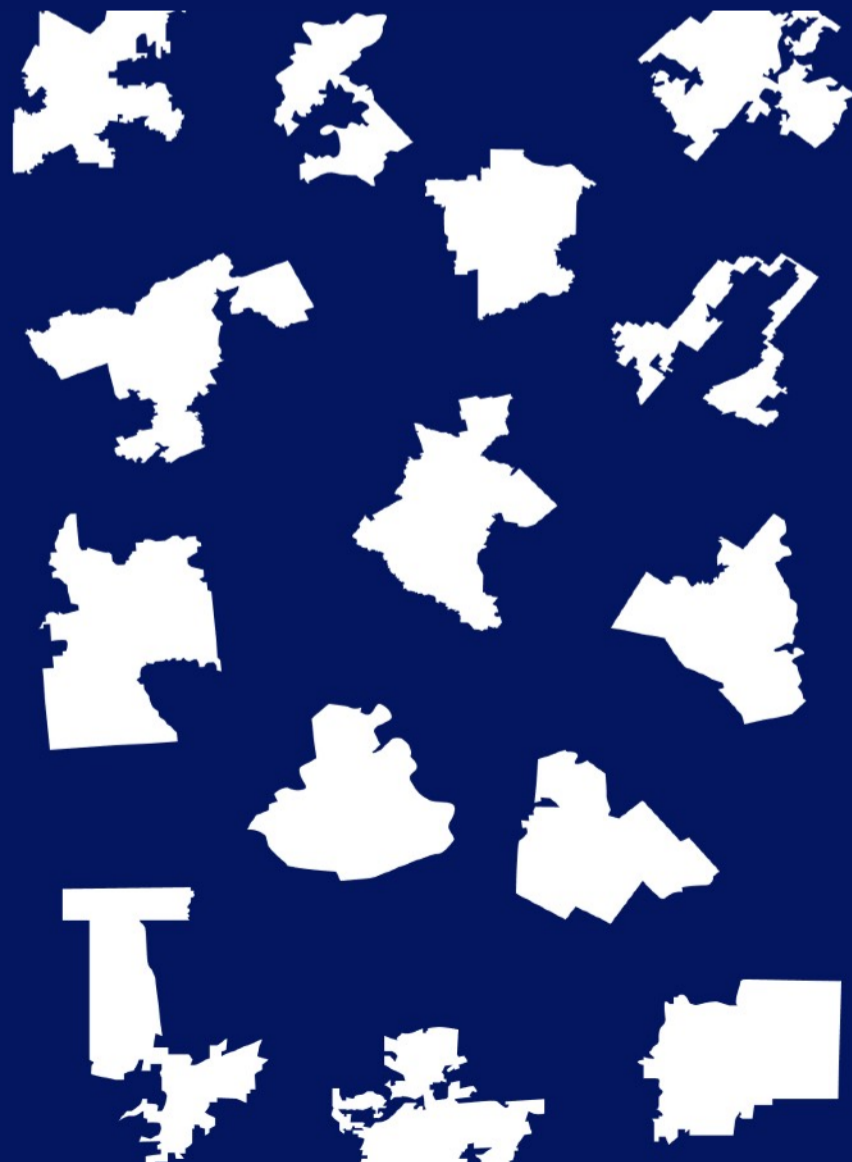# Statewide Prison Gerrymandering Reforms in the 2021 Redistricting Cycle

An analysis of 13 states that addressed prison gerrymandering in their state legislative and congressional districts

July 2023

RDH

Summary

Where Incarcerated People Are Counted

Prison gerrymandering is a type of gerrymandering that harms incarcerated people and the communities they come from while benefiting places that contain incarceration facilities. When redistricting at the congressional, state legislative, and local levels, the amount of representation an area receives is generally tied to its population. If districts are drawn with very different amounts of people, people in less populated districts receive more representation than those in more populated districts. District populations are typically calculated using decennial Census data, which counts incarcerated people at the facilities where they are confined, rather than their usual place of residence as indicated by last known address. This inflates the population, and thus representation, of districts containing facilities while decreasing the population and representation of districts in which incarcerated persons typically reside.

Prison gerrymandering harms incarcerated people and the communities they come from while benefiting places that contain incarceration facilities

According to the Prison Policy Initiative (PPI), 16 states have taken at least some steps to address prison gerrymandering. This is in addition to the significant number of local governments that have taken action. Currently, 47% of the US population lives in a state with prison gerrymandering reforms (PPI 2021). This report analyzes the 13 states that addressed prison gerrymandering at the statewide (congressional and/or state legislative) level in the 2021 redistricting cycle. The data come from the decennial Census and states' official adjusted datasets, in which the population is adjusted by reallocating incarcerated people to their last known address.

Key Findings

1. Reallocation of incarcerated people in 13 states during the 2021 redistricting cycle prevented more than 348,000 people from being counted at their place of confinement.

2. We estimate that similar prison gerrymandering reforms in the remaining 37 states would prevent an additional 852,000 individuals from being counted at their place of confinement.

3. Had adjusted datasets not been used in 13 states, at least one state legislative plan (upper or lower) in 7 states would have had deviations greater than 10% and possibly violated equal population requirements.

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What Is Prison Gerrymandering?

Redistricting Basics

Following the release of the 2020 decennial census (PL 94-171) data, states began their state legislative and congressional redistricting processes. The data release contained detailed population information for each 2020 census block, the smallest unit for which the Census Bureau calculates and reports data. States "draw" their new state legislative and congressional districts by assigning census blocks (or, in rare cases, a slightly larger geographic unit composed out of census blocks, such as Voting Tabulation Districts, or VTDs) to districts. The assignments of census blocks to particular districts is subject to certain rules and criteria, which help determine whether or not a redistricting plan is legal.
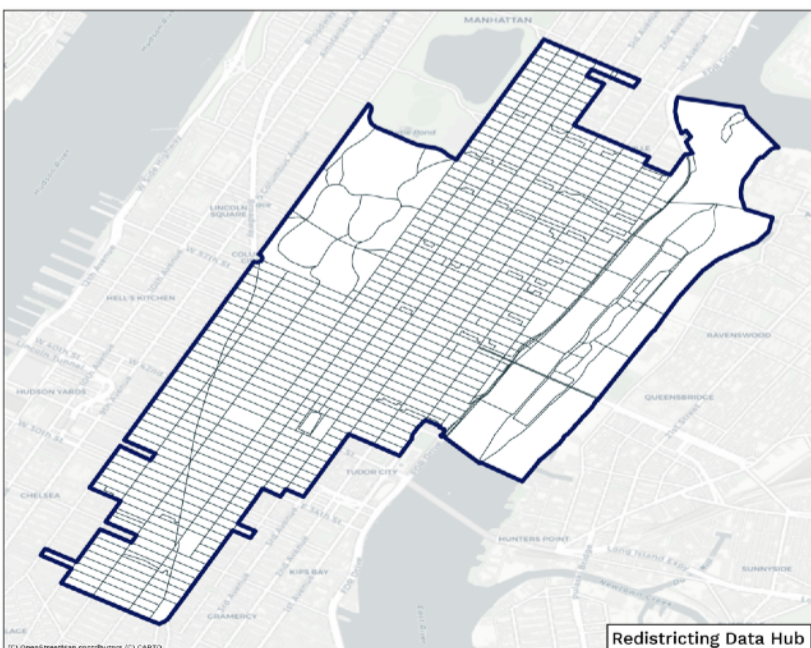
The 2020 census blocks comprising New York's 28th State Senate District

## One Person, One Unit of Representation

Although redistricting criteria differ from state-to-state, redistricting in every state is subject to rules around population equality. This is in accordance with the principle of "one person, one vote." If one legislative district contains significantly fewer people than another district within the state, the people residing in the less populated district have relatively more representation, in the sense that each person constitutes a higher "share" of their district than a person in a more populated district.

In order to follow the "one person, one vote" principle, districts in a redistricting plan must contain roughly the same number of people. In the case of congressional districts, the goal is equality as "nearly as practicable," meaning deviations as small as one person across districts. In the case of state legislative districts, the goal is "substantial equality," which has been defined as deviations of less than 10%. These are rough guidelines, as plans with deviations lower than these targets are not automatically constitutional and are still subject to scrutiny, and plans exceeding these deviations may still be acceptable if they appeal to other criteria.

