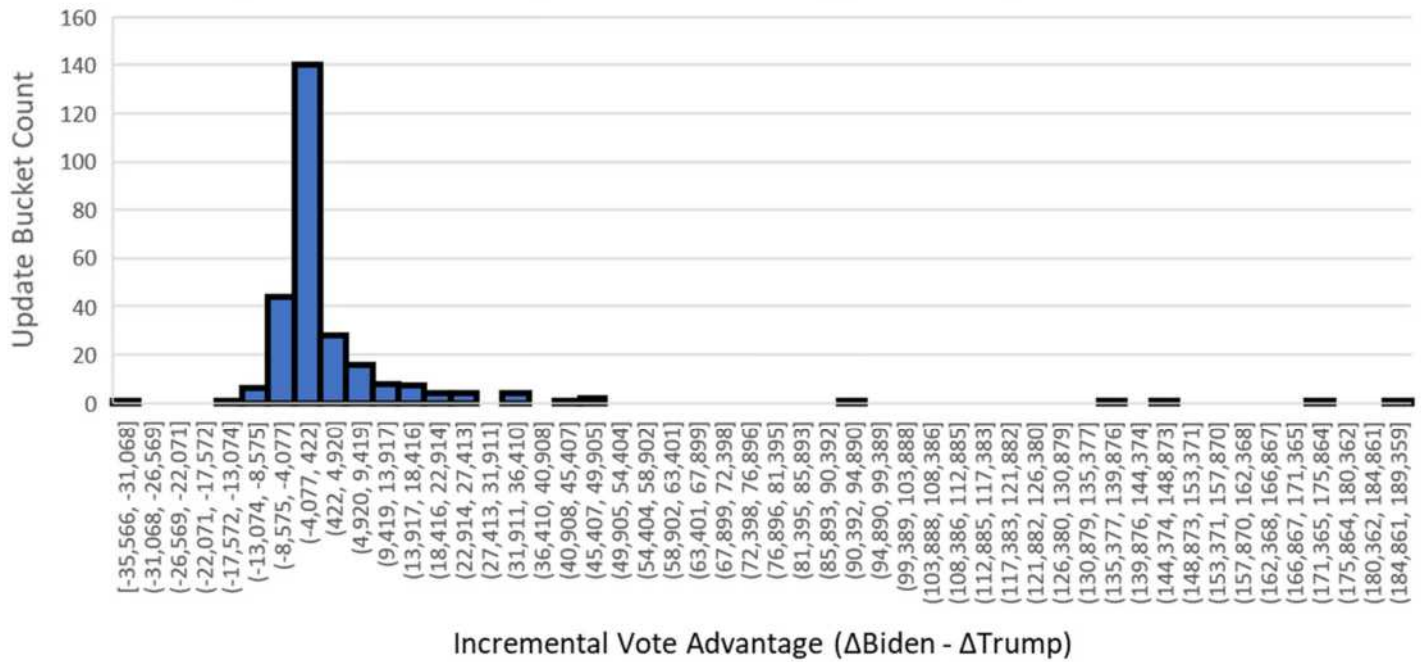
Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, IA, 2020,



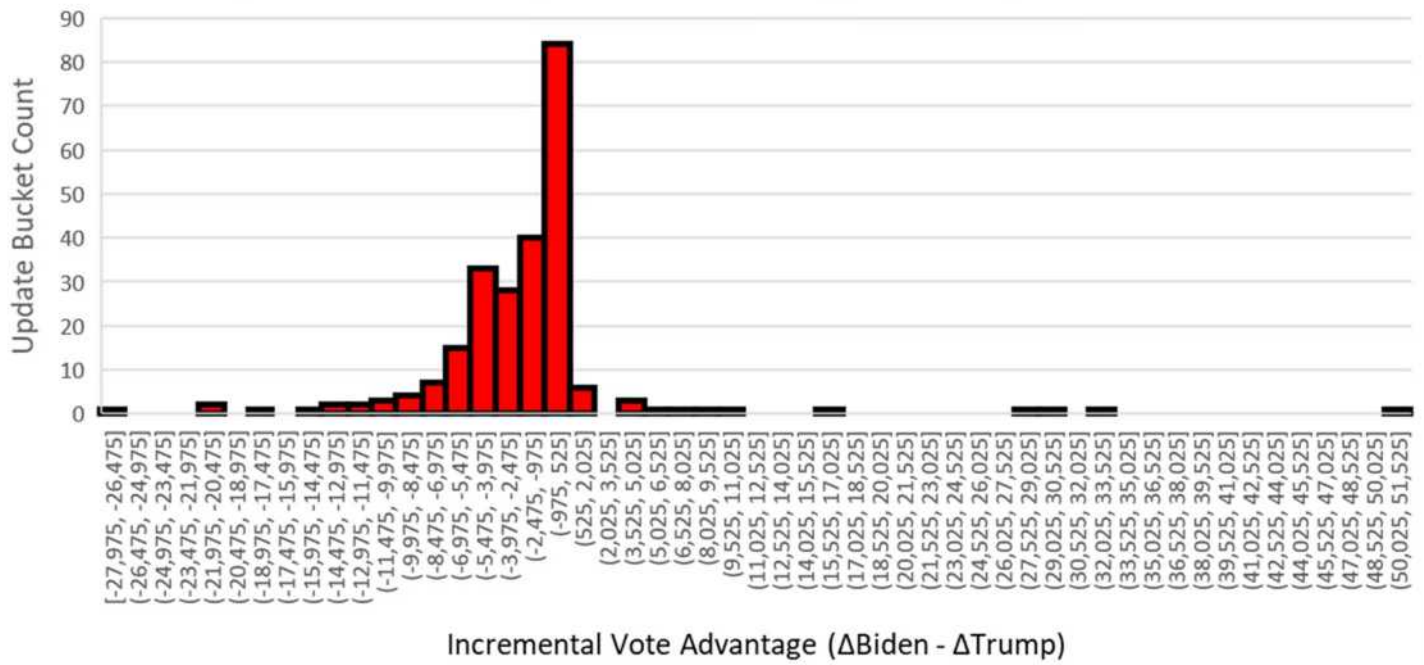
Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, ID, 2020,



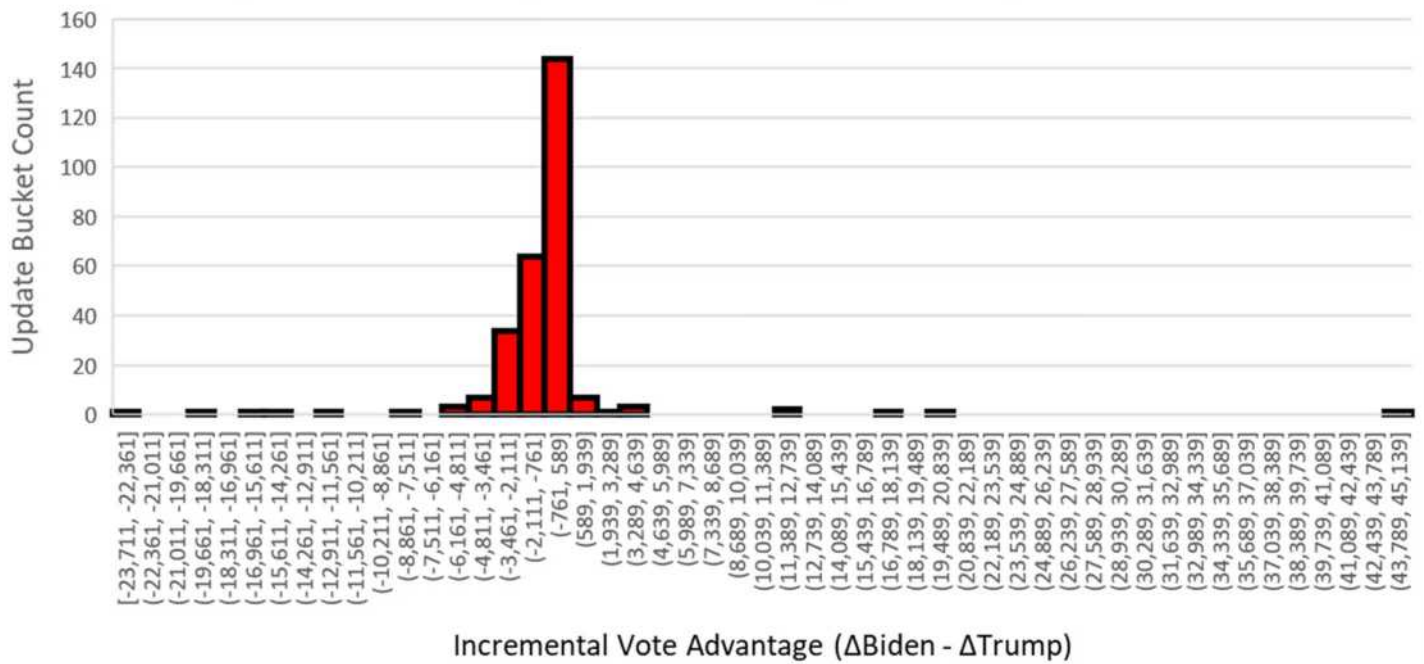
Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, IL, 2020,



Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, IN, 2020,

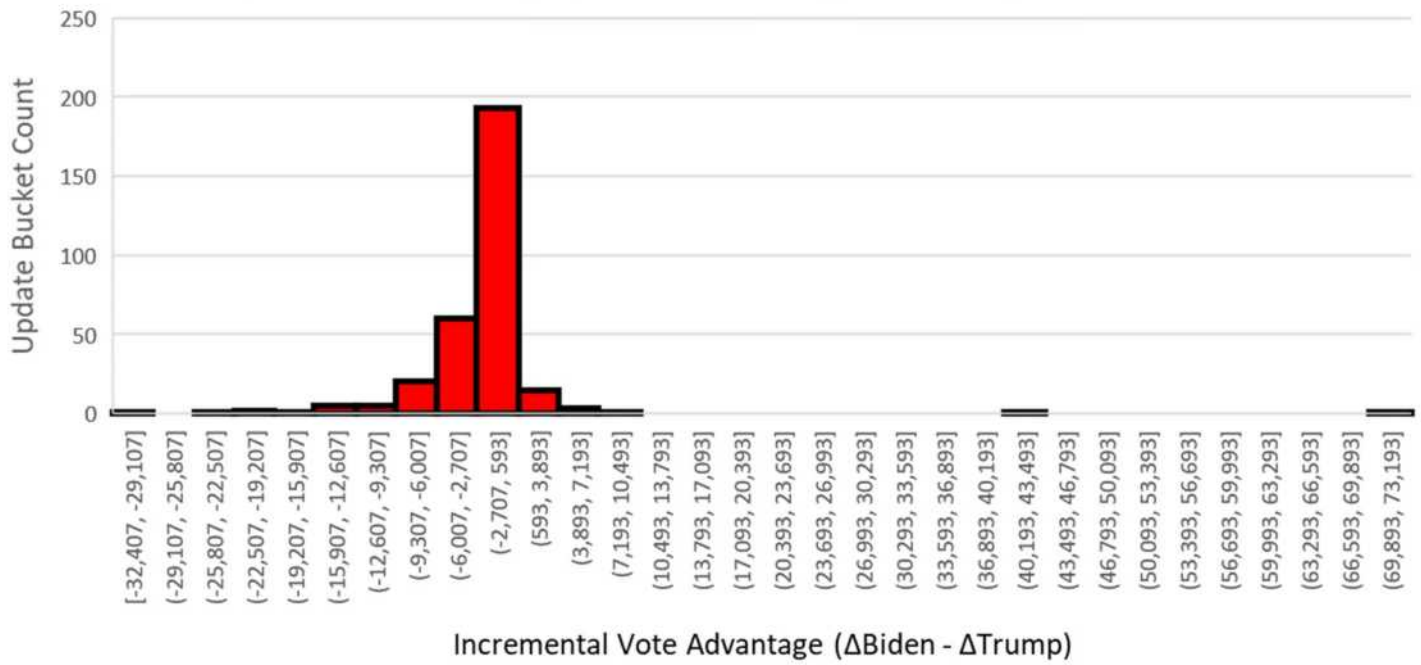


Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, KS, 2020,

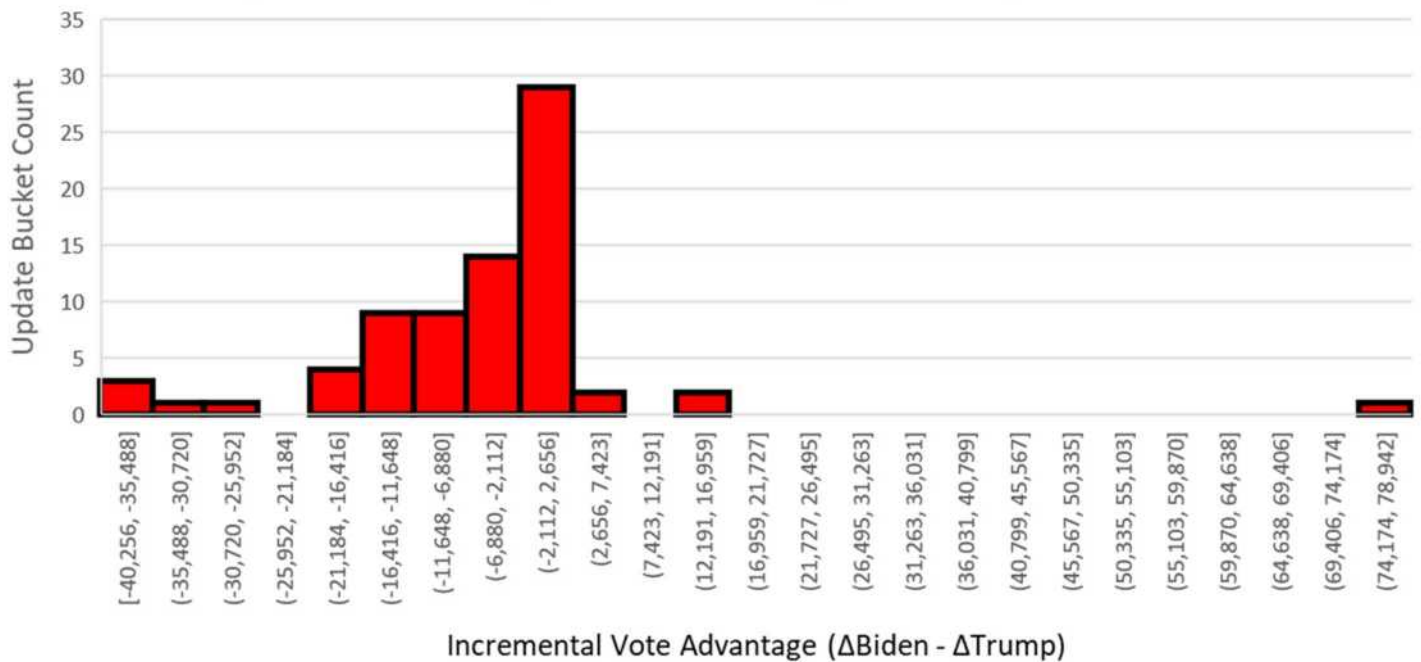




Histogram Vote Advantage ( $\Delta$ Biden -  $\Delta$ Trump), Edison Updates, KY, 2020,

