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Incarceration Trends in Local Jails and State Prisons

Data and Methods for State Fact Sheets

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An electronic version of this report is available for download on Vera's website, www.vera.org/incarceration-trends-fact-sheets-data-and-methods.pdf.

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Introduction

State incarceration trends are generally measured using the number of people in the jurisdiction of the state prison system. These analyses of incarceration do not account for the millions of people held in local jails each year, who constitute about a third of the people behind bars on any given day.¹ Research conducted by the Vera Institute of Justice (Vera) has shown that prison population statistics are inadequate to describe the new dynamics of mass incarceration.² Historical patterns of unified growth across both jails and prisons in every state have dissolved into diverging geographic and gendered trends. And although reforms to policies and laws have resulted in some progress towards decarceration in some jurisdictions, they have led to longer lengths of stay behind bars for some people.

Furthermore, state-level prison population trends are commonly not disaggregated by gender and race. As a result, the state-level incarceration statistics that are traditionally reported do not reveal the accelerated rate of growth in the number of women in jails and prisons or the wide racial disparity in rates of incarceration, for example.

The purpose of these 50 fact sheets on Incarceration Trends in Local Jails and State Prisons is to provide a single resource to examine incarceration trends in each state and to compare these trends across neighboring states. This whitepaper provides additional details on the data and methods used to create the fact sheets. In addition to calculating jail and prison incarceration trends, Vera researchers combined information about prisons and jails to produce a total incarceration ranking. This document explains how these rankings were calculated and provides information on the data sources used and data processing steps taken by Vera researchers to do so.

Data Sources

These fact sheets use data from Vera's Incarceration Trends dataset. The dataset and complete documentation are available on Vera's [GitHub](#) account.³ The dataset was assembled using

¹ See for example Wendy Sawyer and Peter Wagner, "Mass Incarceration: The Whole Pie 2019," Prison Policy Institute, <https://www.prisonpolicy.org/reports/pie2019.html>.

² For a detailed discussion of these patterns, see Jacob Kang-Brown, Oliver Hinds, Jasmine Heiss, and Olive Lu, *The New Dynamics of Mass Incarceration* (New York: Vera Institute of Justice, 2018), <https://perma.cc/52GX-YVVN>.

³ To access the data and documentation, see https://github.com/vera-institute/incarceration_trends.

four U.S. Department of Justice, Bureau of Justice Statistics (BJS) data series; jail data is from the Census of Jails and the Annual Survey of Jails; and prison data is from the National Corrections Reporting Program and the National Prisoner Statistics program. BJS data was not available for more recent years. In these instances, Vera researchers used prison population data obtained directly from state governments, as published in Vera's *People in Prison* report series.⁴ Six states (Alaska, Connecticut, Delaware, Hawaii, Rhode Island, and Vermont) do not participate in the jail survey or census because they run unified state systems that combine prisons and jails. For those states, the number of people in pretrial detention or serving sentences of less than a year are considered akin to jail numbers in other states and are reported by the state systems in the National Prisoner Statistics (NPS) program.

Local jail statistics: The Annual Survey of Jails (ASJ) was fielded 27 times between 1985 and 2016 and captures data for a sample of hundreds of jails; in 2015, the sample was approximately 800 counties, which included the 250 largest jails. The Census of Jails (COJ) has only been fielded 10 times since 1970—in 1970, 1972, 1978, 1983, 1988, 1993, 1999, 2005, 2006, and 2013—but captures data for all counties. Data for years that counties did not supply information (through the ASJ or COJ) were interpolated by Vera by assuming a constant rate of change between the years when data was provided.⁵

The total jail population reported in each of Vera's fact sheets is the average daily population and, when that is unavailable, the midyear population. The pretrial jail population is a June 30 snapshot and counts those people categorized as "unconvicted" in the BJS data. Single day counts fluctuate more than the average daily population, meaning that the total jail population and pretrial population numbers are not directly comparable. Dramatic year-over-year changes and conspicuously high or low values should be interpreted with caution as they may be unrepresentative of a larger pattern or practice. They may merit further inquiry and are best corroborated by the applicable state or local correctional authority.