In order to calculate the deviation of a redistricting plan, one needs the "ideal size"

of a district and the total population of each district. In general, the ideal size is calculated by dividing the total population of a state by the number of districts, while the total population of each district is calculated by summing the population for each census block assigned to that district.
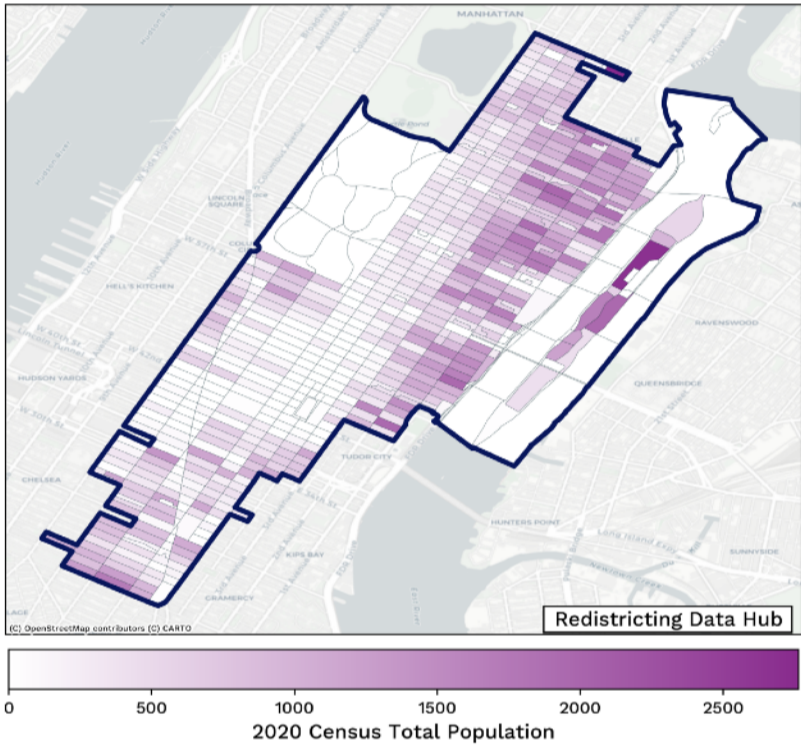
Total population for the 2020 census blocks comprising New York's 28th State Senate District

For redistricting plans with single-member districts, the largest and smallest districts in the plan are then compared against the ideal size to calculate the deviation for each district. The total deviation of the plan is the difference between the largest and smallest district deviations. Calculating the population deviations for redistricting plans with multi-member or floterial districts involves slightly different calculations. Regardless of the formula, the total deviation of a redistricting plan is the metric typically used to measure population equality.

Counting Incarcerated People at Facilities

In 2020, as in past decennial censuses, the Census Bureau counted incarcerated people who were in jail or prison on April 1 as residing at the facility in which they were currently incarcerated and not at their last known addresses. According to the Prison Policy Institute, the population of people in jails and prison in 2020 was roughly 2.3 million. Many of these individuals are serving sentences far short of a decade. Jails in particular hold people serving sentences of a year or less, as well as individuals being held on pre-trial detention, who may be found not guilty or given a sentence other than confinement. But because the decennial census counts these individuals as residing at the jail or prison, they will be counted toward the population of the surrounding district for the next ten years. At the same time, incarcerated people are not counted toward the population in the districts from which they come.

The decision to count people at their place of confinement can result in significant population shifts. These shifts may ultimately make a district that would otherwise be too small to comprise a district "large enough," or a district that would otherwise be too large the "correct" size. In this way, there are two representational harms caused by counting incarcerated people at their places of confinement:

1. **Districts containing facilities may have insufficient population if incarcerated people were not counted at these facilities. The non-incarcerated people in these districts are overrepresented in the absence of prison gerrymandering reforms.**

2. **Districts where large numbers of incarcerated people are from may have excessive population if they were not counted at their facilities. The people in these districts are underrepresented in the absence of prison gerrymandering reforms.**

Prison Gerrymandering and Representation

The problem of where incarcerated people are counted for redistricting purposes is compounded by three additional complexities:

1. **Incarcerated individuals are often confined at facilities that are geographically distant from their homes.**

2. **Incarcerated individuals are almost never guaranteed the right to vote.**

3. **Incarcerated individuals often have a different demographic profile from the individuals residing near the facility.**

First, depending on the geographic distance between an individual's home and their place of incarceration, the choice of where to count that person for redistricting purposes could change the total population of districts. If the facility and their last known address are near one another and contained within the same district, then the total population of that

district would be the same regardless of whether that person was counted at their home or at a facility. When these two points are distant from one another, they are likely to be in different districts. As a result, the decision to count incarcerated people at their places of incarceration or last known addresses will affect the total population of these districts.

A second and related problem is that the demographics of incarcerated people and the people residing near a facility are often different, meaning the former's interests may not be reflected in the districts' representatives.

Thirdly, the absence of voting rights for many incarcerated people means that when they are counted in a district, they will typically not have the opportunity to vote there.These three issues combine to distort representation in districts with facilities and districts in which incarcerated people typically reside.
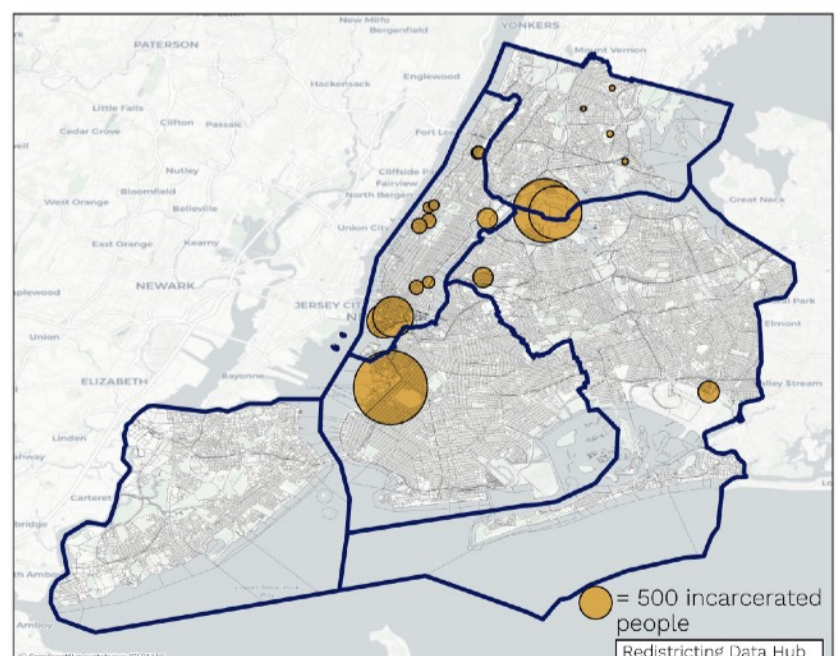
Circles are proportional to the total adult incarcerated population in each New York City Census Block, lines show the five boroughs

Prison Gerrymandering Reforms

A Variety of Reforms

States and localities employ a number of different methods to address prison gerrymandering. These include: "ignoring the prison population, cutting a hole in their maps around the prison, overpopulating the district with the prison by the exact amount of the prison population, or splitting the prison population between all districts equally" (PPI 2022). These types of reforms address the issue of districts with jail or prison facilities receiving excessive population and representation, but do not directly address the problem of districts and communities where incarcerated people reside not receiving this population.

In contrast, creating an adjusted population dataset in which incarcerated people are reallocated back to their last known address tackles both the problem of over- and under- representation.

Adjusted Datasets with Reallocation

Adjusted datasets are created by combining decennial census data with state correctional records. In the census data, the population in a particular facility will be tied to a particular census block. To adjust the dataset, last known addresses for incarcerated people in that facility are geocoded, i.e. connected to a census block. For every incarcerated person that is successfully reallocated, the population