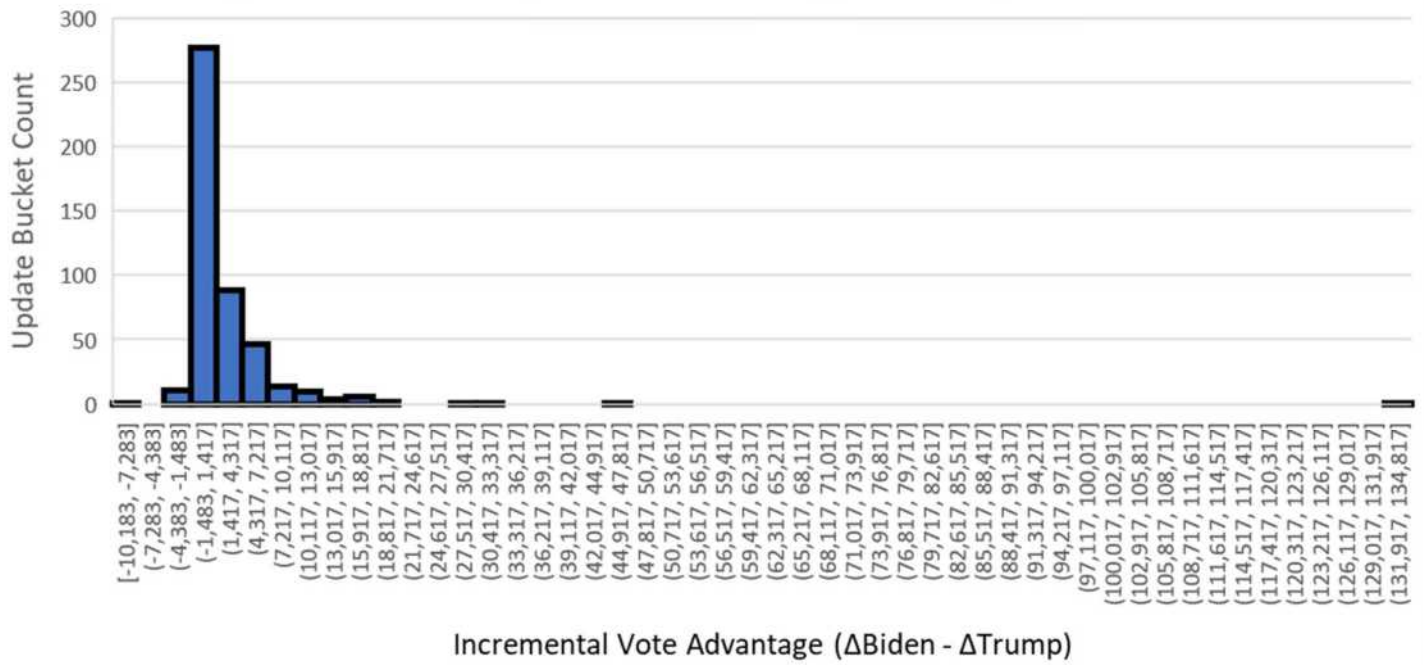


Histogram Vote Advantage ( $\Delta$ Biden -  $\Delta$ Trump), Edison Updates, LA, 2020

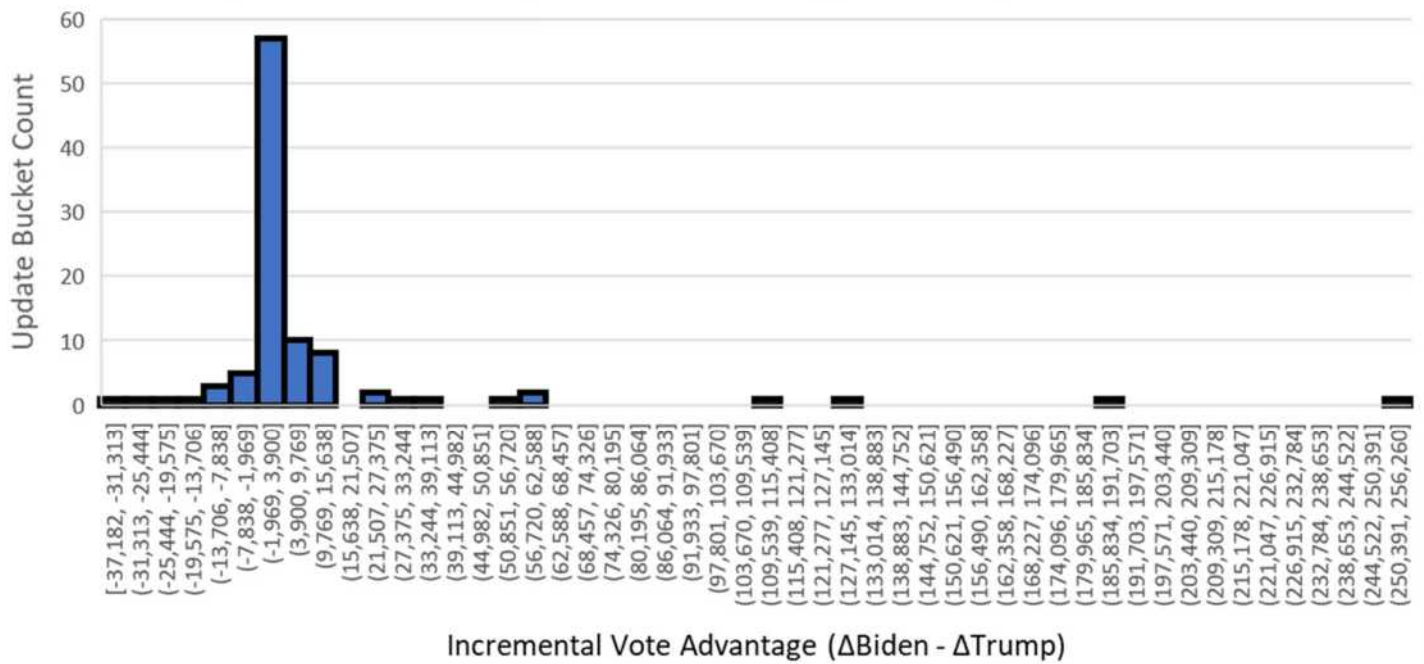




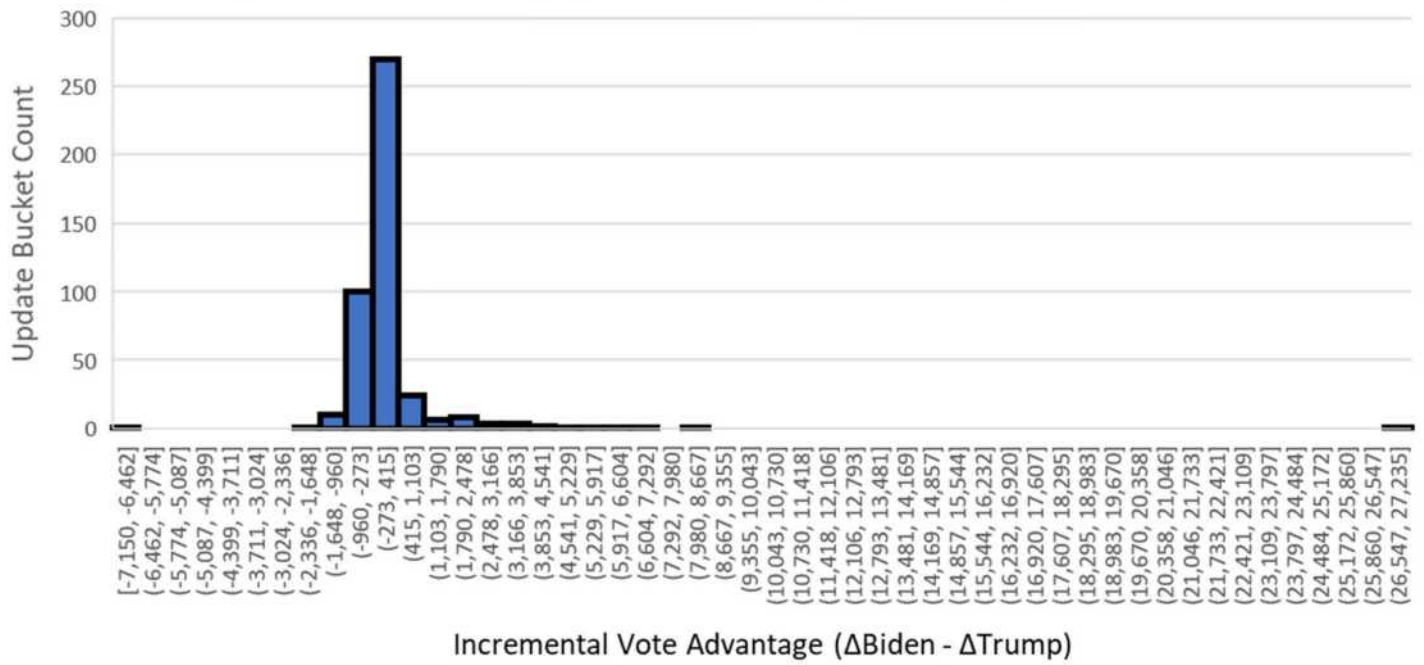
Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, MA, 2020



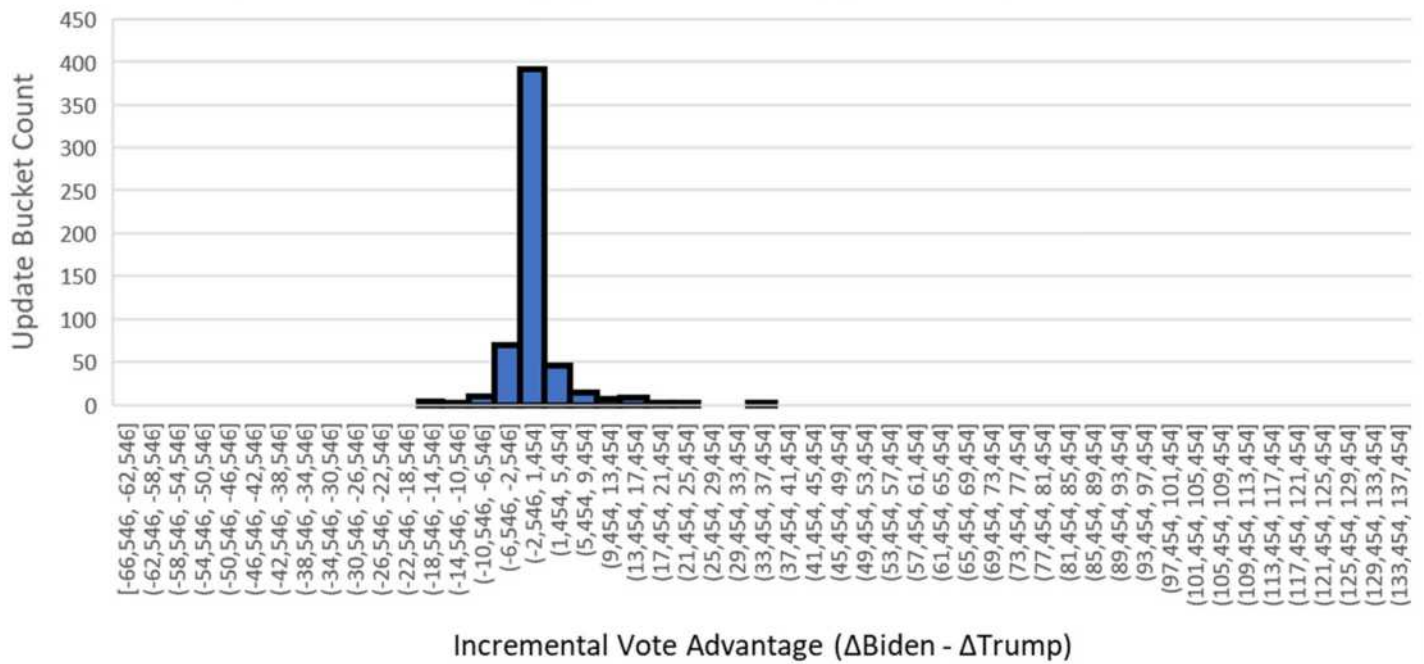
Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, MD, 2020