State prison statistics: County-level information on state prison populations and state prison admissions were obtained through the National Corrections Reporting Program (NCRP) and, when NCRP

⁴ See for example Jacob Kang-Brown, Eital Schattner-Elmaleh, and Oliver Hinds, *People in Prison in 2018* (New York: Vera Institute of Justice, 2019), <https://perma.cc/5XYV-R9NU>; and Oliver Hinds, Jacob Kang-Brown, Olive Lu, *People in Prison in 2017* (New York: Vera Institute of Justice, 2018), <https://perma.cc/KFF7-WK5Q>.

⁵ See Jacob Kang-Brown and Oliver Hinds, *Incarceration Trends Project: Data and Methods for Historical Jail Populations in U.S. Counties, 1970-2015* (New York: Vera Institute of Justice, 2018), https://github.com/vera-institute/incarceration_trends/blob/master/Methodology-for-Incarceration-Trends-Project-V2.pdf.

data was not available or was unreliable, through data collected directly from state departments of correction.⁶ State-level prison statistics were obtained through the NPS Program.

State jail + prison population: Some states house significant portions of their state prison population in local jails, thus the combined jail and prison statistics must account for this and avoid double counting people. The combined jail and prison statistics presented in the 50 fact sheets were calculated by summing the jail custody population in the state and the total number held in the custody of the state correctional authority (including private prisons), which was obtained through the NPS.

Data Processing and Display

Each of the federal data sources requires refinements and data processing to produce correct and comparable estimates for local areas. For the jail data, Vera researchers combined jail jurisdictions at the county level and interpolated missing or outlier values in order to produce clean timeseries for each county. These were then summed into a statewide number, as reported in the fact sheets. For county-level prison data, Vera researchers processed the NCRP's person-level files into county-level estimates. Full details on the methodology to produce county-level estimates are in the associated whitepapers.⁷

For state-level prison data, the NPS provides a relatively clean timeseries and does not require much data processing, but there are known errors. For instance, the state of Washington's prison admissions data from 2003 to 2016 in the NPS appears to be too high and includes some people admitted to local jails for less than a month and people who serve sentences of one to three days as state prison admissions. Thus, Vera researchers corrected in favor of numbers of admissions to state prison reported through the NCRP.⁸

Some additional data processing for this project included the following:

- Vera's jail data files exclude facilities in Georgia that operate entirely as prisons but are classified as jails for federal data collection purposes because they are operated by local government;

⁶ See Oliver Hinds, Olive Lu, and Jacob Kang-Brown, *Workingpaper: Reconstructing How Counties Contribute to State Prison* (New York: Vera Institute of Justice, 2018), https://github.com/vera-institute/incarceration_trends/blob/master/Workingpaper_Reconstructing-How-Counties-Contribute-to-State-Prisons.pdf.

⁷ See Kang-Brown and Hinds, *Incarceration Trends Project*, 2018; and Hinds, Lu, and Kang-Brown, *Workingpaper: Reconstructing How Counties Contribute to State Prison*, 2018.

⁸ See Hinds, Lu, and Kang-Brown, *Workingpaper: Reconstructing How Counties Contribute to State Prison*, 2018, 11-12.

- counties that appeared to be outliers have been verified by calling and asking jails to report specific statistics; and
- state prison custody data has not yet been reported by BJS for 2018, so the jurisdiction numbers from *People in Prison in 2018* were adjusted to account for the gap based on the proportion of custody population to jurisdiction population reported in 2017.

States with unified jail and prison systems do not have comparable information related to prison admissions in the NPS data series. Thus, they are not included in the tables comparing states within each region presented on the last page of each fact sheet.

In some state fact sheets, Vera was able to include charts showing trends for pretrial jail populations across the urban–rural continuum. In instances where there are three counties or fewer in a specific urbanicity category, the chart also displays the specific county trend lines. Vera’s analysis of the urban–rural continuum changes the six categories defined by the National Center for Health Statistics Urban–Rural Classification Scheme for Counties to four. A county is labeled “urban” if it is one of the core counties of a metropolitan area with 1 million or more people and is labeled “suburban” if it is within the surrounding metropolitan area. Vera turns the remaining four categories into two by combining small and medium metropolitan areas (“small and midsize metro”) and micropolitan and noncore areas (“rural”).