decreases by one in the census block containing the facility and increases by one in the census block containing that person's last known address. In some states, a person's last known address may not be known and that person's population may still be subtracted from the facility's population total.
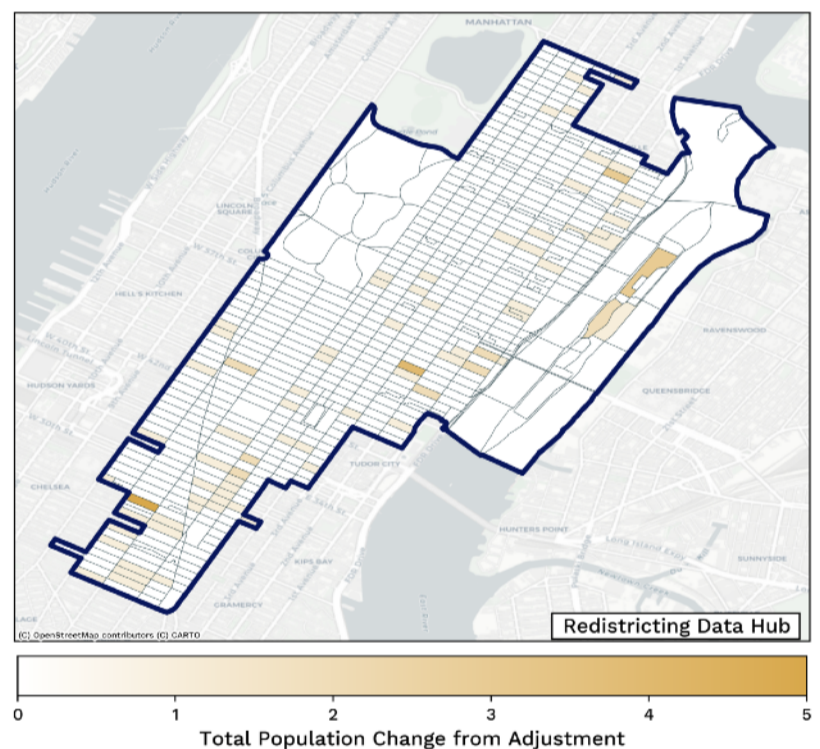
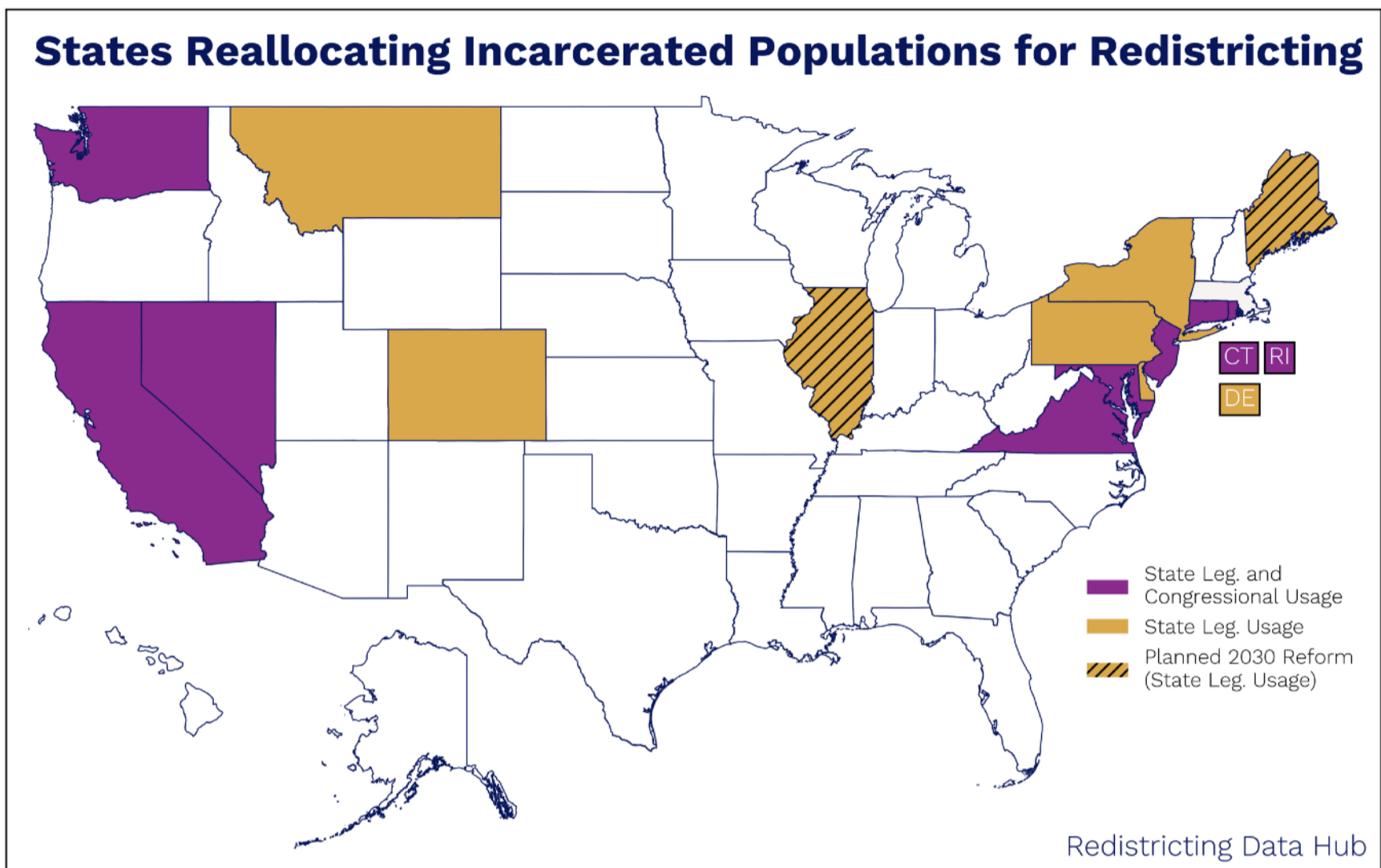*Adjusted population change for the census blocks comprising New York's 28th State Senate District*

Reform Differences

The following analysis highlights differences among the adjusted datasets produced by the 13 states that did so this cycle.

Massachusetts, Michigan, and Tennessee have also taken steps to address prison gerrymandering, but do not produce a statewide adjusted dataset and are thus not analyzed in this report.

States Reallocating Incarcerated Populations for Redistricting

CT RI
DE

- State Leg. and Congressional Usage
- State Leg. Usage
- Planned 2030 Reform (State Leg. Usage)

Redistricting Data Hub

State Legislative, Congressional, or Both?

Once the adjusted dataset has been created, states have the choice of which levels of redistricting for which to use it. Generally speaking, states that create an adjusted dataset use it for state legislative redistricting, and may or may not use it for congressional redistricting.

Stability of Reform Across Redistricting Cycles

Not every state that produced an adjusted dataset for the 2021 redistricting cycle is guaranteed to do so in the 2031 redistricting cycle. The redistricting commissions and committees in Pennsylvania, Rhode Island, and Montana requested adjusted datasets in this redistricting cycle, but may not to do so in the next cycle. The other states have laws mandating the creation of the dataset.

Total Population or Population by Race and Ethnicity?

All adjusted datasets contain updated total population count for each census block. In eight out of the twelve states that performed an adjustment, assorted updated demographic data was also made available, allowing for more complete analysis of proposed districts. Even so, these eight states may not have demographic data for all incarcerated people and measure race and ethnicity in the same way as the census.

Imperfect Address Data

In some cases, states cannot identify the census block containing a person's last known address, because the address may be missing some information or the person may not have a last known address. As a result, there is no census block to reallocate incarcerated individuals. In these cases some states remove this population from the census block containing the incarcerated person's facility but do not add the population back anywhere, resulting in a net population decrease for the state. Other states count these people as residing at their place of incarceration, while still others do not specify how they handle these cases and it is unclear from looking at their adjusted dataset or documentation.

Comparing the Process for Creating Adjusted Datasets in States with Prison Gerrymandering Reform

The table below reveals the many choices states must make in creating adjusted datasets, as well as some indicators regarding their transparency and accessibility.

	Levels Used?	People in Federal Facilities?	People w/ Out of State Addresses	People w/ Incomplete Address Data	Reform Enshrined Into Law?	Update Racial or Ethnic Counts?	Released Block-Level Data?	Supporting Documentation Available?
CA	Both	Removed	Removed	Removed	Yes	Yes	Yes	Yes
CO	State Leg.	Kept In Place	Kept In Place	Kept In Place	Yes	Yes	Yes	Yes
CT	Both	Unclear	Unclear	Unclear	Yes	No[1]	Yes	Yes
DE	State Leg.[2]	Removed	Removed	Unclear	Yes	No	Yes	Yes
MD	Both	Removed	Unclear	Unclear	Yes	Yes	Yes	Yes
MT	State Leg.	Removed	Removed	Removed	Yes	Yes	Yes	Yes
NV	Both	N/A	Kept In Place	Kept In Place	Yes	No	Yes	Yes
NJ	Both	Unclear	Unclear	Unclear	Yes	Yes	Yes	Yes
NY	State Leg.	Removed	Removed	Removed	Yes	Yes	Yes	Yes
PA	State Leg.	Kept In Place	Kept In Place	Kept In Place	No	Yes	Yes	No
RI	Both	N/A	Unclear	Unclear	No	Yes	No	No
VA	Both	Kept In Place	Kept In Place	Kept In Place	Yes	No	Yes	No
WA	Both	Kept In Place	Kept In Place	Kept In Place	Yes	Yes	Yes	Yes

[1] *Connecticut's statutes suggest they do this, although we were unable to locate these updated counts*
[2] *Delaware has at-large congressional redistricting*
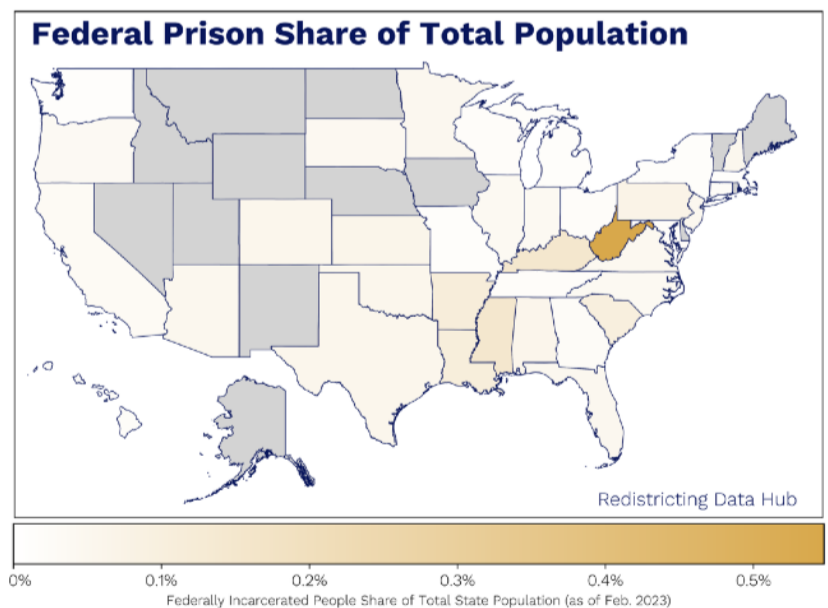
Federally Incarcerated People

According to the National Conference of State Legislatures, "Nine of the 13 states' reallocation policies encompassed people incarcerated at federal prisons, yet none of those states was able to receive inmate data from the Bureau of Prisons. All nine states requested data multiple times through official and unofficial channels to no avail." Without this data, states could not count federally incarcerated people at a last known address, although, as shown in the table above, some states removed these people from the file entirely.

