



**United States Sentencing Commission**

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# **INTRA-CITY DIFFERENCES IN FEDERAL SENTENCING PRACTICES**

**Federal District Judges in 30 Cities, 2005 - 2017**







REPORT OF THE UNITED STATES SENTENCING COMMISSION

# INTRA-CITY DIFFERENCES IN FEDERAL SENTENCING PRACTICES

Federal District Judges in 30 Cities, 2005 - 2017



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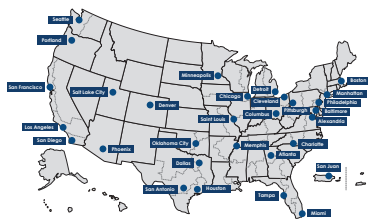
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**Congress included three provisions of the Sentencing Reform Act in response to its concerns about unwarranted sentencing disparities.**



## INTRODUCTION

# Federal Judges in 30 Cities 2005 - 2017



This report examines variations in sentencing practices—and corresponding variations in sentencing outcomes—in the federal courts since the Supreme Court’s 2005 decision in *United States v. Booker*.<sup>1</sup> The United States Sentencing Commission analyzed the sentencing practices of federal district judges in 30 major cities located throughout the country to determine the extent of the judges’ variations in imposing sentences in relation to the city average.

This report is the second in a series of reports updating the analyses and findings of the Commission’s 2012 *Report on the Continuing Impact of United States v. Booker on Federal Sentencing*.<sup>2</sup> The first such update, issued in 2017, focused on demographic differences at the national level in federal sentencing.<sup>3</sup> Its multivariate analysis concluded that the increases in demographic differences in sentencing that had occurred during the first seven years after *Booker*—including a higher average sentence for Black males compared to White males—persisted in the subsequent five-year period.<sup>4</sup> This second update focuses on judges’ sentencing practices at the city level. It addresses *intra*-city variations in sentencing practices; it is not intended to address *inter*-city variations.

In its 2012 *Booker Report*, the Commission’s analysis of sentencing data showed increasing differences among district judges in a majority of the 94 federal judicial districts. The analysis focused on the judges’ rates of non-government sponsored below range sentences. Such sentences result from downward “departures” pursuant to commentary or policy statements in the *Guidelines Manual* or downward “variances” that are outside of the guidelines framework pursuant to the courts’ consideration of the factors in 18 U.S.C. § 3553(a), without a motion by the government.<sup>5</sup> The Commission’s 2012 report concluded that “sentencing outcomes increasingly depend[ed] upon the judge to whom the case [was] assigned.”<sup>6</sup>

In its current analysis, the Commission compared judges’ individual sentencing practices to average sentencing practices within their same city. Focusing on the average guideline minimum of the guideline range for each judge’s caseload, the Commission determined whether each judge on average sentenced below or above the guideline minimum and by how much. The Commission calculated each judge’s average percent difference





from the guideline minimum, whether positive or negative, in their individual cases and then compared the judges' average percent differences to the average percent difference for all the judges in their city.

The current study is based on a broader range of cases than the 2012 study—not only non-government sponsored below range sentences but also many sentences within and above the guideline range. It also considered some, but not all, government-sponsored below range sentences. The cases studied by the Commission for this report accounted for 49.2 percent of all cases in the 30 cities from fiscal year 2005 to fiscal year 2017. They were a representative sample of all cases nationally during those same years.

A key benefit of comparing how different judges in the same city sentenced is that they generally had similar caseloads in terms of offense types and offender characteristics as the result of the random assignment of cases among the judges in that city. Therefore, differences in sentencing practices among those judges generally are not explained by differences in the composition of their caseloads. The methodology used by the Commission for this report is further discussed at pages 9 through 24.

The Commission's updated analysis is directly related to a main reason for the Sentencing Reform Act of 1984, which largely still governs federal sentencing today, after certain modifications made by the Supreme Court in *Booker*.<sup>7</sup> The Act was the result of a widespread bipartisan concern that unwarranted sentencing disparities existed in the federal judicial system.<sup>8</sup> Such disparities were both regional (*e.g.*, differences among the districts) as well as within the same courthouse.<sup>9</sup> This report concerns the extent of the latter type of disparities since 2005.