State Rankings

The regional incarceration ranking that appears on the first page of the fact sheet was created using a combination of state jail and prison data. Because both jails and prisons are used to confine people who have been sentenced, and pretrial incarceration constitutes a large, and growing, share of the incarcerated population, a measure of a state’s use of incarceration requires analysis of both jail and prison populations.

Vera researchers used three inputs—jail admissions rate, pretrial incarceration rate, and prison population rate—to create this ranking. These three metrics create a balanced measure that examines the population of people in both local jails and state prisons, as well as the wide reach of incarceration using the number of annual jail bookings. The pretrial incarceration rate, rather than jail incarceration rate, is preferred as it avoids the double-counting of people serving “prison sentences” in local jail due to insufficient capacity in the state prison system.

Vera researchers weighted these three measures equally, in part for simplicity, and also because they each represent a significant contribution to the government’s use of confinement. To facilitate comparisons across time, each variable was turned into an index variable to make them comparable on the same scale. To achieve this, Vera researchers first calculated the mean value for each of the three

metrics by averaging data across all jurisdictions and all time points from the 1970s to the latest available data, which was 2015 for jail data and 2018 for prison data. The mean of each metric was then subtracted from each of the observations, and the results were divided by the standard deviation for that metric. These are linear transformations that serve to rescale each variable to a mean of zero and a standard deviation of one across the timeseries. Adding these three variables together, for the most recent data available, resulted in an overall incarceration index score for each state. (See Table 1, below.)

For example, Louisiana had the second highest jail pretrial rate in 2015. That rate scored a 3.40 for jail pretrial, meaning that it was 3.40 standard deviations higher than the historical mean for jail pretrial rates across all states between the 1970s and present. Similarly, Louisiana was seventh highest in jail admission rates, at 1.36 standard deviations higher than the historical mean. Prison population in Louisiana was ranked second in in the nation, and the rate was 2.12 standard deviations higher than the historical mean. Altogether, 3.40 jail pretrial plus 1.36 jail admissions plus 2.12 prison population equals an overall incarceration index of 6.88. A negative index value indicates that a state’s rate is below the historical mean. Index values were compared within geographical units (described below) to create the regional rankings presented in the fact sheets.

Table 1

Vera Institute of Justice National Ranking of State Incarceration

Rank	Index	State
1	6.88	Louisiana
2	6.27	Arkansas
3	6.10	Oklahoma
4	5.99	New Mexico
5	5.40	Mississippi
6	4.77	Kentucky
7	4.56	Tennessee
8	4.12	Georgia
9	4.05	South Dakota
10	3.19	Alabama
11	3.17	Texas
12	2.94	Idaho
13	2.93	Wyoming
14	2.92	Florida

15	2.91	Arizona
16	2.62	Nevada
17	2.49	South Carolina
18	2.48	Missouri
19	2.43	Indiana
20	2.27	Virginia
21	2.20	Kansas
22	1.94	Montana
23	1.87	North Carolina
24	1.71	North Dakota
25	1.56	Alaska
26	1.42	Pennsylvania
27	1.39	Nebraska
28	1.35	Wisconsin
29	1.34	Colorado
30	1.25	Oregon
31	1.23	Ohio
32	1.17	West Virginia
33	1.03	Iowa
34	0.69	Michigan
35	0.68	Utah
36	0.41	California
37	0.38	Delaware
38	0.36	Illinois
39	-0.04	Washington
40	-0.11	Maryland
41	-0.34	New Jersey
42	-0.34	Minnesota
43	-0.39	Maine
44	-0.83	New York
45	-0.98	New Hampshire
46	-1.07	Connecticut
47	-1.37	Hawaii
48	-1.61	Massachusetts
49	-1.88	Vermont
50	-2.12	Rhode Island