Even if this federal data was made available, fully reallocating this population would require coordination across states. Many federally (and some state and local) incarcerated people are held outside of the state they come from and, as such, cannot be counted at their last known address in another state. In order to reallocate this entire population, a federal solution may be required - namely, by having the Census Bureau change how they count where incarcerated people reside in the census.

The maps to the right show the number of federally incarcerated people in each state as well as the percentage of each state's population they comprise respectively, using Federal Bureau of Prison data from February, 2023. Note that these figures do not include last known address data, and it is unknown what the net effect of national reallocation would be on state populations. It is possible that a national reallocation would also impact reapportionment, causing some states to gain or lose a congressional seat.
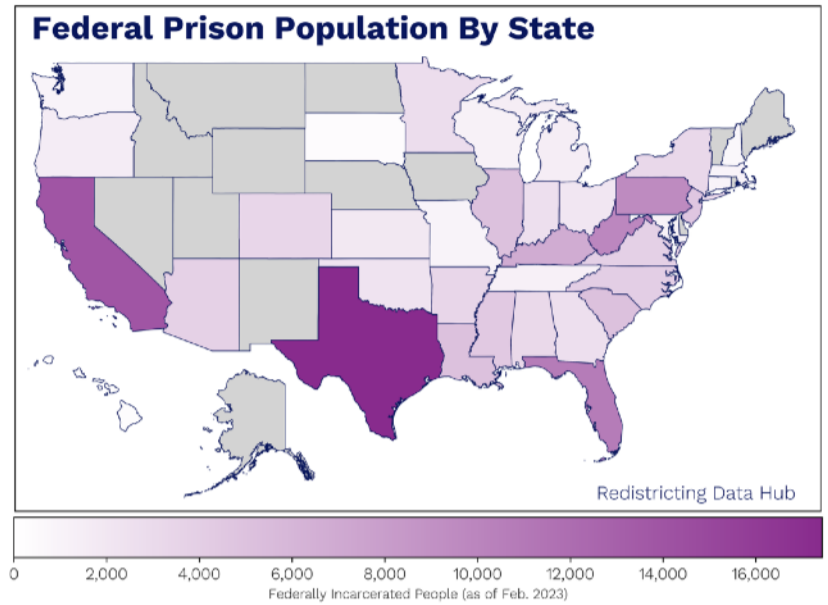
The first figure shows that thirteen states do not have any federal facilities and so have no federally incarcerated people. Conversely, states such as California, Florida, Texas, and Pennsylvania have large federally incarcerated populations. These states also tend to be large in population overall, so it is instructive to see what proportion of a state's population the federally incarcerated population comprises.

The second figure reveals the variation in the relative size of this population, with West Virginia, followed by a number of southern states, containing a relatively high percentage of federally incarcerated individuals relative to their state population.

The Impact of Adjusted Datasets on Redistricting

Number of People Impacted

One way to analyze the impact of statewide prison gerrymandering reforms is to count the total number of people that are no longer counted at their place of incarceration.

Not every person that is no longer counted at their place of incarceration is then counted at a last known address. In these instances, incarcerated individuals may be

removed from the dataset, which helps address the overpopulation of districts containing facilities. The table below shows the total number of people no longer counted as residing at their facility, counted at their last known address and removed from the dataset entirely. These figures are compared to the total adult incarcerated population within the state. Please note, it is likely the case that the state will not have access to last known address information for all of these individuals.

From Reform to Implementation

This table shows how methodological choices and data quality affect the total number of people successfully reallocated.

State	Adult Incarcerated Population	People No Longer Counted at Facility	Pct. No Longer Counted at Facility	People Counted at Last known Address	Pct. Counted at Last known Address	People Removed From Adjusted Dataset
California	201,570	137,179	68.1%	122,393	60.7%	14,786
Colorado	32,307	14,125	43.7%	14,125	43.7%	0
Connecticut	13,581	12,753	93.9%	10,375	76.4%	2,378
Delaware	4,801	4,111	85.6%	3,761	78.3%	350
Maryland	27,040	17,062	63.1%	15,241	56.4%	1,821
Montana	5,774	2,838	49.2%	1,330	23%	1,508
Nevada	19,575	7,826	40%	7,826	40%	0
New Jersey	36,851	22,157	60.1%	16,179	43.9%	5,978
New York	62,707	46,418	74%	39,027	62.2%	7,391
Pennsylvania	81,297	26,819	33%	26,819	33%	0
Virginia	57,014	41,855	73.4%	41,855	73.4%	0
Washington	26,677	15,177	56.9%	15,177	56.9%	0
Total	569,194	348,320	61.2%	314,108	55.2%	34,212

Note: Counts of people may miss individuals whose last known address is in a census block that contains a facility which lost population. Rhode Island is not included in this table because they did not release an adjusted dataset.

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This table shows the extent to which states are able to count people at their last known address (from a high in Delaware of 78.3% to a low in Montana of 23%), and emphasizes the fact that, at least in 2021, no state was successful in reallocating all incarcerated individuals.

Using this data we can also calculate the percentage of the total adult incarcerated population that these states would no longer count at facilities and then count at last known addresses. These estimated rates of 61.2% and 55.2% respectively can be used to estimate the impact if additional states implemented reforms. Reallocation of incarcerated people in 13 states during the 2021 redistricting cycle prevented more than 348,000 people from being counted at their place of confinement.

One nuance to this analysis is incorporating the size of a state's districts, as 100,000 people would comprise roughly 1/5 of a State House seat in California, but more than 4 State House seats in Delaware. The table below includes data on the number of people counted at their last known address, a more conservative indicator of the impact of reforms than the total number of people not longer counted at facilities. This is compared to the ideal population size in each state's legislative and congressional districts, respectively.

Incarcerated Population Relative to District Size

It is useful to compare the totals above to the ideal populations for state legislative and congressional districts, to better understand the scale of the impact of prison gerrymandering reform.

| State	State Leg. Lower Ideal Pop.	State Leg. Upper Ideal Pop.	Congress Ideal Pop.	Total People No Longer Counted at Facilities	# of People Counted at Last known Address
California	494,042	988,085	760,066	137,179	122,393
Colorado	88,826	164,963	Not used	14,125	14,125
Connecticut	23,864	100,099	720,713	12,753	10,375
Delaware	24,136	47,123	At-Large	4,111	3,761
Maryland	43,797	131,391	771,925	17,062	15,241
Montana	10,827	21,654	Not used	2,838	1,330
Nevada	73,919	147,838	776,153	7,826	7,826
New Jersey	232,075	232,075	773,584	22,157	16,179
New York	134,625	320,537	Not used	46,418	39,027
Pennsylvania	64,052	260,054	Not used	26,819	26,819
Virginia	86,313	215,784	784,672	41,855	41,855
Washington	157,250	157,250	770,528	15,177	15,177

Counterfactual Analyses

Every state that created adjusted datasets used them for state legislative redistricting, but did not always use them for congressional redistricting. We can perform counterfactual analyses to understand how state legislative redistricting may have differed without reforms and how congressional plans would have changed in the states that created but only used them for state legislative redistricting.

Congressional Districts

New York, Pennsylvania, Colorado and Montana, states that did not use their

adjusted datasets for congressional redistricting. Given the strict population equality requirements of congressional districts, it is almost certainly the case that a redistricting plan within the deviation limit using unadjusted data would be malapportioned if deviations were calculated using adjusted data. The figure below shows the nonzero deviations obtained using the adjusted datasets. These nonzero deviations are skewed, with a handful of districts having significant negative deviations and a large number of districts having equivalently slightly positive deviations. The figure also compares these district deviations against partisanship. In

NY, PA, CO, and MT Congressional District 2020 Presidential Vote Share vs. Adjusted Population Deviation