In response to its concern about unwarranted sentencing disparities, Congress included three different provisions of the Act—two directed to the Commission and a third directed to sentencing judges—intended to reduce the extent of disparities.<sup>10</sup> Congress instructed the Commission to pay “particular attention” to avoiding unwarranted sentencing disparities in creating guidelines.<sup>11</sup> Although the Supreme Court's decision in *Booker* rendered the guidelines advisory—thereby providing courts with more discretion in sentencing than under the pre-*Booker* guidelines—the Court did not invalidate those three provisions. Indeed, the Court specifically stated that it believed that the post-*Booker* advisory guideline system would “promote uniformity in the sentencing process” and thus help avoid unwarranted sentencing disparities.<sup>12</sup>

## KEY FINDINGS

# Findings of the Commission's 30-City Analysis

**Overall increases in sentencing differences among judges in 30 major cities since 2005 are consistent with the Commission's findings in its 2012 *Booker Report* regarding intra-district sentencing differences—demonstrating that differences persist, 13 years after *Booker* and six years after the 2012 analysis.**

- The Commission's current analysis measured judges' average percent differences from the guideline minimums in their cases in relation to their city's average during three periods between 2005 and 2017.\* It demonstrated a clear increase in the extent of differences in sentencing practices in a majority of the cities studied following the Supreme Court's 2005 decision in *Booker* and continuing after the Court's 2007 decisions in *Gall* and *Kimbrough*. The overall trend continued, although to lesser extent, in the six years following the last period analyzed in the Commission's 2012 *Booker Report*.
- 

- Not all of the 30 cities experienced the same changes in differences in sentencing practices since 2005. In some cities, particularly the ones with the largest number of judges, the increases in differences were substantial. However, in other cities, the increases were modest, and a few cities experienced decreases in the extent of sentencing differences among their judges since 2005.
- 

- In most cities, the length of a defendant's sentence increasingly depends on which judge in the courthouse is assigned to his or her case.
- 

\* The *Booker* Period (January 12, 2005–December 9, 2007); the *Gall* Period (December 10, 2007–September 30, 2011); and the Post-Report Period (October 1, 2011–September 30, 2017).



**By controlling for offense and offender characteristics through random case assignment, differences in sentencing practices among a city's judges will primarily be attributable to individual judges' different degrees of sentencing discretion exercised in their cases.**





## METHODOLOGY

# The Commission's 2012 Study of Sentencing Differences



In 2012, the Commission examined sentencing differences among judges within each of the 94 federal judicial districts. Its report used “bubble plots” to show how judges within the same district differed in how often they imposed sentences below the guideline range without a request from the government.<sup>13</sup>

The 2012 analysis covered four time periods:

- the *Koon* Period (the Supreme Court’s 1996 decision in *Koon v. United States*<sup>14</sup> until the enactment of the PROTECT Act on April 30, 2003);
- the PROTECT Act Period (April 30, 2003, through the Supreme Court’s 2004 decision in *Blakely v. Washington*,<sup>15</sup> which foreshadowed the Supreme Court’s 2005 decision in *United States v. Booker*<sup>16</sup>);
- the *Booker* Period (January 12, 2005, to the *Gall* and *Kimbrough* decisions<sup>17</sup>); and
- the *Gall* Period (the period following the *Gall* and *Kimbrough* decisions through the end of fiscal year 2011).

An example of a bubble plot, taken from the 2012 *Booker Report*, appears in Appendix A (p. 31).

Each bubble represented a single judge in a district (in the example in Appendix A, the Northern District of Illinois). The relative size of a bubble depicted the size of a judge’s caseload compared to the sizes of the caseloads of other judges in the same district. The larger the bubble, the larger a judge’s share of the district’s caseload. The location of a bubble on the vertical axis of the graph showed the rate of that judge’s non-government sponsored below range sentences for the relevant time period.