Table 2

Vera Institute of Justice Ranking of State Incarceration, Component Detail

Jail Pretrial Rate			Jail Admission Rate			Prison Population Rate		
<i>Rank</i>	<i>Index</i>	<i>State</i>	<i>Rank</i>	<i>Index</i>	<i>State</i>	<i>Rank</i>	<i>Index</i>	<i>State</i>
1	3.44	NM	1	3.22	AR	1	2.13	OK
2	3.40	LA	2	2.15	NM	2	2.12	LA
3	2.54	AK	3	1.99	SD	3	1.96	MS
4	2.31	MS	4	1.92	OK	4	1.70	AZ
5	2.20	TN	5	1.49	KY	5	1.67	AR
6	2.04	OK	6	1.49	TN	6	1.50	TX
7	1.93	GA	7	1.36	LA	7	1.41	AL
8	1.92	KY	8	1.18	ND	8	1.35	KY
9	1.64	FL	9	1.13	MS	9	1.24	ID
10	1.51	IN	10	1.04	WY	10	1.22	GA
11	1.46	PA	11	0.97	KS	11	1.14	MO
12	1.40	AL	12	0.97	GA	12	1.03	FL
13	1.37	AR	13	0.90	NV	13	0.96	SD
14	1.31	SC	14	0.69	MT	14	0.92	NV
15	1.30	TX	15	0.64	OR	15	0.89	WY
16	1.14	ID	16	0.64	SC	16	0.87	TN
17	1.12	VA	17	0.56	ID	17	0.80	OH
18	1.12	AZ	18	0.54	IA	18	0.79	VA
19	1.10	SD	19	0.49	NC	19	0.71	WI
20	1.07	NC	20	0.43	NE	20	0.65	IN
21	1.04	MO	21	0.42	CO	21	0.63	DE
22	1.00	WY	22	0.39	AL	22	0.57	MI
23	0.88	NE	23	0.37	TX	23	0.54	SC
24	0.82	KS	24	0.36	VA	24	0.53	WV
25	0.81	MT	25	0.33	UT	25	0.48	PA
26	0.80	NV	26	0.30	WI	26	0.48	OR
27	0.80	DE	27	0.29	MO	27	0.45	MT
28	0.79	ND	28	0.28	MN	28	0.41	KS
29	0.69	WV	29	0.27	IN	29	0.40	NM
30	0.65	UT	30	0.25	FL	30	0.36	CO
31	0.57	NJ	31	0.21	OH	31	0.31	NC
32	0.56	CO	32	0.11	MI	32	0.22	CA

33	0.35	WI
34	0.34	IA
35	0.33	IL
36	0.32	CA
37	0.31	MD
38	0.21	OH
39	0.13	CT
40	0.12	OR
41	0.08	NY
42	0.02	WA
43	0.01	MI
44	0.01	ME
45	0.01	MA
46	-0.01	NH
47	-0.09	HI
48	-0.14	MN
49	-0.39	VT
50	-0.40	RI

33	0.09	AZ
34	0.07	ME
35	0.04	WA
36	-0.06	WV
37	-0.12	CA
38	-0.13	IL
39	-0.50	MD
40	-0.52	PA
41	-0.54	NH
42	-0.60	NJ
43	-0.72	NY
44	-0.83	MA
45	-0.95	AK
46	-1.04	DE
47	-1.07	VT
48	-1.12	CT
49	-1.14	HI
50	-1.16	RI

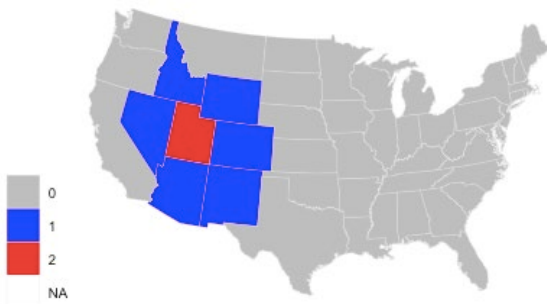
33	0.16	IL
34	0.15	IA
35	0.07	NE
36	0.07	MD
37	-0.03	AK
38	-0.08	CT
39	-0.10	WA
40	-0.14	HI
41	-0.20	NY
42	-0.26	ND
43	-0.30	UT
44	-0.31	NJ
45	-0.41	VT
46	-0.43	NH
47	-0.47	ME
48	-0.48	MN
49	-0.56	RI
50	-0.78	MA

Geographic Groups

In order to provide more meaningful context to the rankings described above, Vera researchers compared groups of neighboring states. This approach differs from most other regional categorizations, which are usually mutually exclusive and stable across each component member (i.e., New England, the Midwest). Customizing regional comparisons for each state helps with states that are on the periphery of traditionally defined regions and allows for the creation of regions that have a roughly similar number of states in each comparison table. Geographical proximity weighs heavily in these definitions, but they are also informed by common regional categorizations such as those used by the U.S. Census. Some states are not compared to all of their neighbors because of space limitations: neighboring states in the same U.S. Census defined regions or divisions (i.e., the South) were preferred over states in different regions.