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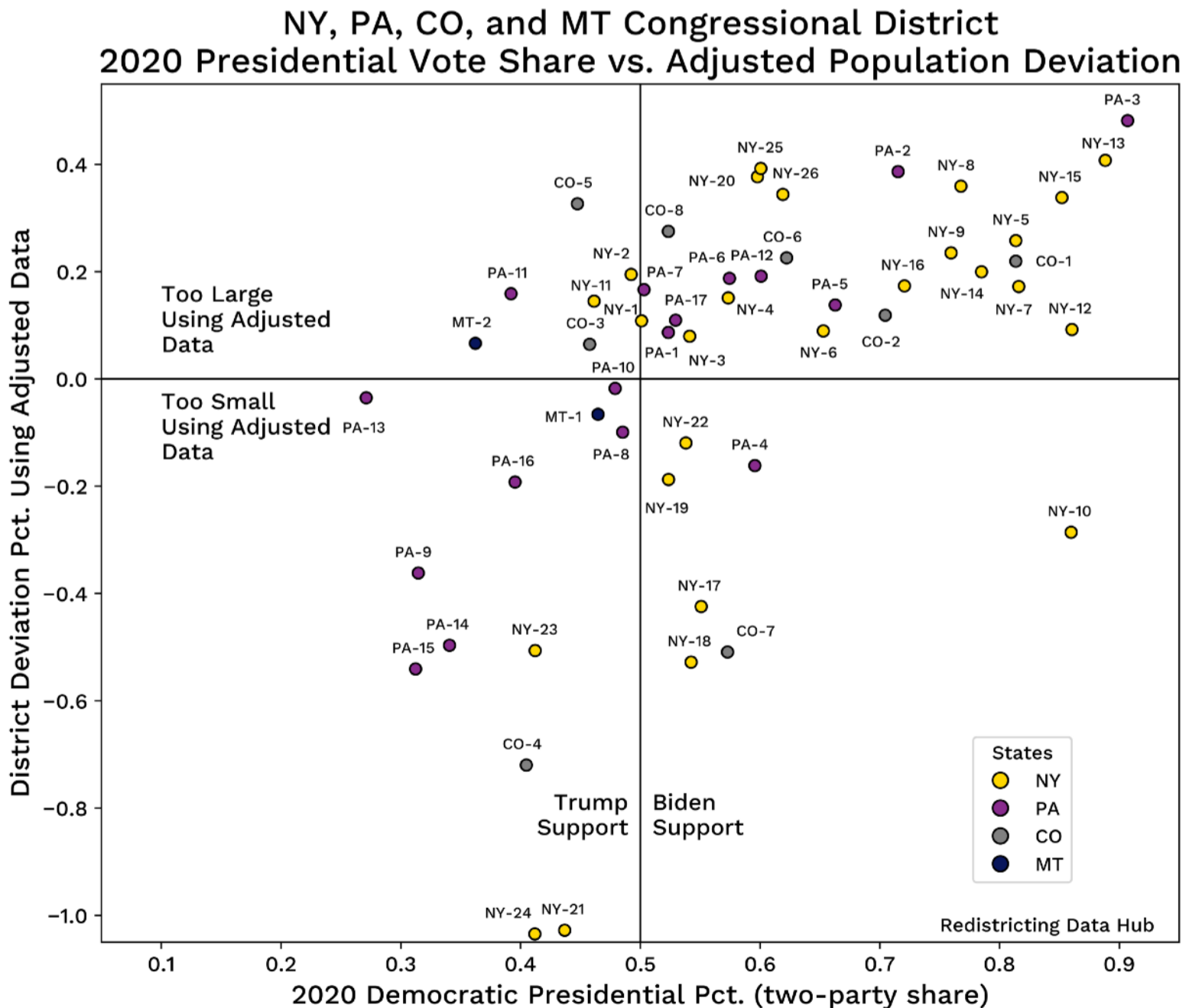
these four states, districts that would be too small using adjusted datasets (i.e. are currently overrepresented due to prison gerrymandering) tend to have voted for the Republican presidential candidate in 2020, while districts that would be too large tend to have voted for the Democratic candidate. It is unknown whether these patterns would hold up in other states.

State Legislative Districts

The state legislative counterfactual analysis explores whether the enacted redistricting plans would have an acceptable level of deviation when calculated using unadjusted data. The two figures plot the population deviations for state legislative lower and upper plans on adjusted and unadjusted data relative to the 10% deviation threshold. In some cases, the deviations using unadjusted data exceed the threshold and it is possible the maps may have had to be redrawn to account for these larger population deviations.

Had adjusted datasets not been used in 13 states, at least one state legislative plan (upper or lower) in seven states would have had deviations greater than 10% and possibly violated equal population requirements. In five states, both legislative levels would have excessive deviations had unadjusted datasets not been used.

Please note that Washington and New Jersey have nested districts, so that the deviations will be the same for both legislative levels.

State Legislative Lower District Deviations Using Adjusted & Unadjusted Data

State Legislative Upper District Deviations Using Adjusted & Unadjusted Data
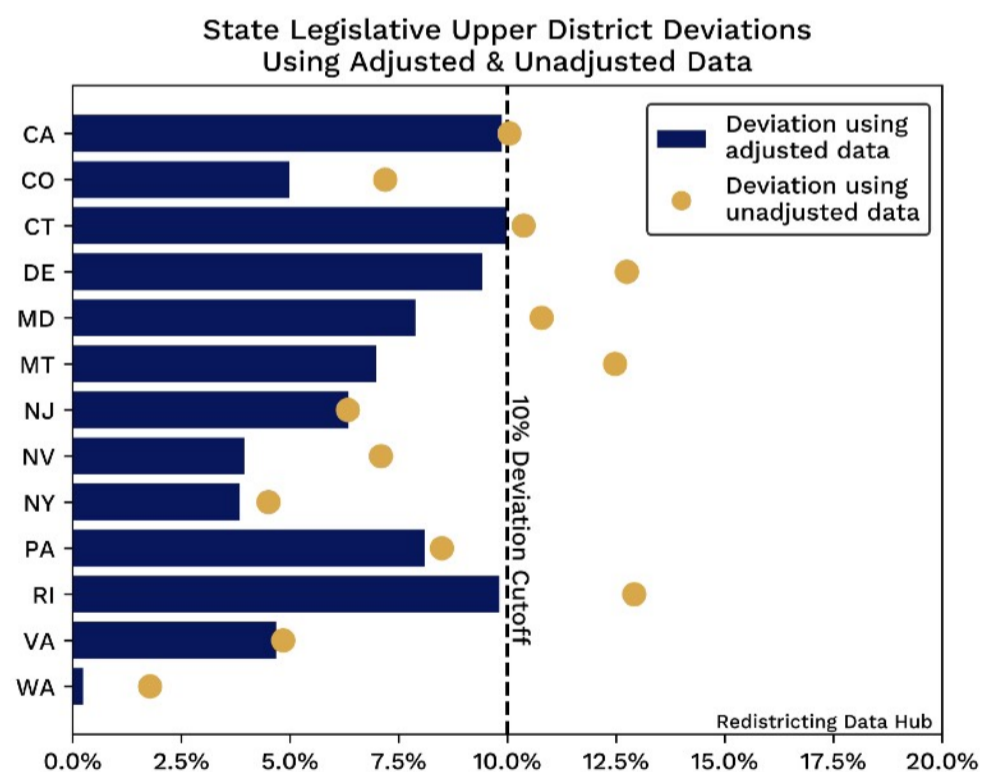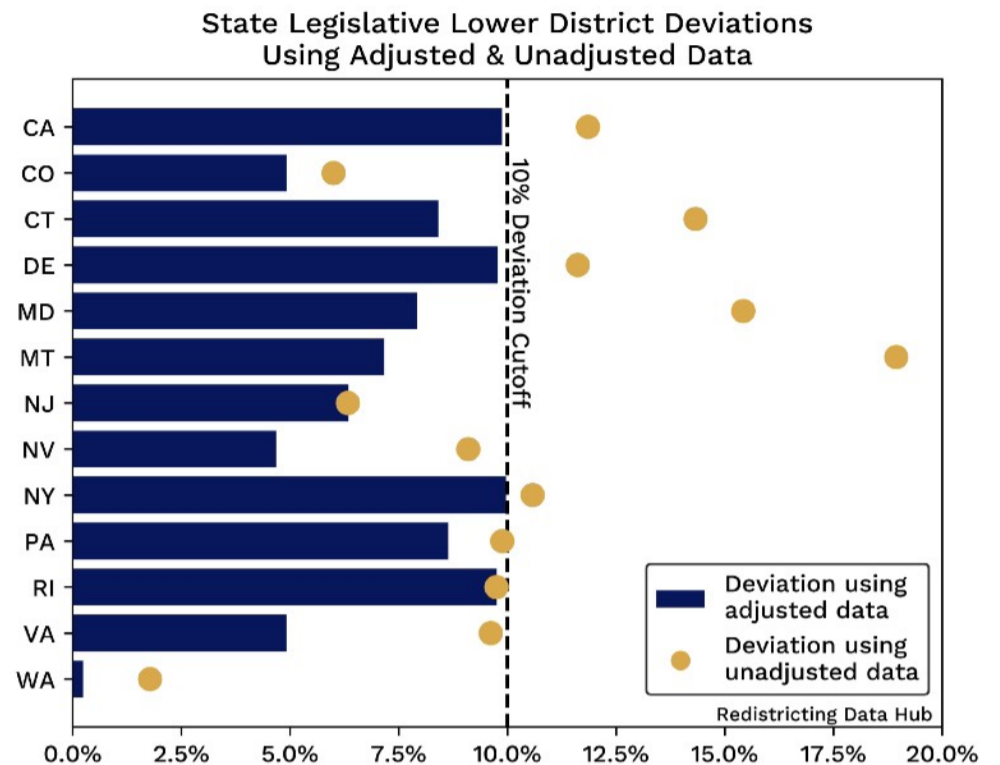
Prison Gerrymandering Case Studies

Highlighting Specific Impacts

The impact of prison gerrymandering reform can be nuanced, and depends on which incarcerated people are reallocated, where facilities are located, the success of the reallocation process, and more. As a result, we have created a series of case studies to highlight how prison gerrymandering in Maryland and Pennsylvania can cause areas (counties or neighborhoods) and districts to gain or lose population. We also take a closer look at how reform can impact all districts in a redistricting plan, including the total population (in Pennsylvania) and the population by race and ethnicity (in California).