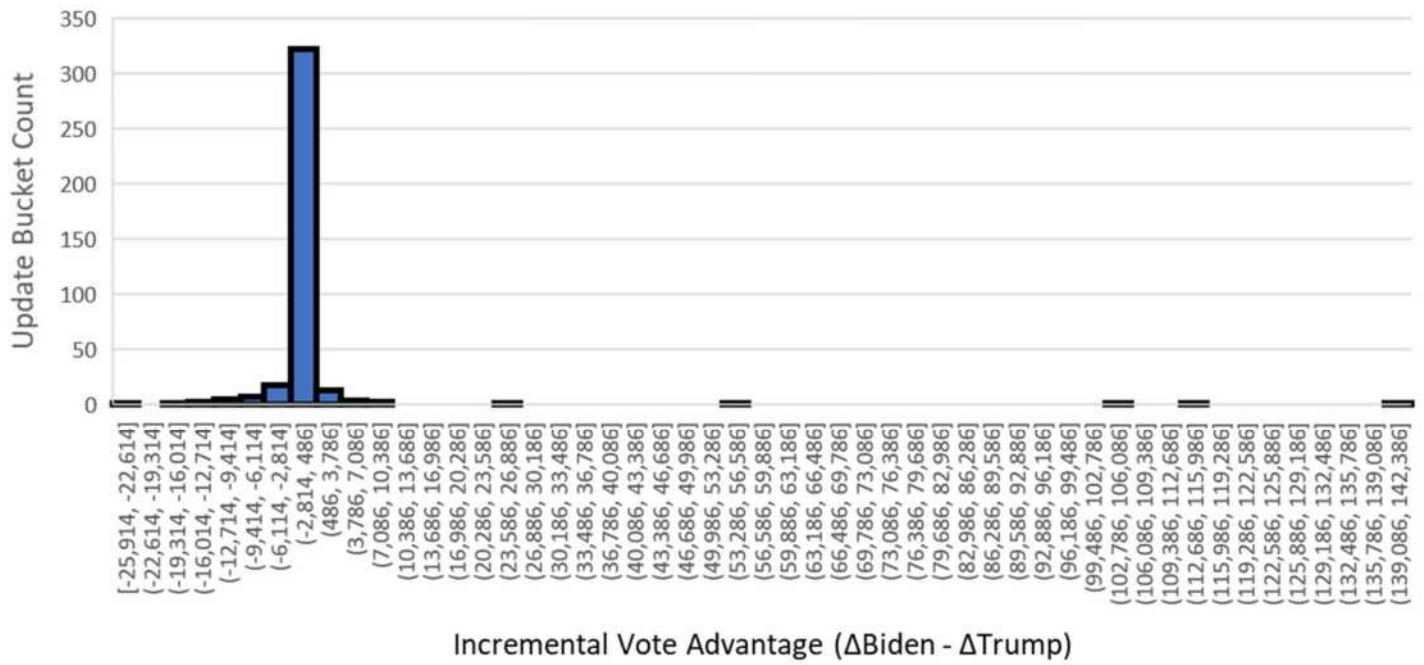
Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, ME, 2020



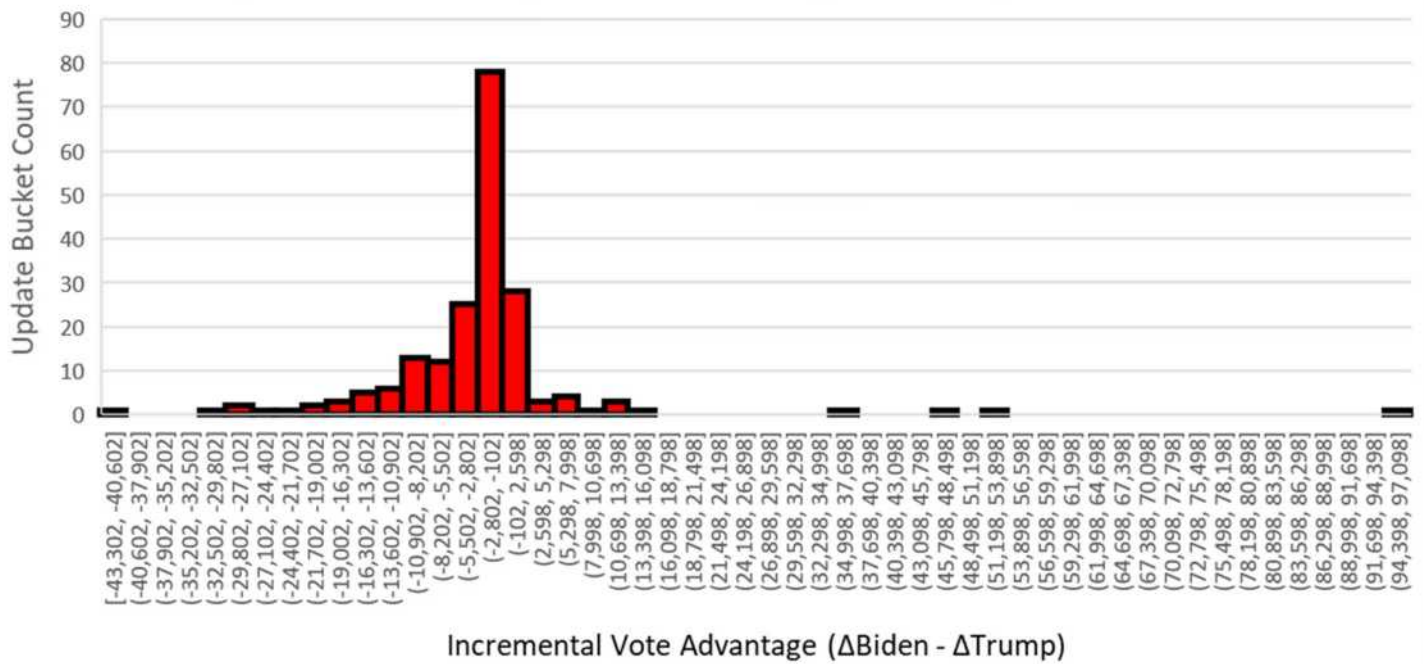
Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, MI, 2020



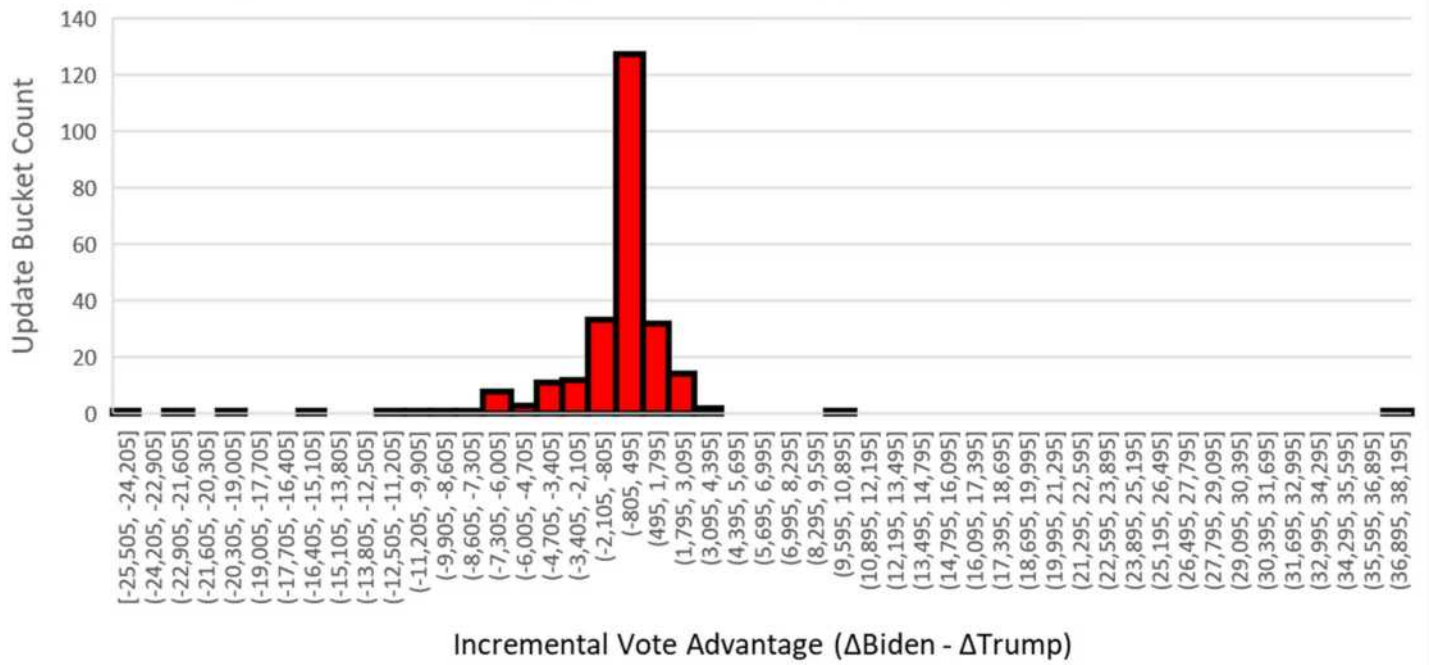
Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, MN, 2020



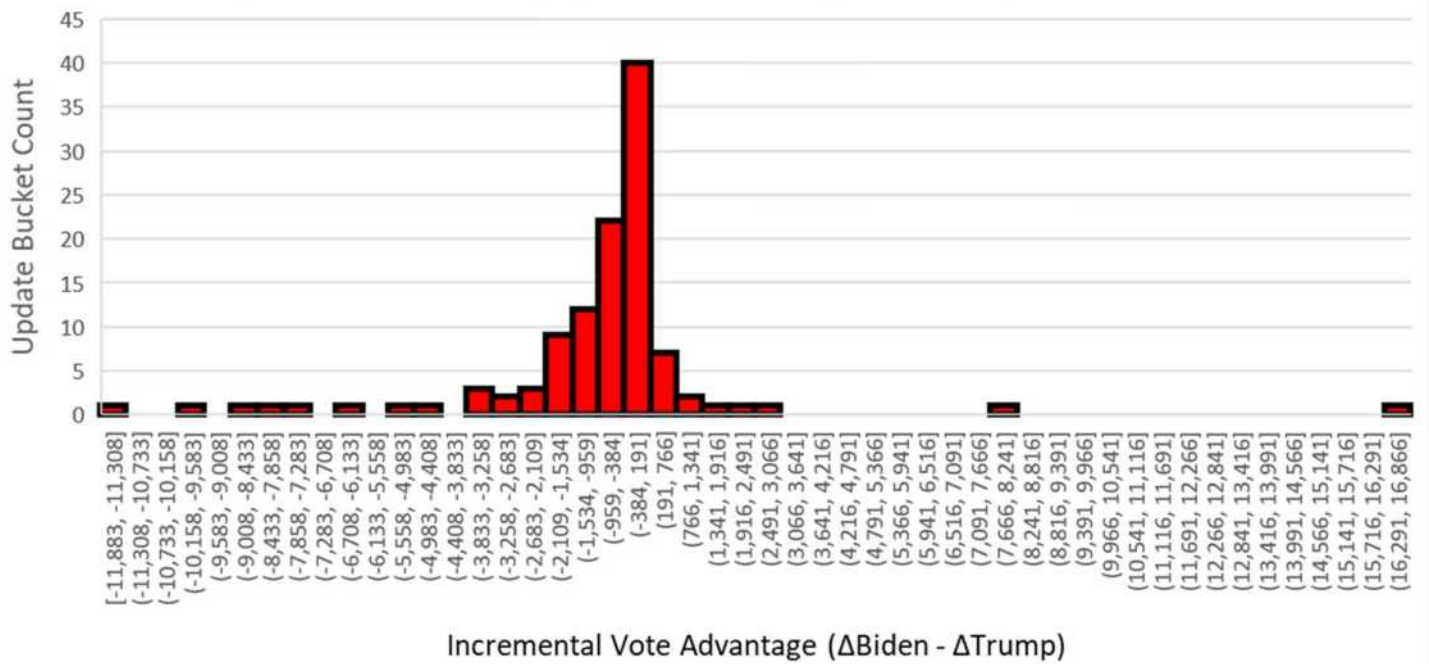
Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, MO, 2020



Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, MS, 2020

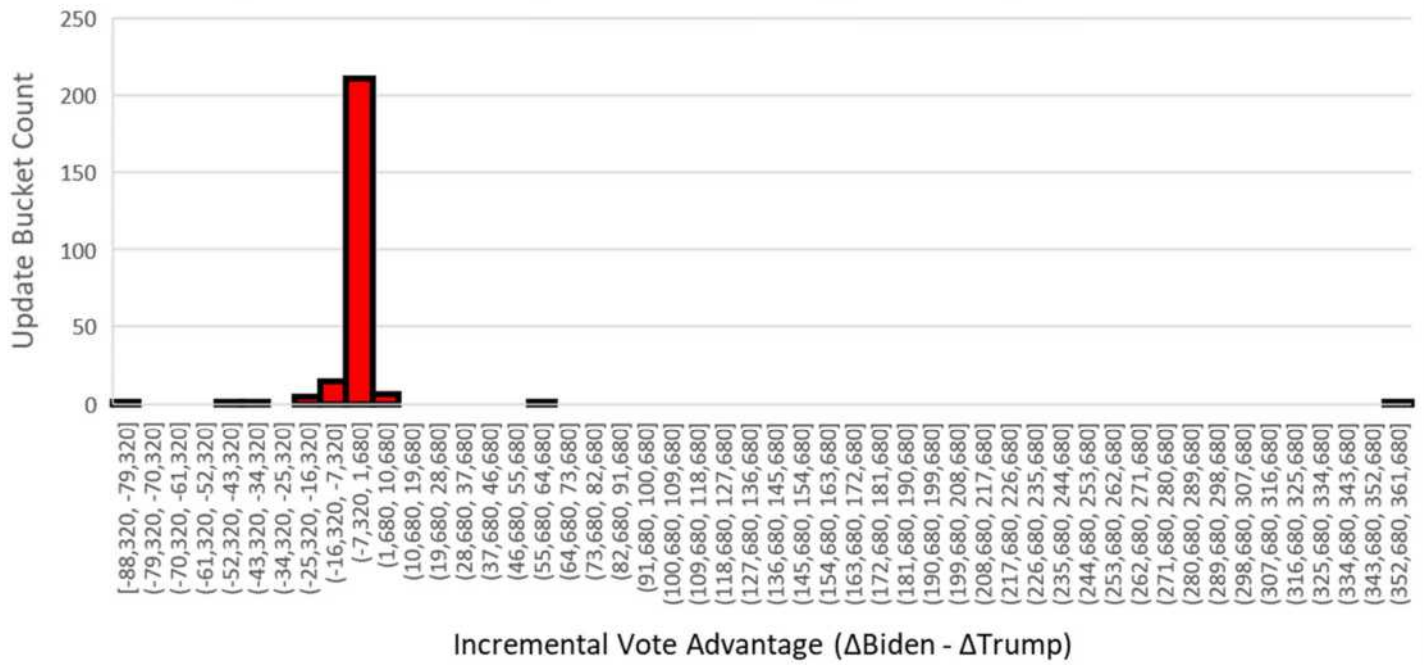


Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, MT, 2020

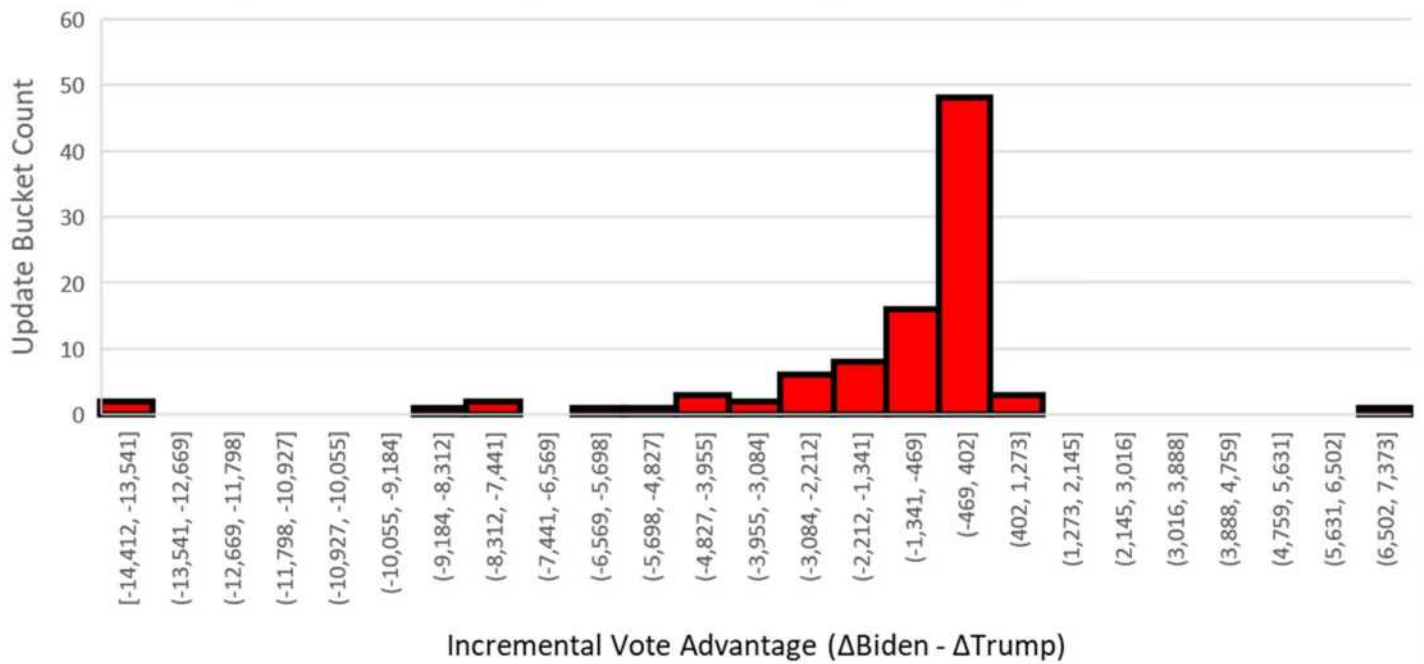




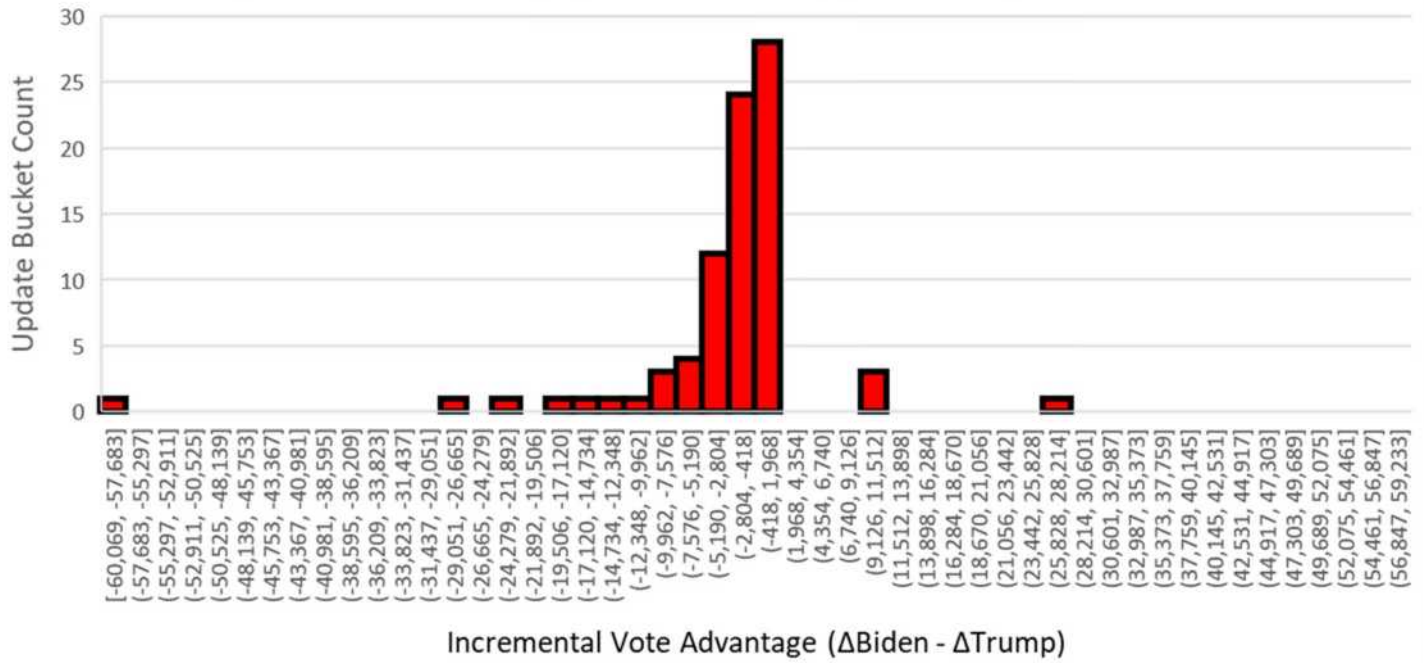
Histogram Vote Advantage ( $\Delta$ Biden -  $\Delta$ Trump), Edison Updates, NC, 2020



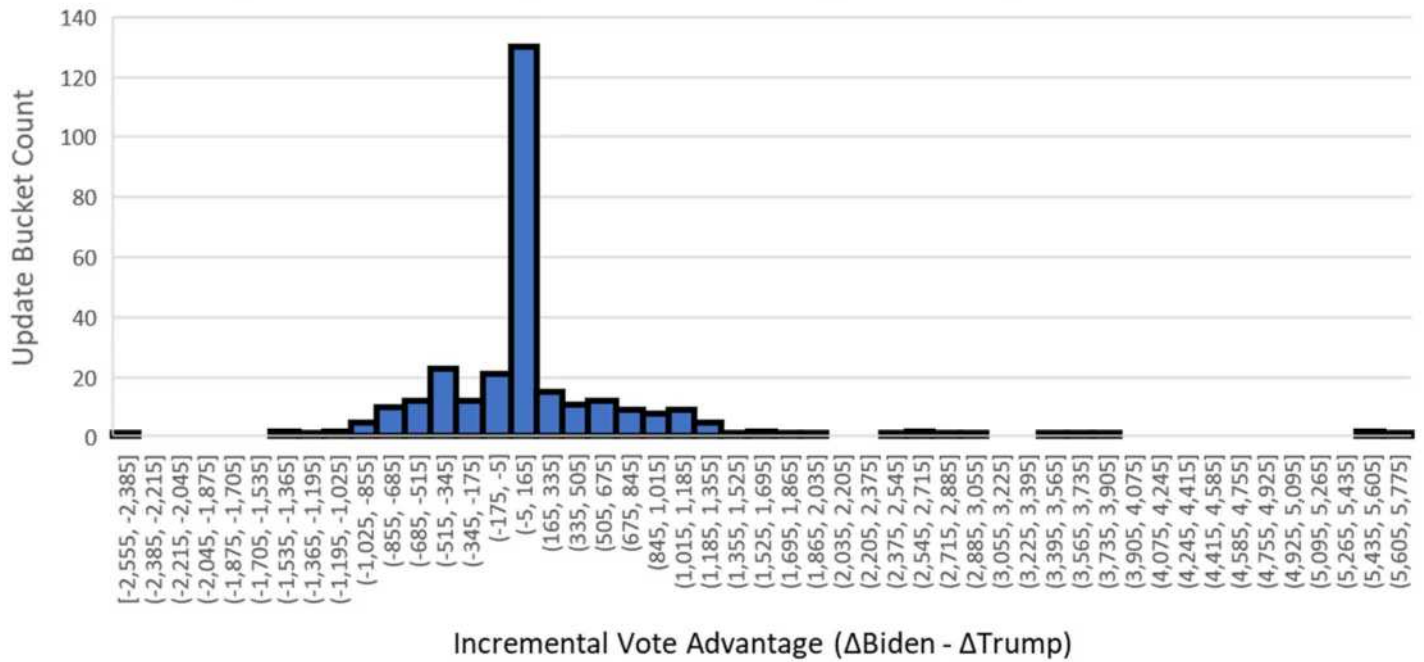
Histogram Vote Advantage ( $\Delta$ Biden -  $\Delta$ Trump), Edison Updates, ND, 2020



Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, NE, 2020

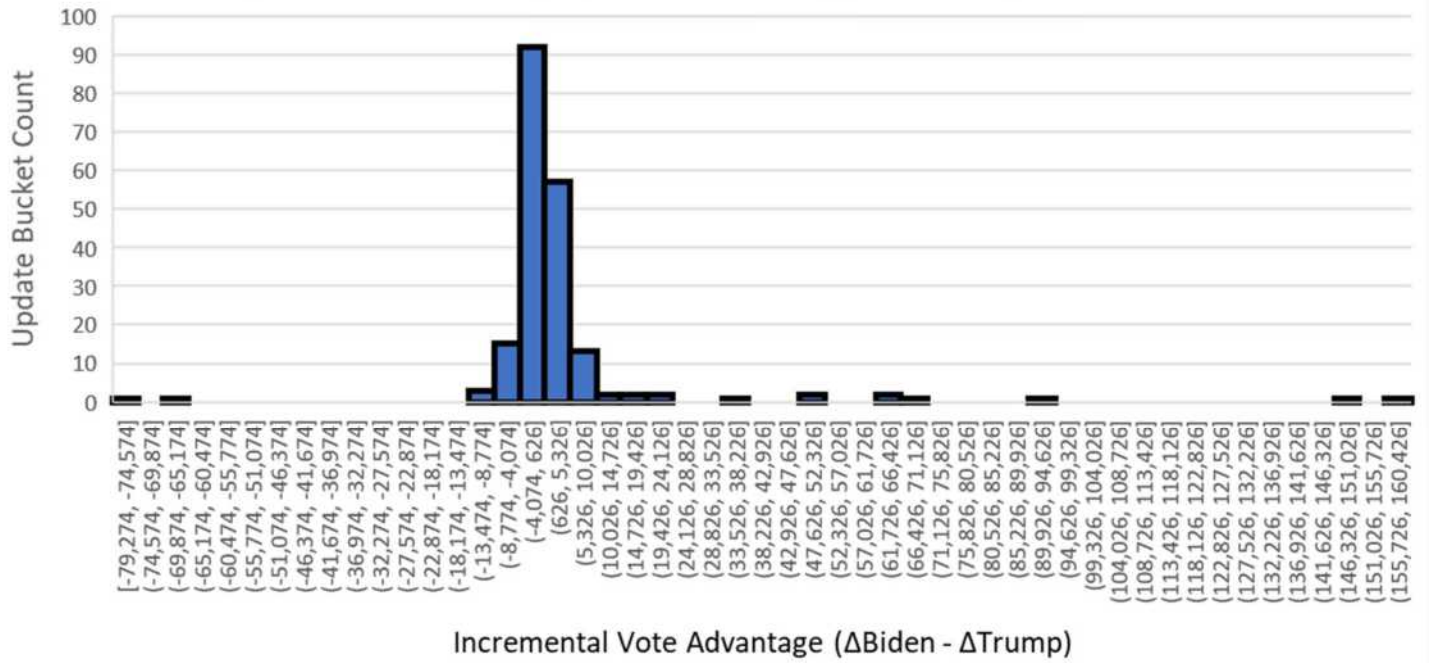


Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, NH, 2020

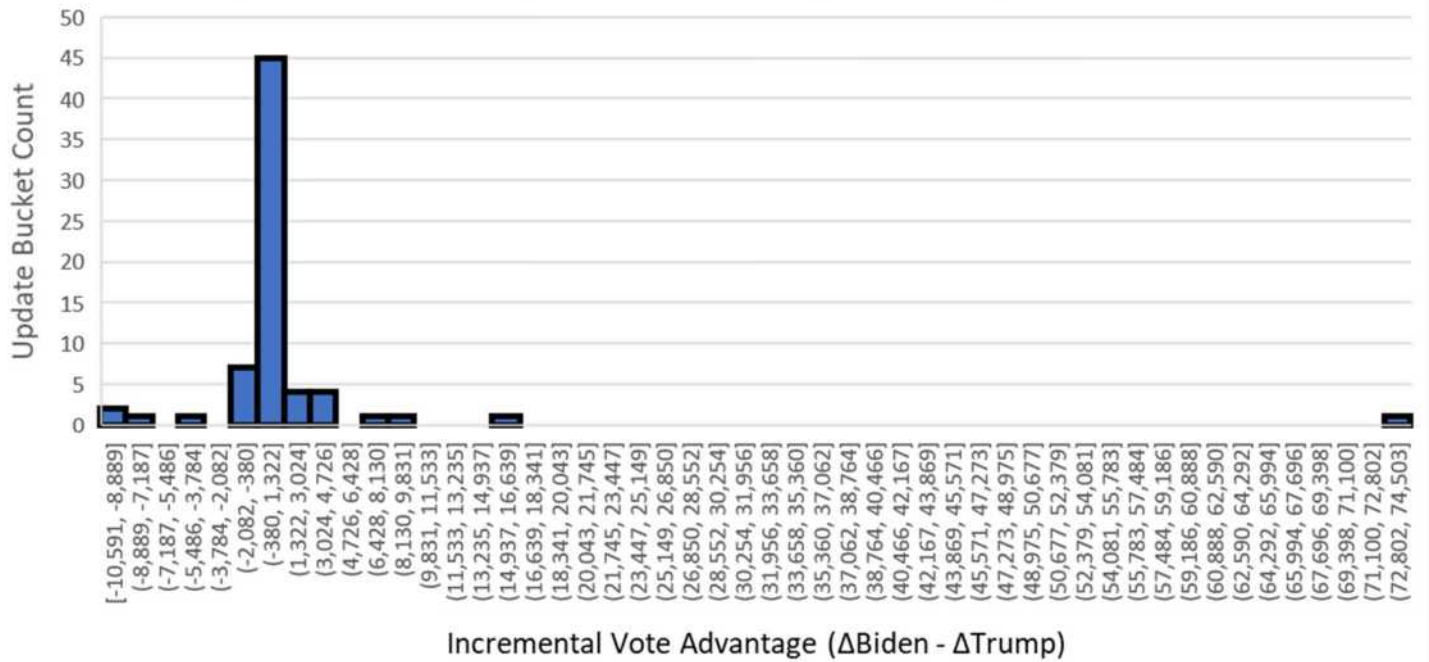




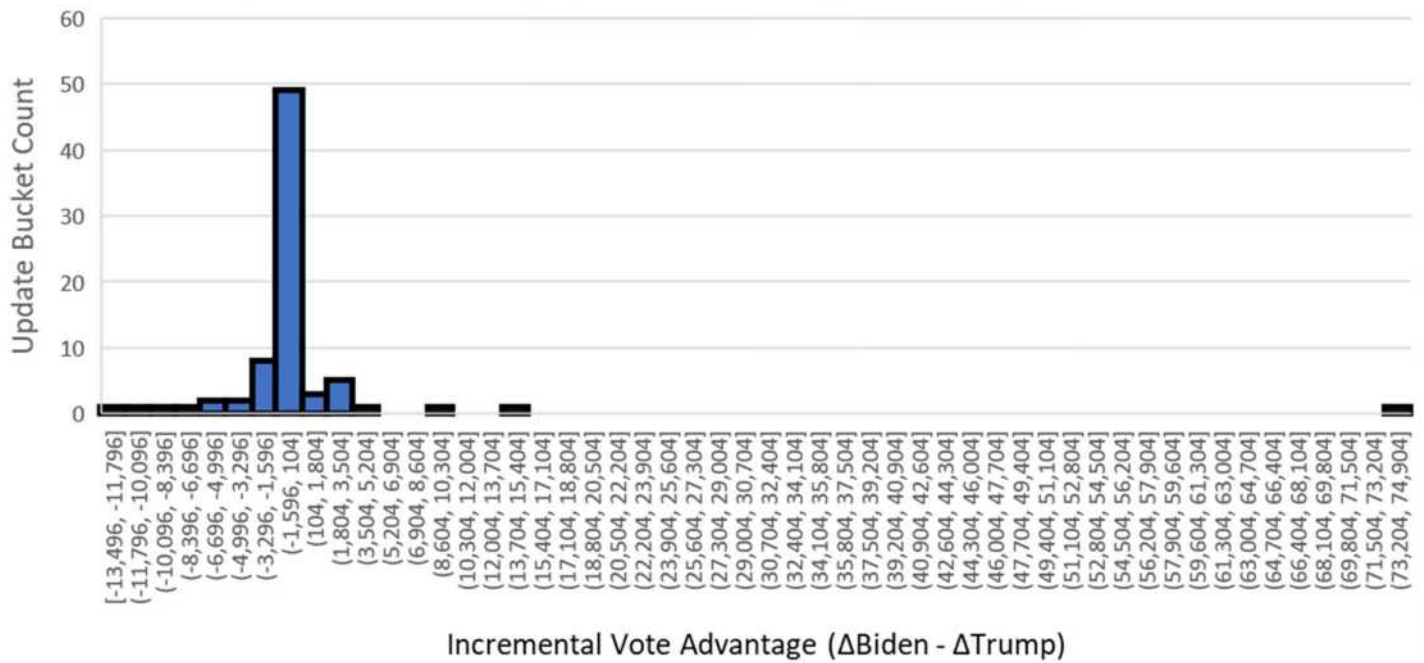
Histogram Vote Advantage ( $\Delta$ Biden -  $\Delta$ Trump), Edison Updates, NJ, 2020



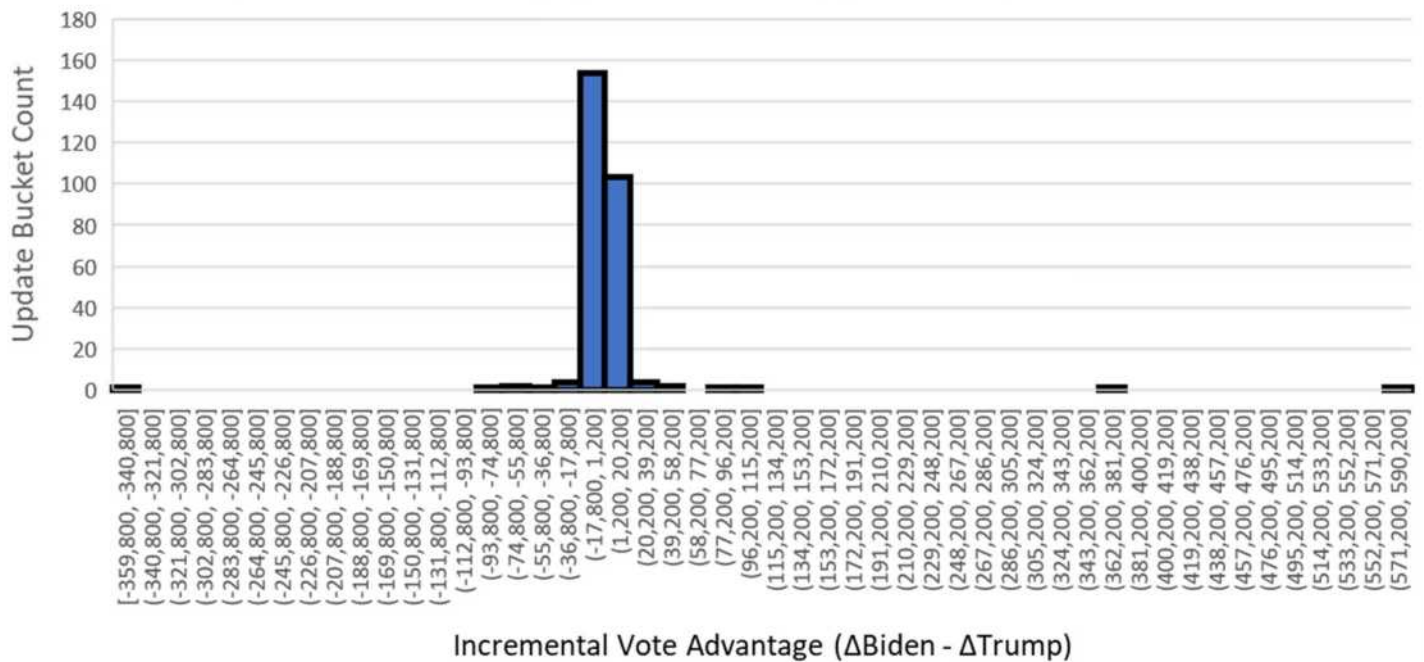
Histogram Vote Advantage ( $\Delta$ Biden -  $\Delta$ Trump), Edison Updates, NM, 2020



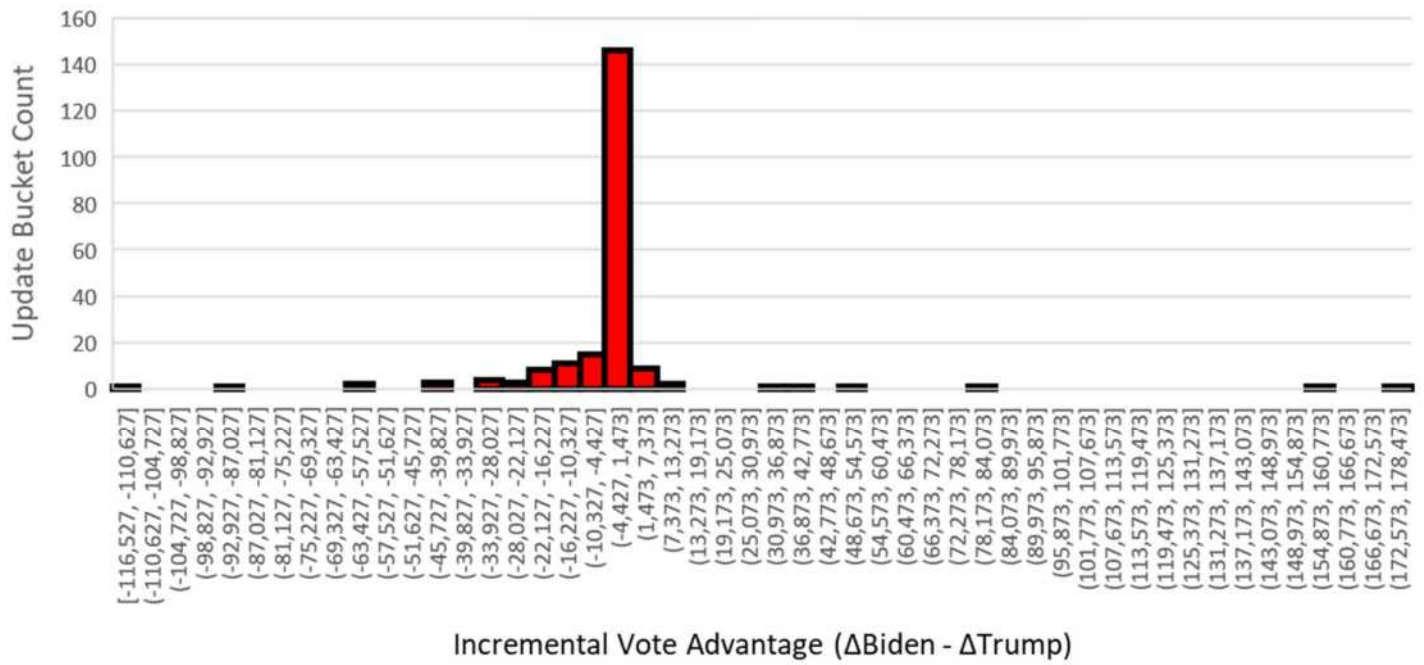
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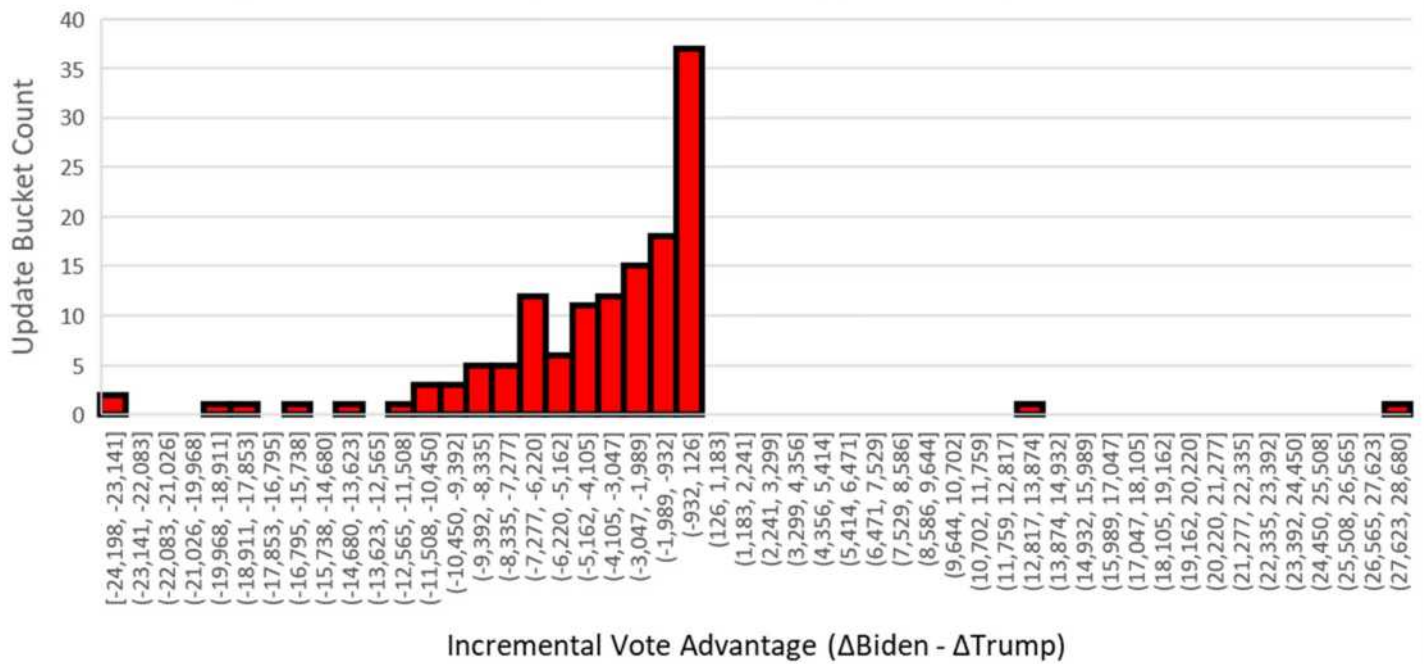
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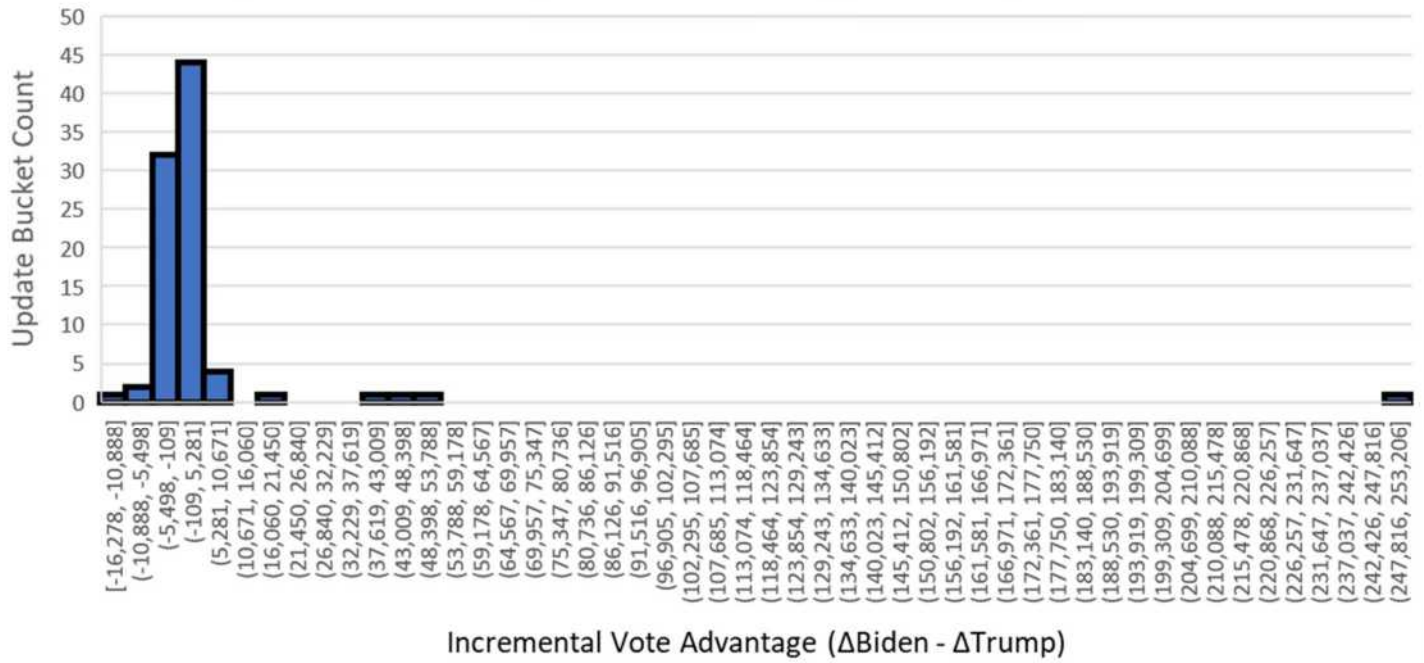
Histogram Vote Advantage ( $\Delta$ Biden -  $\Delta$ Trump), Edison Updates, OH, 2020