One example of how this overlap can work in the western United States is presented below, using Utah and Nevada as the focus points. Utah is compared to all neighboring states. Nevada is compared to all neighboring states plus Washington. For each grouping, see Table 3, below.

Utah



Nevada

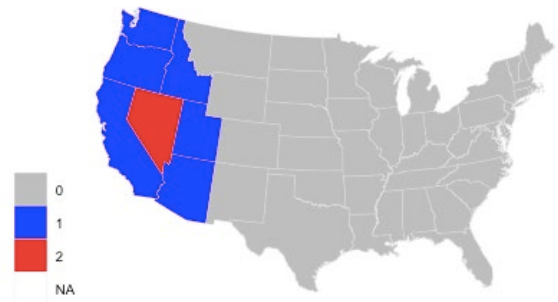


Table 3

State-specific Comparison Regions

Focal state	Comparison Region
Alabama	Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, South Carolina
Alaska	Alaska, California, Hawaii, Oregon, Washington
Arizona	Arizona, California, Colorado, Nevada, New Mexico, Utah
Arkansas	Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, Texas
California	Alaska, California, Hawaii, Oregon, Washington
Colorado	Arizona, Colorado, Idaho, Nevada, New Mexico, Utah, Wyoming
Connecticut	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
Delaware	Delaware, Maryland, New Jersey, New York, Pennsylvania
Florida	Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, South Carolina
Georgia	Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, Tennessee
Hawaii	Alaska, California, Hawaii, Oregon, Washington
Idaho	Colorado, Montana, Nevada, Oregon, Utah, Washington, Wyoming
Illinois	Illinois, Indiana, Iowa, Michigan, Missouri, Ohio, Wisconsin
Indiana	Illinois, Indiana, Kentucky, Ohio, Michigan, Missouri, West Virginia
Iowa	Illinois, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota
Kansas	Colorado, Iowa, Kansas, Missouri, Nebraska, Oklahoma
Kentucky	Illinois, Indiana, Kentucky, North Carolina, Ohio, Tennessee, West Virginia
Louisiana	Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, Texas
Maine	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
Maryland	Delaware, Maryland, New Jersey, New York, Pennsylvania
Massachusetts	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
Michigan	Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio, Wisconsin
Minnesota	Illinois, Iowa, Minnesota, Nebraska, North Dakota, South Dakota, Wisconsin
Mississippi	Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, South Carolina
Missouri	Arkansas, Illinois, Indiana, Kansas, Kentucky, Missouri, Oklahoma

Montana	Colorado, Idaho, Montana, North Dakota, South Dakota, Utah, Wyoming
Nebraska	Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota
Nevada	Arizona, California, Idaho, Nevada, Oregon, Utah, Washington
New Hampshire	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
New Jersey	Delaware, Maryland, New Jersey, New York, Pennsylvania
New Mexico	Arizona, California, Colorado, Nevada, New Mexico, Texas, Utah
New York	Delaware, Maryland, New Jersey, New York, Pennsylvania
North Carolina	Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia
North Dakota	Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota
Ohio	Illinois, Indiana, Kentucky, Michigan, Ohio, Pennsylvania, West Virginia
Oklahoma	Arkansas, Kansas, Louisiana, Missouri, Oklahoma, Texas,
Oregon	Alaska, California, Hawaii, Oregon, Washington
Pennsylvania	Delaware, Maryland, New Jersey, New York, Pennsylvania
Rhode Island	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
South Carolina	Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, Tennessee
South Dakota	Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota
Tennessee	Georgia, Kentucky, North Carolina, South Carolina, Tennessee, Virginia, West Virginia
Texas	Arkansas, Arizona, Louisiana, New Mexico, Oklahoma, Texas
Utah	Arizona, Colorado, Idaho, Nevada, New Mexico, Utah, Wyoming
Vermont	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
Virginia	Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia
Washington	Alaska, California, Hawaii, Oregon, Washington
West Virginia	Indiana, Kentucky, Maryland, Ohio, Pennsylvania, Virginia, West Virginia
Wisconsin	Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Wisconsin
Wyoming	Arizona, Colorado, Idaho, Montana, New Mexico, Utah, Wyoming