Example	Location	Analysis
Area That Loses Population	**Allegany County, Maryland**	Demographic analysis of incarcerated vs. unincarcerated population
District That Loses Population	**Maryland General Assembly District 1B**	Ideal district size changing as a result of adjustment
Area That Gains Population	**Selected Philadelphia Neighborhoods**	Demographic analysis of original PL population vs. returning population
District That Gains Population	**Pennsylvania State Senate District 3**	Ideal district size staying the same as a result of adjustment
Redistricting Plan Counterfactual Analysis	**Pennsylvania Congressional Districts**	Analyzing district total population changes across an entire plan
Analyzing the Racial Impacts	**California State Senate Districts**	Analyzing district demographic changes across an entire plan

Area That Loses Population From Adjustment: Allegany County, Maryland

Unadjusted Population: 68,106
Change From Adjustment: -2,254
Adjusted Population: 65,852

Allegany County, Maryland is located in the western part of the state and contains a population of 68,106 people, according to the unadjusted 2020 census data. 4,302 of these 68,106 people, them (6.3% of the population) reside in census blocks that include one of the county's three incarceration facilities: two state and one federal.

The demographic profile of those residing in census blocks with facilities is very different from that of the surrounding county. This suggests, and is confirmed by the adjusted data, that many incarcerated people in these facilities are not from Allegany County and are bolstering the county's population and political power. The prison gerrymandering reforms enacted in Maryland serve to partially address this issue, by reallocating the population in the

census blocks that contain Allegany County's two state facilities.

While there are incarcerated people with last known addresses in other parts of the county, as seen by the increase of 105 people in the census blocks without facilities, there are more people with last known addresses outside of the county. This leads to a net population loss of 2,254 in Allegany County following the census population adjustment, as shown in the table below.

Demographics of Census Blocks with and Without Facilities

Table showing the differing demographics among blocks that contain facilities in Allegany County, Maryland and those that do not, as well as the total population changes to those blocks following adjustment.

Allegany County, MD	2020 Census Pop.	NH White Alone %	NH Black Alone + NH Black & White %	Adj. Change	Adj. Population
Census Blocks w/ Facilities	4,302	20.8%	72.4%	-2,359	1,943
Census Blocks w/o Facilities	63,804	89.4%	4.9%	105	63,909
Total	68,106	85.1%	9.1%	-2,254	65,852

District That Loses Population From Adjustment:
Maryland General Assembly District 1B

Unadjusted Population: 47,008
Change From Adjustment: -2,275
Adjusted Population: 44,733

Maryland General Assembly District 1B, drawn as part of the 2021 redistricting cycle, contains a major portion of Allegany County. Because District 1B is contained within Allegany County the population changes in the county carry over to the district. Had adjusted data not been used, District 1B as currently drawn would contain too many people. This can be seen by calculating the deviation of the district using adjusted and unadjusted data.
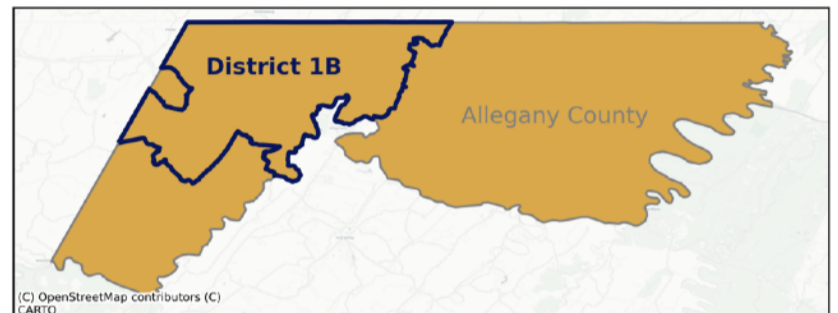
The Maryland General Assembly contains 141 representatives. As a result of the adjustment, the total population of the state changed by -1,821 people, going from 6,177,224 to 6,175,403. Because the population deviation for a state legislative plan depends on the deviation of the largest and smallest districts, comparing a single district's counterfactual deviation to a plus or minus 5% threshold is a bit of a simplification. Nonetheless, for the

purposes of this analysis, we will make this simplifying assumption.

Had an adjustment not occurred, General Assembly District 1B, with a population of 47,008 would have exceeded the proxy population maximum of 46,003.

This would require the plan to be redrawn and some people in District 1B to be placed in another district. However, following the population adjustment, Assembly District 1B's population is 44,733 and would fall within the acceptable range of a 10% population deviation.

## Ideal District Population Before and After Reallocation

The below table shows how the ideal size for a single-member Maryland Assembly District changes following the population adjustment.

Maryland General Assembly	Total Pop.	# of Reps	# of People per Rep	Ideal -5%	Ideal +5%	District 1B Population
Pre-Adjustment	6,177,224	141	43,812	41,621	46,003	47,008
Post-Adjustment	6,175,403	141	43,797	41,607	45,987	44,733

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Area That Gains Population From Adjustment:
Philadelphia Neighborhoods

Unadjusted Population: 75,449
Change From Adjustment: +692
Adjusted Population: 76,141

This analysis looks at a combination of neighborhoods in North / Central Philadelphia. These neighborhoods, which are highlighted in yellow in the map to the right, include include Strawberry Mansion, Brewerytown, North Central, Stanton, Allegheny West, and Glenwood. The boundaries of the city of Philadelphia are outlined in blue. This analysis shows an example of a place that gains population, and thus representational power, as a result of prison gerrymandering reform.
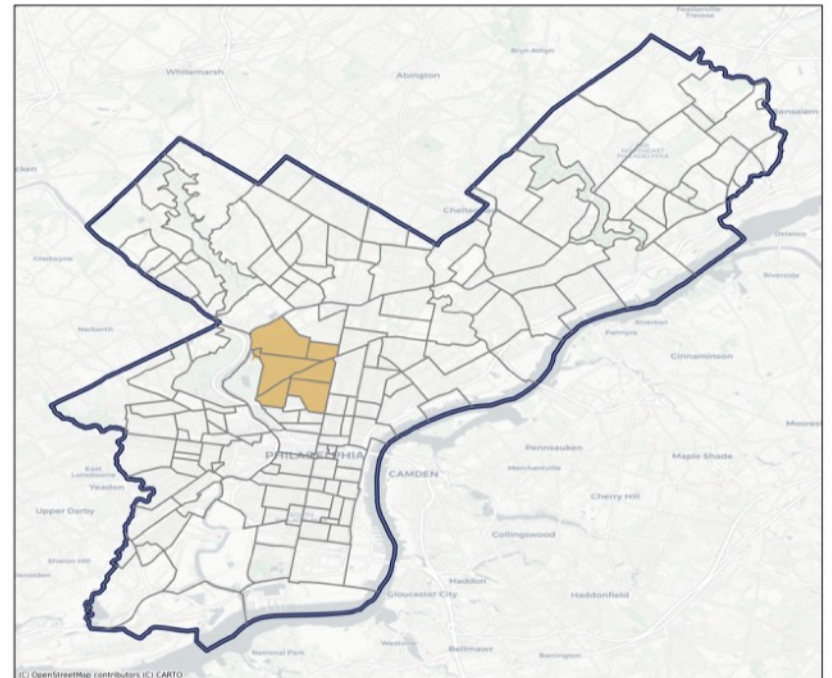
These neighborhoods contain a significant population of last known addresses of incarcerated people. It contains no census blocks with facilities where population was subtracted during reallocation. As a result of the population adjustment, the population of this area increases by 692 from 75,449 to 76,151.

Demographics of 2020 Census and Reallocated Population

The below table compares the racial and ethnic demographics of select neighborhoods in Philadelphia before and after reallocation of incarcerated people. "NH" refers to "non-Hispanic".

Philadelphia Neighborhoods	Total Population	NH White Alone %	NH Black Alone + NH Black & White %
2020 Census Population	75,449	14%	74.9%
Reallocated Population	692	0.8%	97.4%

District That Gains Population From Adjustment: Pennsylvania Senate District 3

Unadjusted Population: 262,203
Change From Adjustment: +1,790
Adjusted Population: 263,993

Pennsylvania Senate District 3, drawn as part of the 2021 redistricting cycle, contains a handful of the Philadelphia neighborhoods in the previous example. One can see how the effects of the adjusted dataset on these neighborhoods affects the district(s) that represent the area. The Pennsylvania State Senate contains 50 representatives. The total population in the state did not change as a result of the population adjustment, and was 13,002,700 for both. As such, each State Senate District in Pennsylvania should represent approximately 260,054 people.