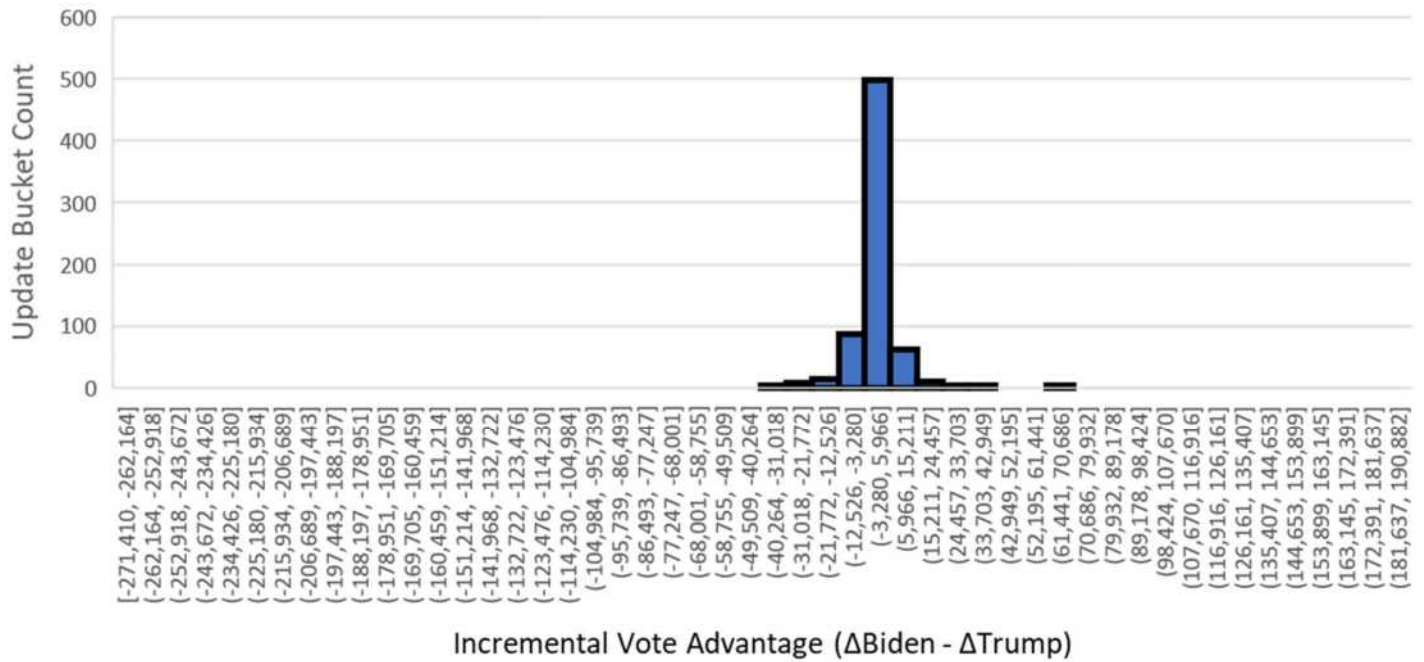
Histogram Vote Advantage ( $\Delta$ Biden -  $\Delta$ Trump), Edison Updates, OK, 2020



Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, OR, 2020

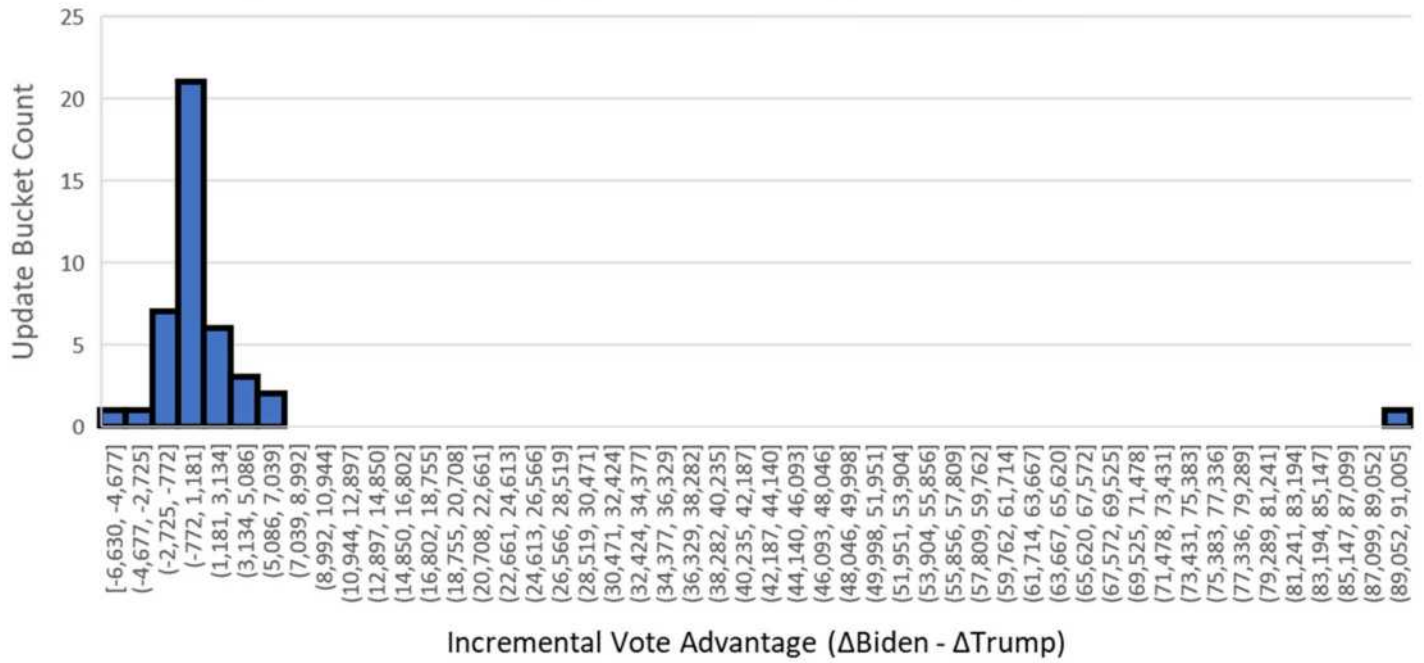


Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, PA, 2020

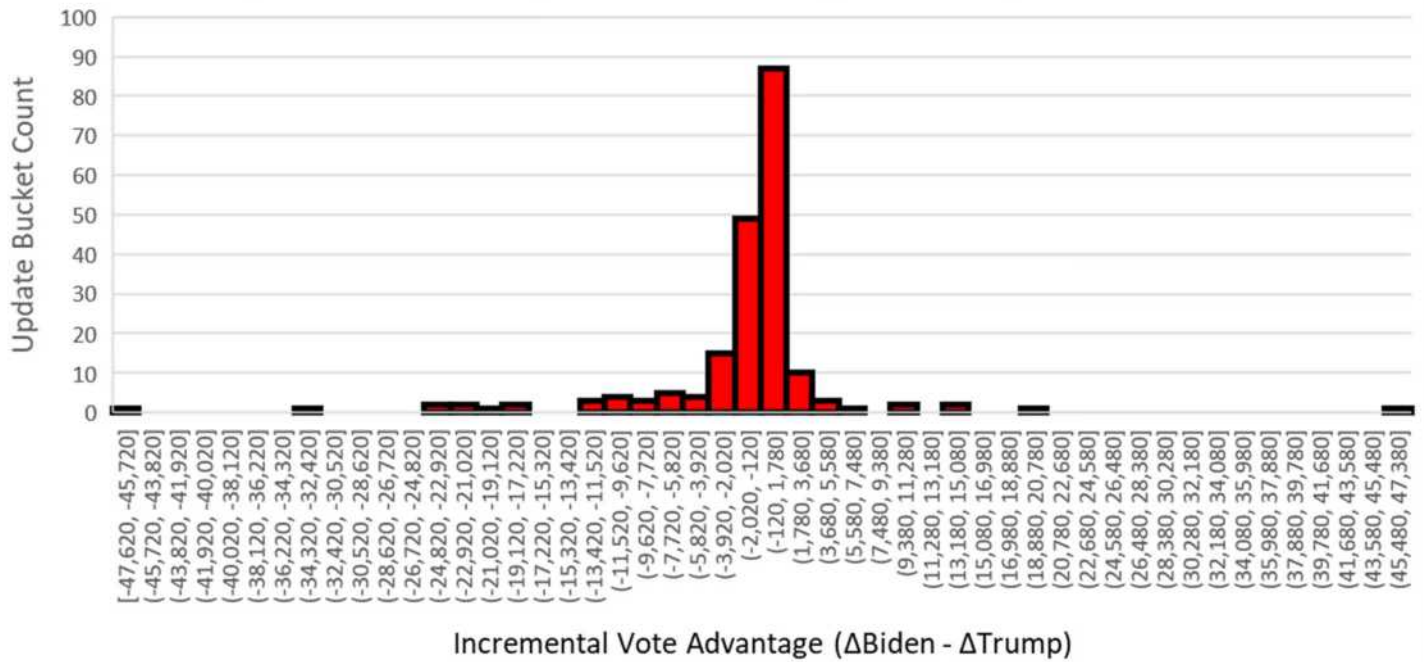




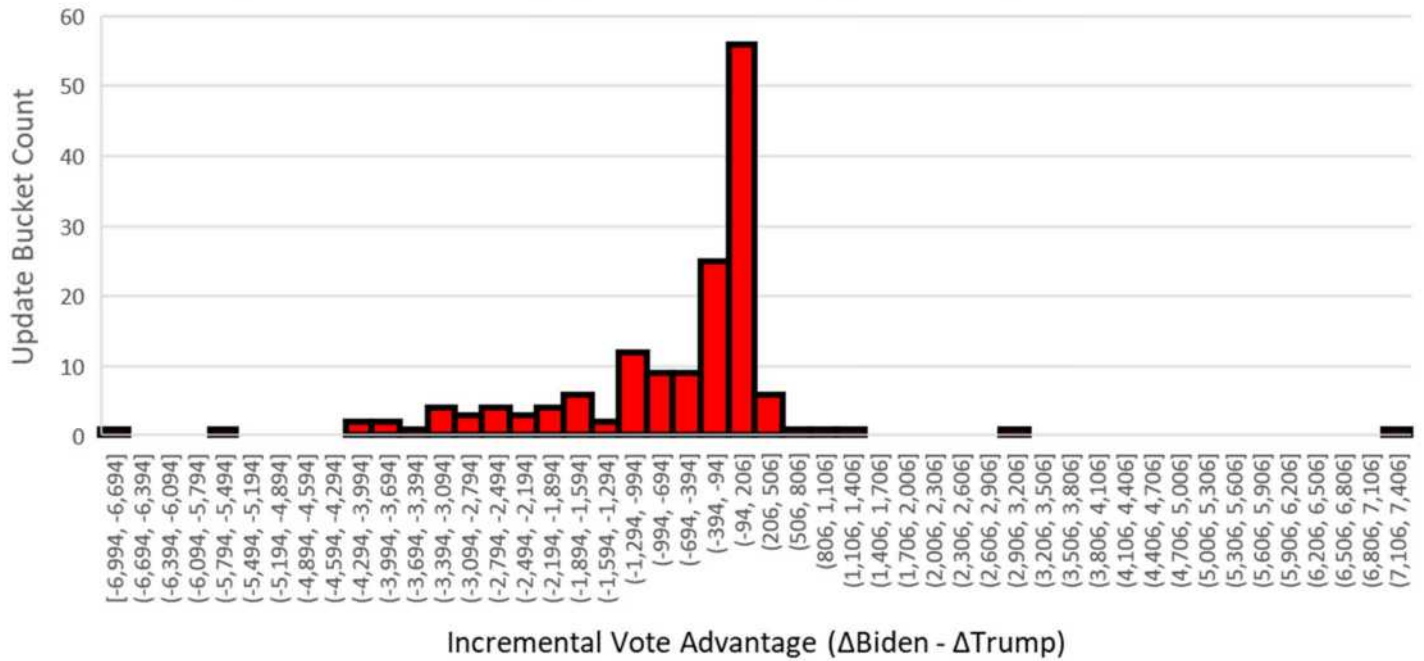
Histogram Vote Advantage ( $\Delta$ Biden -  $\Delta$ Trump), Edison Updates, RI, 2020



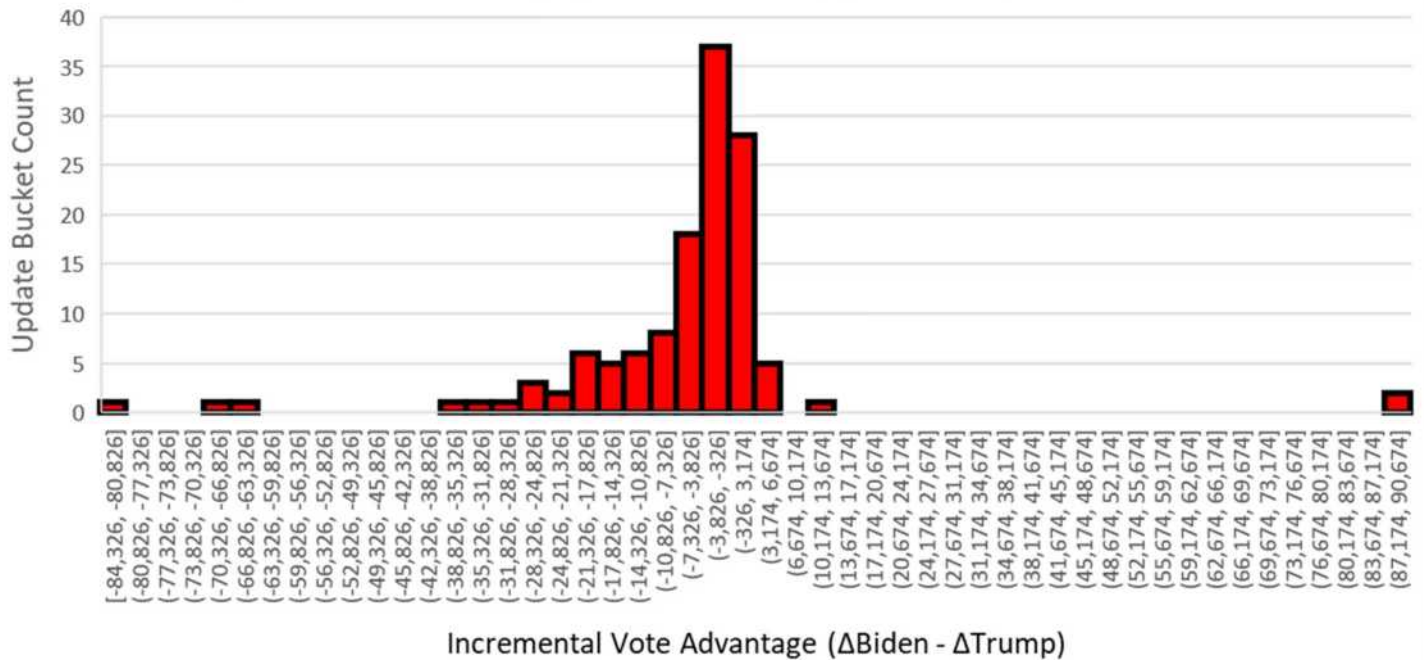
Histogram Vote Advantage ( $\Delta$ Biden -  $\Delta$ Trump), Edison Updates, SC, 2020



Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, SD, 2020

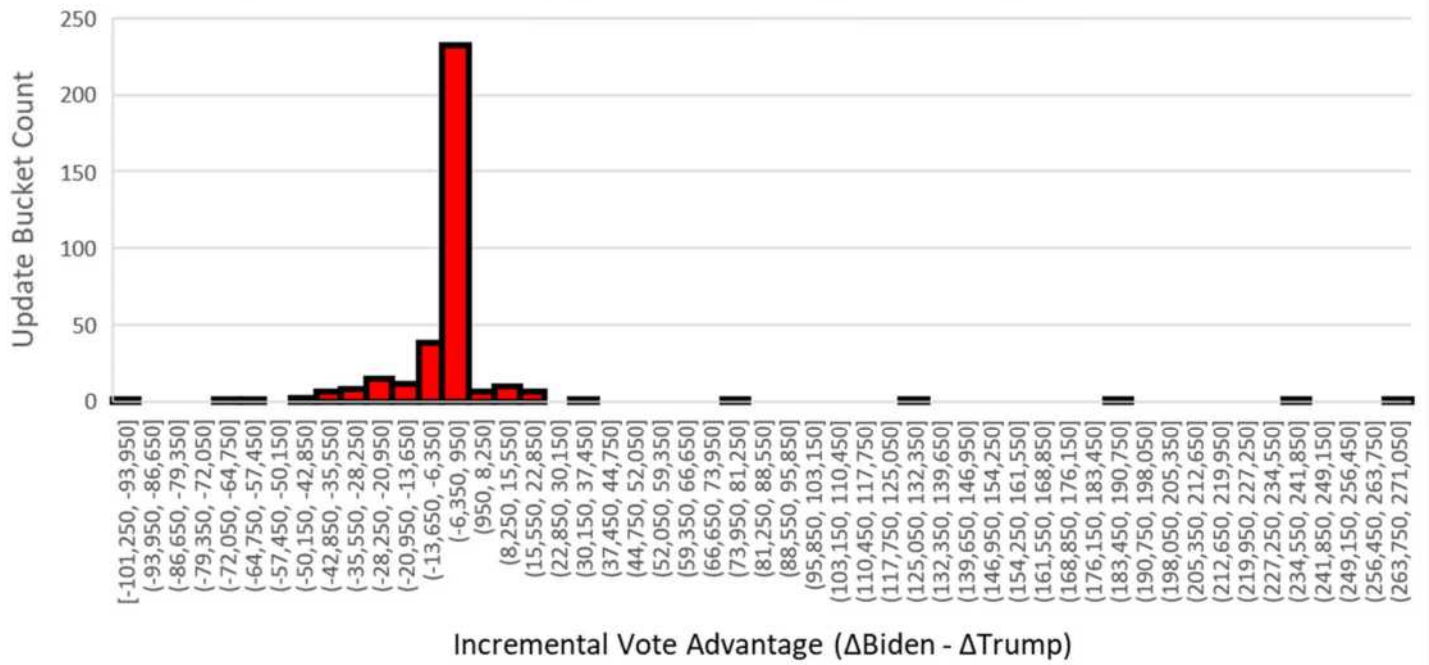


Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, TN, 2020

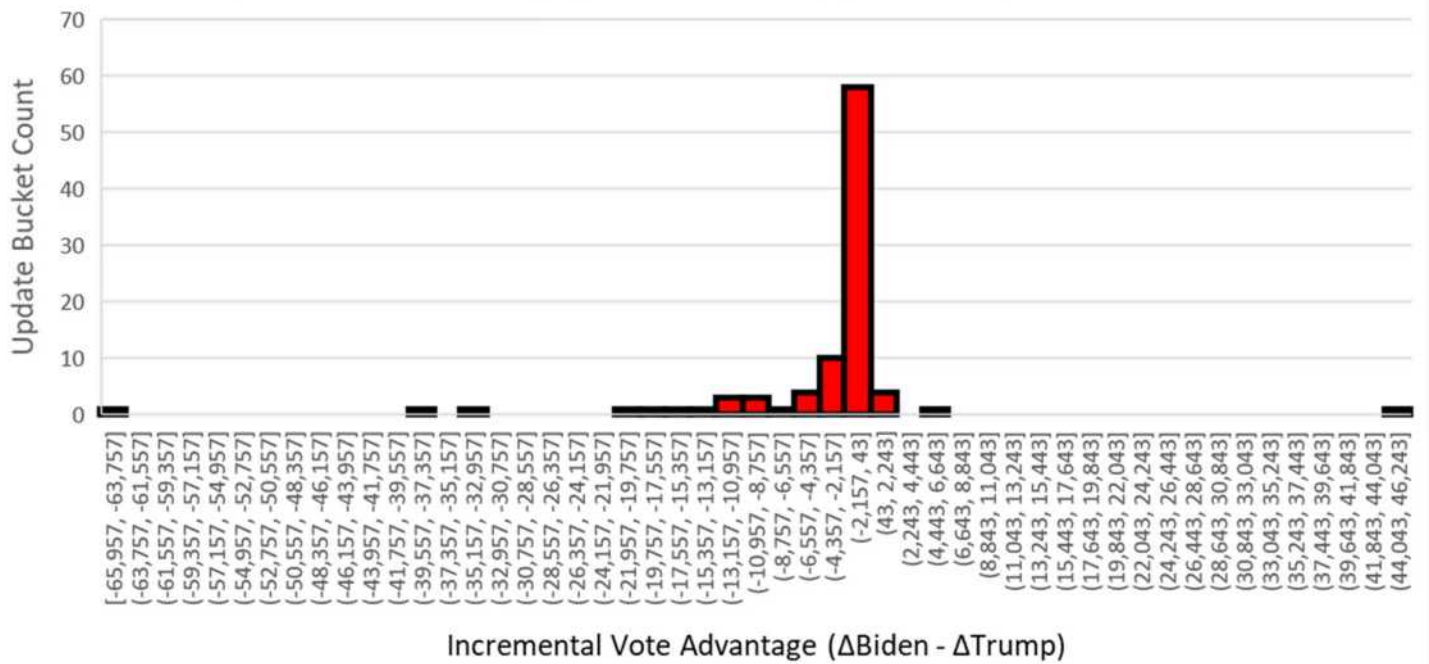




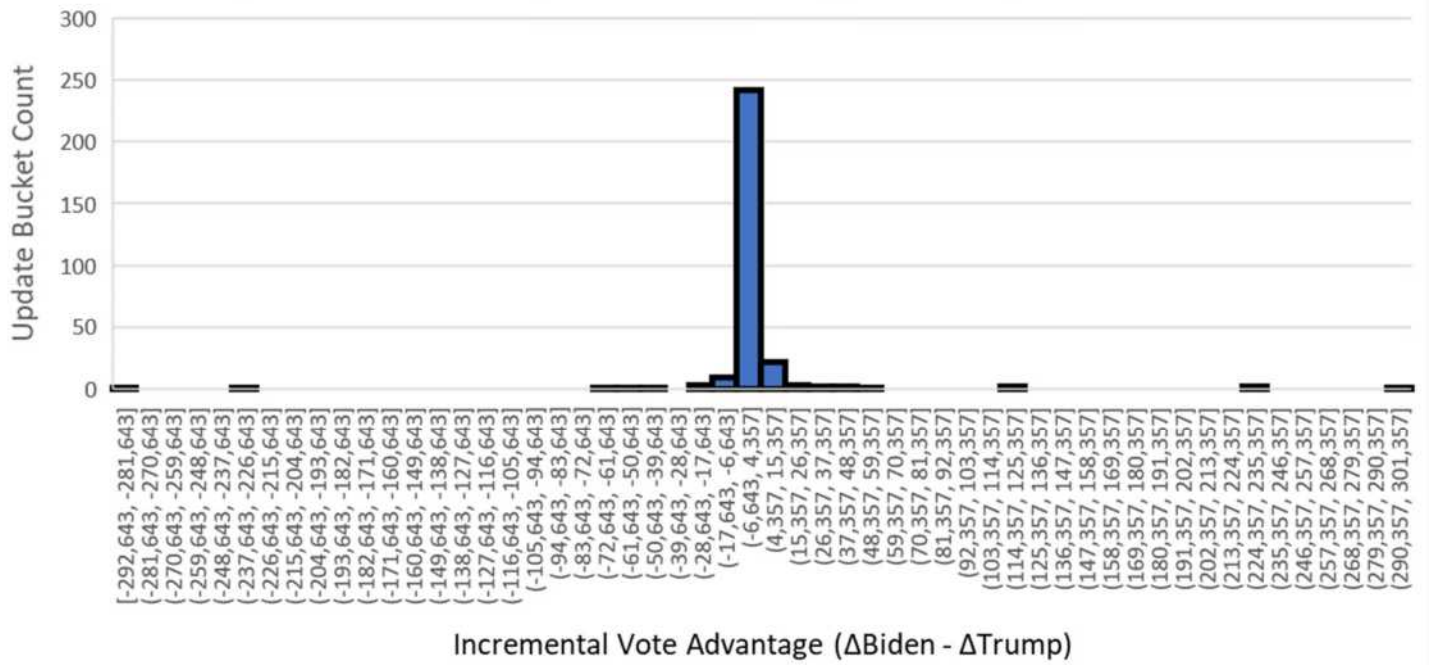
### Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, TX, 2020