Had an adjustment not occurred, State Senate District 3 would have had a population of 262,203. With the adjustment, the population count within the district increased by 1,790 to 263,993, which is sufficient population to be considered equal with other districts.
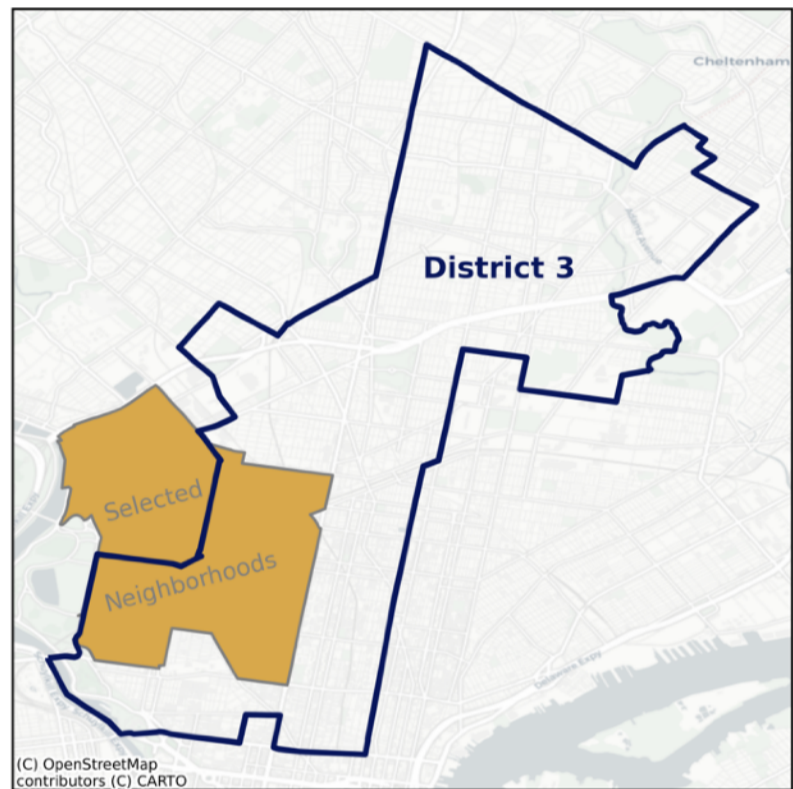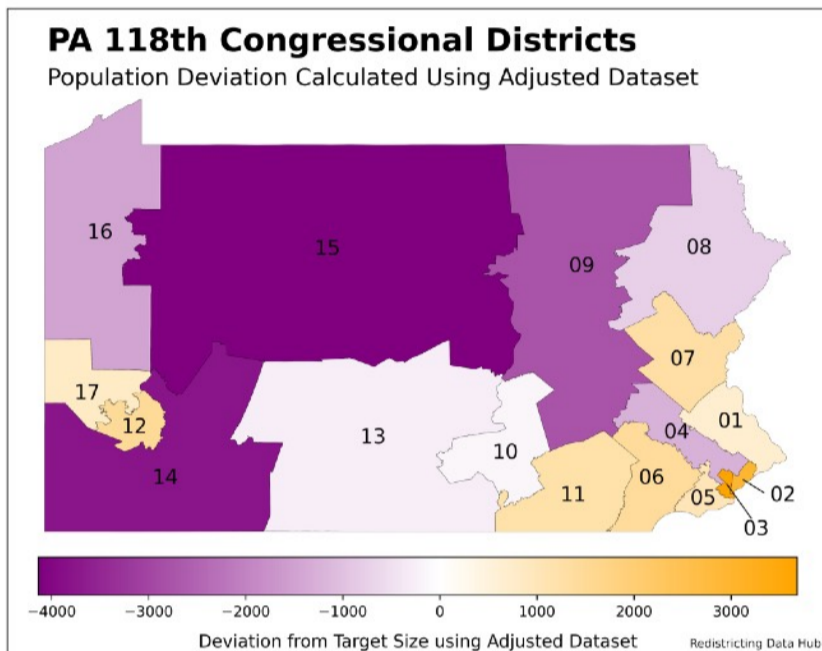

Ideal District Population Before and After Reallocation

The below table shows how the ideal size for a single-member Pennsylvania Assembly District stays the same following the population adjustment because no incarcerated people were removed from the dataset.

Pennsylvania General Assembly	Total Pop.	# of Reps	# of People per Rep	Ideal -5%	Ideal +5%	Senate District 3 Pop.
Pre-Adjustment	13,002,700	50	260,054	247,051	273,057	262,203
Post Adjustment	13,002,700	50	260,054	247,051	273,057	263,993

Redistricting Plan Counterfactual Analysis: Pennsylvania Congressional Districts

PA 118th Congressional Districts
Population Deviation Calculated Using Adjusted Dataset

Deviation from Target Size using Adjusted Dataset — Redistricting Data Hub

Pennsylvania created an adjusted dataset that it used for state legislative redistricting, but not congressional redistricting. The map to the left and the table below show what the total populations of the districts would be had the adjusted dataset been used. The table shows how congressional districts are meant to be drawn with essentially equal populations. Although all districts are affected, some - such as Congressional Districts 14 and 15 - would lose population while others - such as Districts 2 and 3 - would gain population using adjusted data.

## PA Congressional Counterfactual Population Changes

The table shows how the total populations of Pennsylvania's congressional districts would be different if the adjusted dataset had been used. Demographic data is from the adjusted dataset.

| Pennsylvania Congressional	Unadjusted Population	Adjusted Population	Change in Population	Change per 100 people	NH White Pct.	NH Black + NH Black and White Pct.
03	764,864	768,547	3,683	0.48	32.1%	51.9%
02	764,865	767,820	2,955	0.39	37.3%	25.1%
12	764,864	766,329	1,465	0.19	72.8%	16.6%
06	764,864	766,298	1,434	0.19	69.2%	6.4%
07	764,865	766,137	1,272	0.17	68.5%	6.4%
11	764,864	766,079	1,215	0.16	81.8%	4.3%
05	764,866	765,918	1,052	0.14	58.0%	25.5%
17	764,864	765,702	838	0.11	81.9%	8.9%
01	764,866	765,527	661	0.09	79.9%	4.6%
10	764,864	764,729	-135	-0.02	71.2%	11.6%
13	764,864	764,595	-269	-0.04	89.7%	3.2%
08	764,866	764,105	-761	-0.10	74.7%	7.1%
04	764,865	763,628	-1,237	-0.16	76.2%	8.8%
16	764,865	763,394	-1,471	-0.19	87.1%	5.4%
09	764,864	762,097	-2,767	-0.36	87.8%	2.8%
14	764,866	761,066	-3,800	-0.50	90.7%	4.0%
15	764,864	760,729	-4,135	-0.54	90.8%	2.1%

Analyzing the Racial Impacts of Prison Gerrymandering Reforms on an Entire Plan: California State Senate

Of the 12 states that adjusted the total population and released an adjusted dataset in the 2021 redistricting cycle, eight of them also updated racial and ethnic population counts. These maps show the population changes for three selected racial and ethnic groups in California.
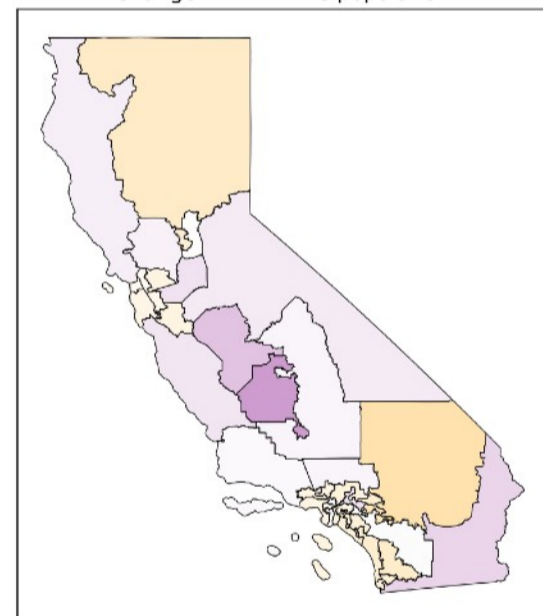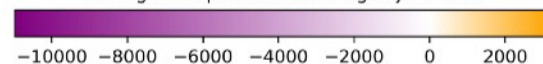

Change in Hispanic population
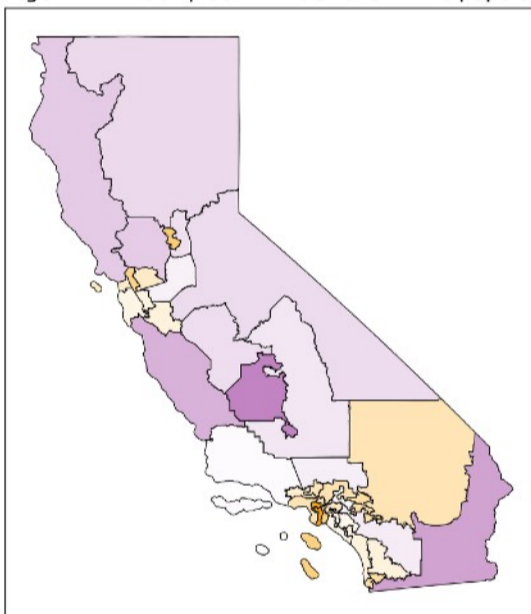
Change in Population Following Adjustment

Change in NH Black plus NH Black and White population
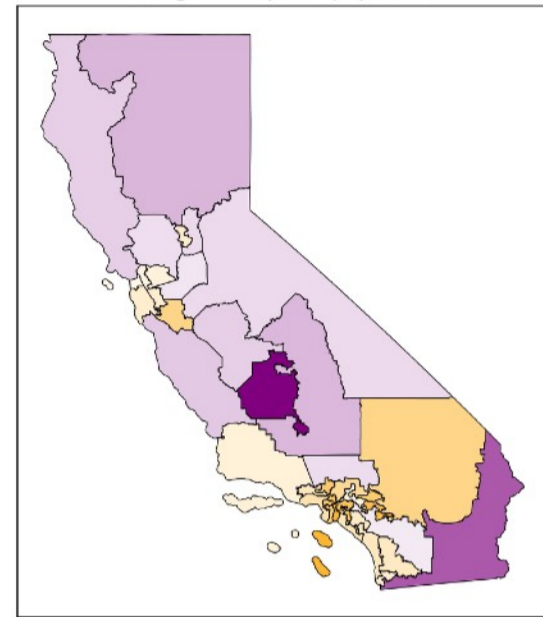
Change in Population Following Adjustment
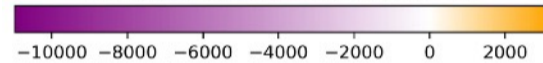
Change in NH White population

Change in Population Following Adjustment
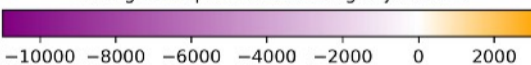
Selected District Analysis

The below table shows demographic changes in selected districts in California.

District	Change From Adjustment	Adjusted Pop.	Change in NH White Pop.	Change in NH Black + NH Black and White Pop	Change in Hispanic Pop
35	4,771	953,821	-255	3,199	1,700
16	-21,306	942,212	-4,232	-5,316	-10,982
19	3,506	952,665	1,015	893	1,445

Impact of Potential National Reallocation Reforms

Number of People Impacted

We can use the rate at which states with prison gerrymandering reforms successfully reallocated incarcerated people to estimate the impact in states without reforms. We estimate that if adjusted datasets were produced in the remaining 37 states, over 850,000 people would no longer be counted at their places of confinement for the purposes of redistricting and more than 765,000 people would be counted at their last known address.

Size of Incarcerated Population

The impact of prison gerrymandering reforms on a particular state, especially in regards to redistricting, will depend upon the size of the incarcerated population within that state, as well as the sizes of the legislative districts in that state.

Counterfactual Analysis of Particular Places and Districts

When states have not produced an adjusted datasets themselves, analyzing the effects of prison gerrymandering on particular places and districts in states without adjusted dataset reforms requires creating an estimate of the adjustment. There are three different levels of analysis, listed here from simplest to most complex:

1. **Analyze districts or particular places with the incarcerated population removed** (example)

2. **Analyze districts or particular places using counterfactual data estimating last known addresses** (example)

3. **Make a records request to the relevant state agency to receive the last known addresses** (example)

Estimated National Impact

Estimating the impact of expanded prison gerrymandering reforms by using data from states with reforms.

Impact	Adult Incarcerated Population	People No Longer Counted at Facilities	People Counted at Last known Address
States w/ Reforms	569,194	348,320	314,108
States w/o Reforms	1,392,743	852,293*	768,581*

This analysis uses the percentage of people no longer counted at facilities and counted at their last known address from the states that reallocated incarcerated people in the 2021 redistricting cycle.

RDH

Size of Incarcerated Population in States without Reforms

Analyzing the total and relative size of the incarcerated population in each state, compared to ideal district size

State	Adult Incarcerated Population	Total Population	Pct. Adult Incarcerated	State Leg. Lower Ideal Pop.	State Leg. Upper Ideal Pop.	Congressional District Ideal Pop.
Alabama	39,749	5,024,279	0.79%	47,850	143,551	717,754
Alaska	4,842	733,391	0.66%	18,329	36,658	733,391
Arizona	64,154	7,151,502	0.90%	238,383	238,383	794,611
Arkansas	27,079	3,011,524	0.90%	30,115	86,044	752,881
Florida	149,333	21,538,187	0.69%	179,485	538,455	769,221
Georgia	91,932	10,711,908	0.86%	59,511	191,284	765,136
Hawaii	3,752	1,455,271	0.26%	27,130	55,344	727,636
Idaho	10,931	1,839,106	0.59%	52,546	52,546	919,553
Illinois	59,075	12,812,508	0.46%	108,581	217,161	753,677
Indiana	41,962	6,785,528	0.62%	67,855	135,711	753,948
Iowa	13,064	3,190,369	0.41%	31,904	63,807	797,592
Kansas	18,204	2,937,880	0.62%	23,503	73,447	734,470
Kentucky	38,346	4,505,836	0.85%	45,058	118,575	750,973
Louisiana	51,241	4,657,757	1.10%	44,360	119,430	776,293
Maine	3,360	1,362,359	0.25%	9,022	38,925	681,180
Massachusetts	17,969	7,029,917	0.26%	43,937	175,748	781,102
Michigan	54,748	10,077,331	0.54%	91,612	265,193	775,179
Minnesota	16,672	5,706,494	0.29%	42,586	85,172	713,312
Mississippi	30,745	2,961,279	1.04%	24,273	56,948	740,320
Missouri	37,079	6,154,913	0.60%	37,760	181,027	769,364
Nebraska	8,998	1,961,504	0.46%	N/A	40,031	653,835
New Hampshire	4,395	1,377,529	0.32%	3,444	57,397	688,765
New Mexico	14,807	2,117,522	0.70%	30,250	50,417	705,841
North Carolina	59,099	10,439,388	0.57%	86,995	208,788	745,671
North Dakota	2,571	779,094	0.33%	8,288	16,576	779,094
Ohio	67,080	11,799,448	0.57%	119,186	357,559	786,630
Oklahoma	38,455	3,959,353	0.97%	39,202	82,487	791,871
Oregon	20,434	4,237,256	0.48%	70,621	141,242	706,209
South Carolina	31,693	5,118,425	0.62%	41,278	111,270	731,204
South Dakota	6,709	886,667	0.76%	12,667	25,333	886,667
Tennessee	47,728	6,910,840	0.69%	69,806	209,419	767,871
Texas	248,764	29,145,505	0.85%	194,303	940,178	766,987
Utah	10,680	3,271,616	0.33%	43,622	112,814	817,904
Vermont	1,219	643,077	0.19%	4,287	21,436	643,077
West Virginia	19,669	1,793,716	1.10%	17,937	52,756	896,858
Wisconsin	32,853	5,893,718	0.56%	59,533	178,598	736,715
Wyoming	3,352	576,851	0.58%	9,304	18,608	576,851

About the Report

Data Used in This Report

Data in this report is mainly available on the Redistricting Data Hub website.

- **Unadjusted decennial census data**
- **Adjusted datasets (unmodified from state, and standardized for easy comparison)**
- **Nationwide state legislative and congressional district shapefiles and block assignment files**
- **Federal Prisoner Data via BOP website**
- **Unadjusted Decennial Census Data**
- **Block-level disaggregated 2020 Presidential election data**
- **TIGER shapefile data**

Contact Us

This report was published in July 2023 and updated in February 2024 to reflect Maine's future prison gerrymandering reforms.

Please direct any questions, comments or concerns regarding this report to info@redistrictingdatahub.org.

About the Redistricting Data Hub

The nonpartisan Redistricting Data Hub (RDH) provides individuals, civic organizations, and good government groups the data, resources, and knowledge to participate effectively in redistricting processes by learning how to define their communities, provide meaningful public input, recognize gerrymandering, and advocate for fair and legal maps. In service of this mission, it hosts over 15,000 datasets across all 50 states, from the census block to the district level, and continues to add new data that is useful for map drawing and analysis. This data is free to the public, and accompanied by technical support and nonpartisan analysis on request.

About the Author

Peter Horton is a Data Analyst at the Redistricting Data Hub. In addition to processing and validating redistricting datasets for the public, he works closely with civil rights organizations to produce datasets for litigation and local journalists to produce useful and accessible graphics on redistricting and elections.

Additional Resources

Organizations

- Prison Policy Initiative: Prison Gerrymandering Project

- National Conference of State Legislatures

- Legal Defense Fund

Reports

- Implementing Reform: How Maryland & New York Ended Prison Gerrymandering | Demos | Erica L. Wood

- Inmate Data Reallocation in the 2020 Redistricting Cycle | NCSL | Ben Williams

- Reallocating Inmate Data for Redistricting | NCSL

- How One City Ended Prison Gerrymandering | The Center for Public Integrity | Aaron Mendelson

Data

- Redistricting Data Hub

- Prison Policy Initiative Prison Gerrymandering Project

- Assorted Documentation from States Performing Adjustments in the 2021 Cycle