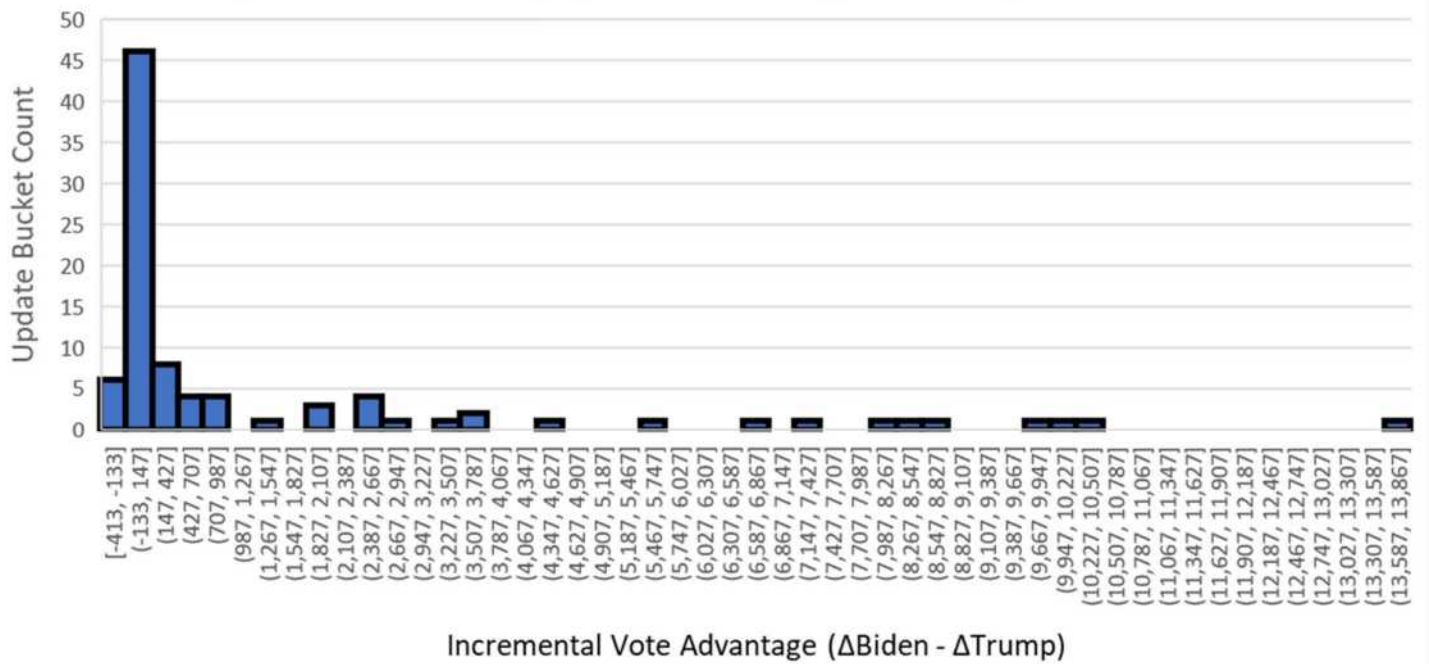
### Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, UT, 2020



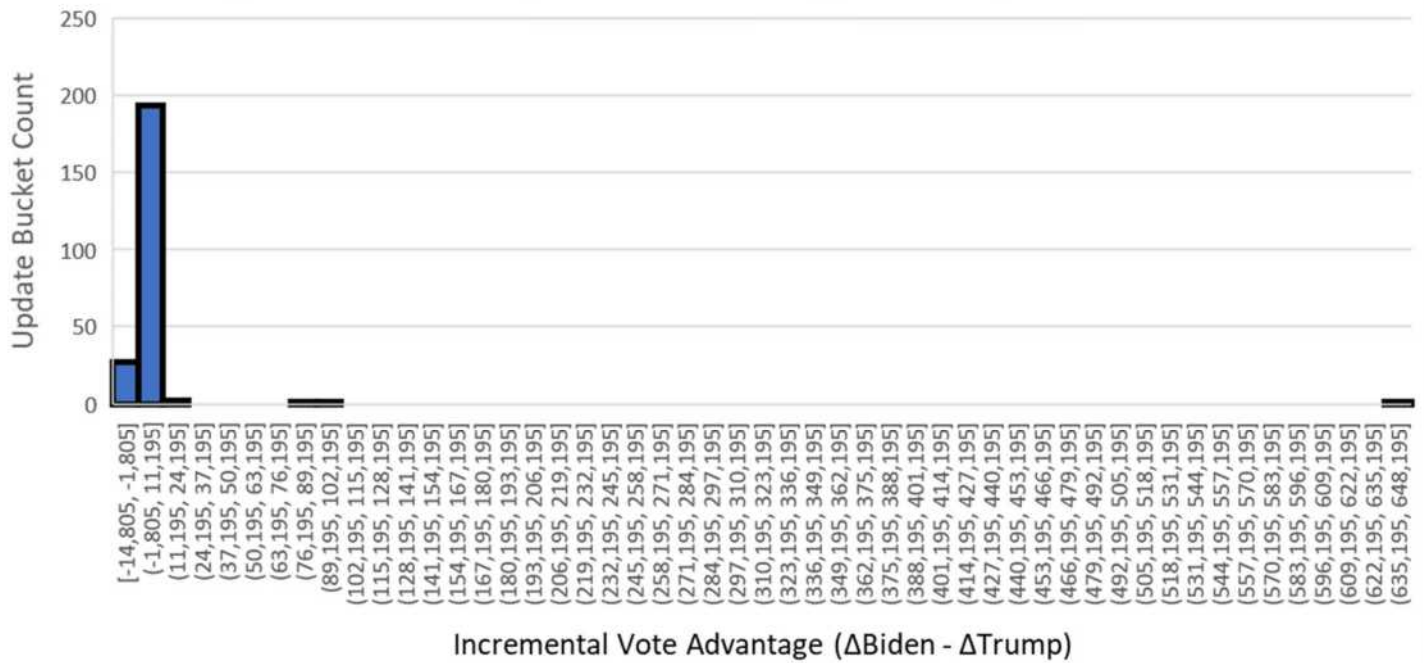
Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, VA, 2020



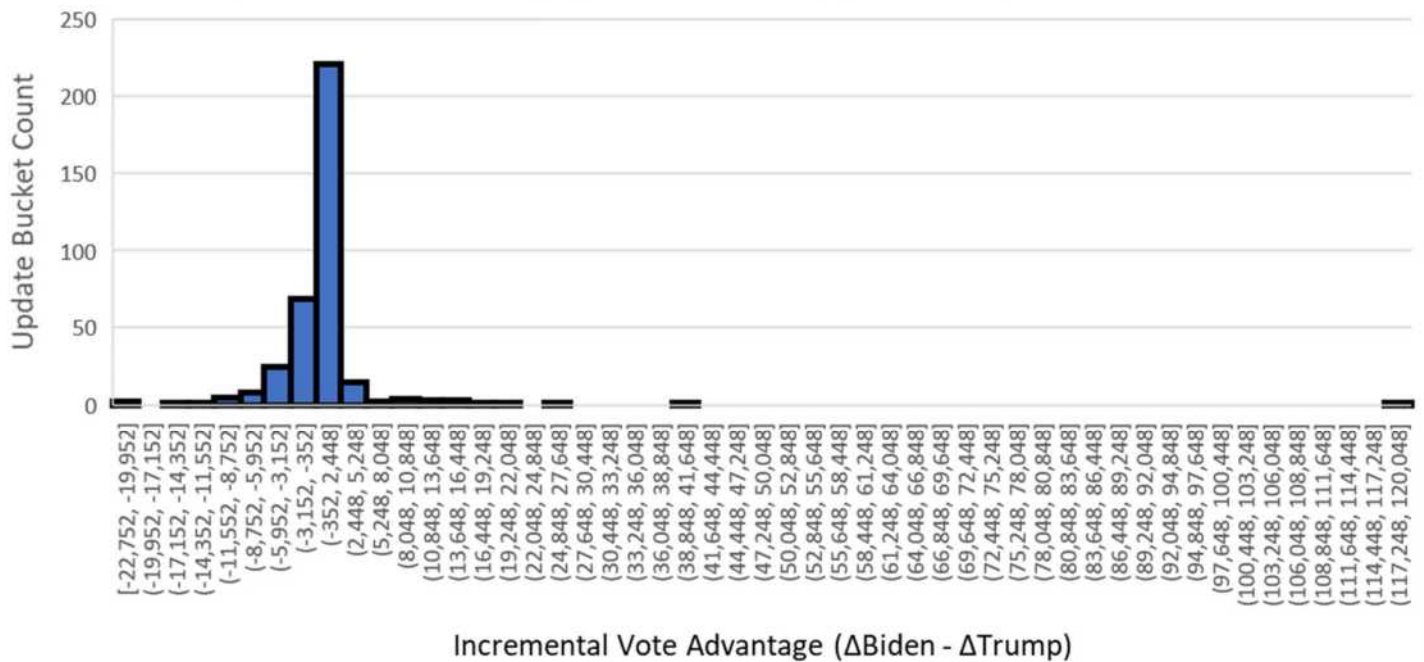
Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, VT, 2020



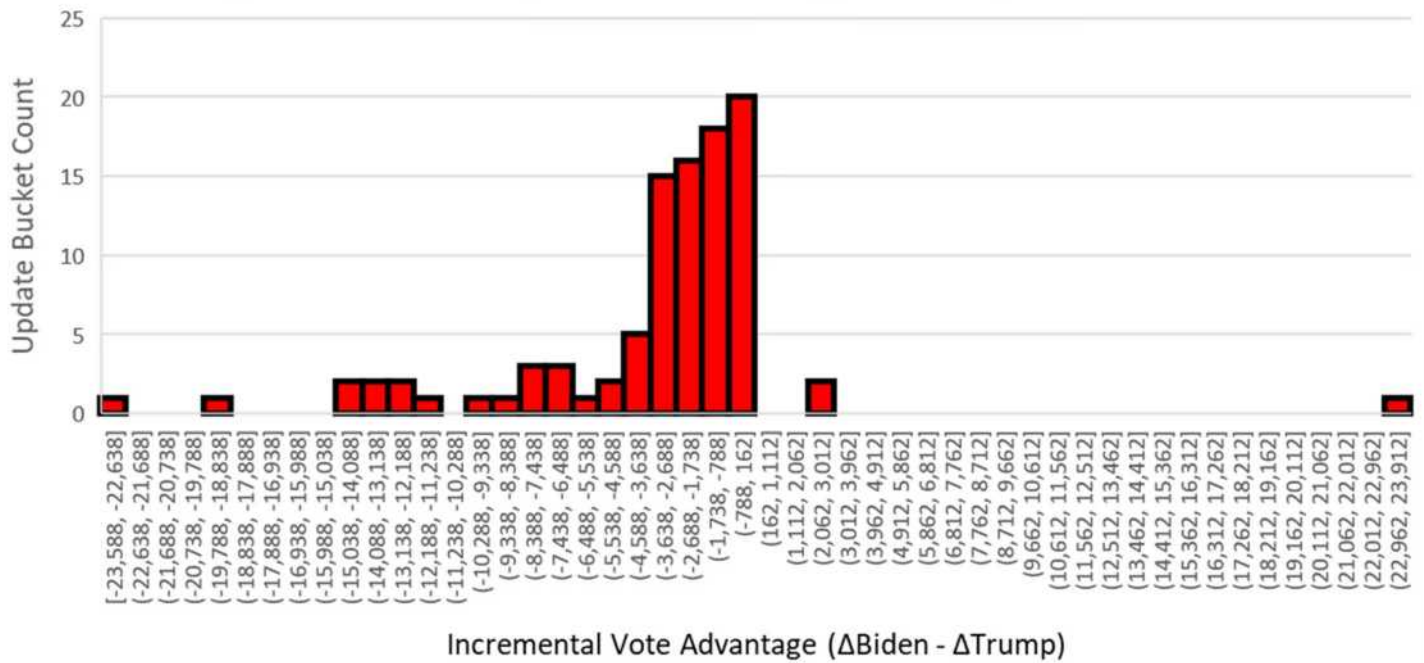
Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, WA, 2020



Histogram Vote Advantage ( $\Delta\text{Biden} - \Delta\text{Trump}$ ), Edison Updates, WI, 2020



Histogram Vote Advantage ( $\Delta$ Biden -  $\Delta$ Trump), Edison Updates, WV, 2020



Histogram Vote Advantage ( $\Delta$ Biden -  $\Delta$ Trump), Edison Updates, WY, 2020