The bubble plots for the 94 districts showed “variation in the rates of non-government sponsored below range sentences among judges within the same district ha[d] increased in most districts since *Booker*, indicating that sentencing outcomes increasingly depend[ed] upon the judge to whom the case [was] assigned.”<sup>18</sup> In particular, the 2012 report found that “in two-thirds of [the 94] districts the spread in the rates of non-government sponsored below range sentences” among judges in the same district increased from the *Booker* Period through the *Gall* Period.<sup>19</sup>



In addition to the bubble plots for each district, the Commission also produced corresponding scatter plots showing the average *extent* of reduction below the average guideline minimum in the cases in which judges imposed a non-government sponsored below range sentence. An example of a scatter plot—also concerning the Northern District of Illinois—appears in Appendix A (p. 32). In the scatter plots, individual judges in each district were represented by triangles; unlike in the bubble plots, the size of each judge’s caseload was not depicted by the size of the triangles. The scatter plots showed significant differences in the judges’ average extents of reduction below the average guideline minimum in those cases, yet the differences existed in each of the four periods studied.<sup>20</sup>

In discussing the limitations in its district-level study, the 2012 report noted that, although “judges within the same district generally are more likely than judges across districts to preside over similar cases to the extent that the district’s cases are randomly distributed among the judges,” “the caseload composition and prosecutorial practices . . . may differ across divisions within the same district.”<sup>21</sup> As a result, a comparison of the sentencing practices of all judges

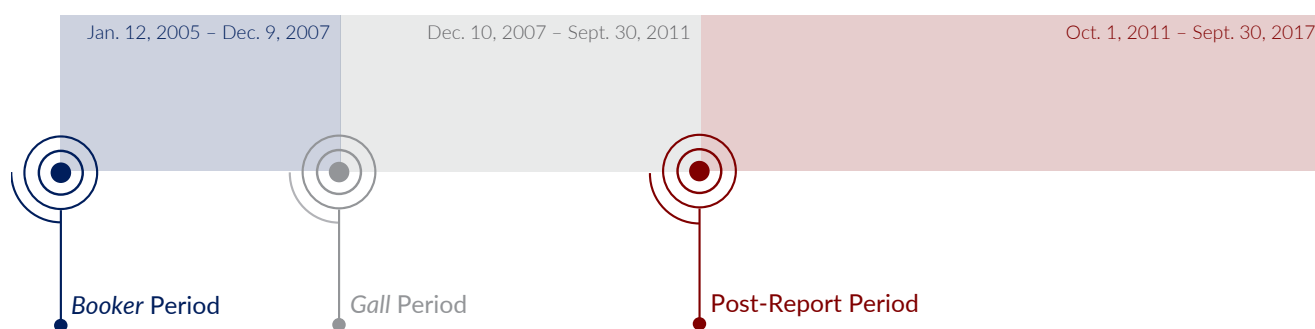
in a specific district may not account for differences in caseload and other factors among the different divisions or cities within that district that could partially explain the differences in sentencing practices and corresponding sentencing outcomes.

The 2012 district-level study was limited in two other respects. First, it analyzed every district judge and magistrate judge “who sentenced at least one offender” during the relevant time periods.<sup>22</sup> Because there was no minimum caseload requirement for inclusion of a judge in the analysis, some judges’ actual overall sentencing practices may not have been reflected in the data. Second, as noted above, the 2012 methodology looked solely at the rate and extent of non-government sponsored below range sentences. Although the rate of such sentences has steadily increased after *Booker*, they still only constitute around one-fifth of all sentences today.<sup>23</sup> A more robust analysis would include a broader range of judges’ cases.

## METHODOLOGY

### Refining the 2012 Study Study of Cities vs. Districts

Figure 1. Periods Analyzed in the 30-City Study



For its current report, the Commission has created a refined methodology to analyze differences in sentencing practices in the three periods since the guidelines became advisory—the *Booker* Period, *Gall* Period, and six-year period following the publication of the 2012 *Booker Report* (called the “Post-Report Period,” using data from fiscal years 2012-2017).<sup>24</sup> The refined methodology narrows the bubble plots’ focus on intra-district differences by looking at sentencing differences at the city level—that is, differences in sentencing practices among district judges with chambers and courtrooms in the same city.

The refined methodology makes other changes responsive to the limitations noted by the Commission in its 2012 study. To be considered in the current analysis, a sentencing judge had to impose a minimum of 50 sentences during at least one of the periods studied, in order to make it more likely that the judge’s cases were representative of his or her overall sentencing practices. A city had to have at least three judges in each period who met this threshold. There was no requirement, however, that those judges be the same for each period studied.<sup>25</sup> In addition, the analysis included more than just cases in which judges



imposed sentences below the guideline minimum without a request from the government (discussed further below).

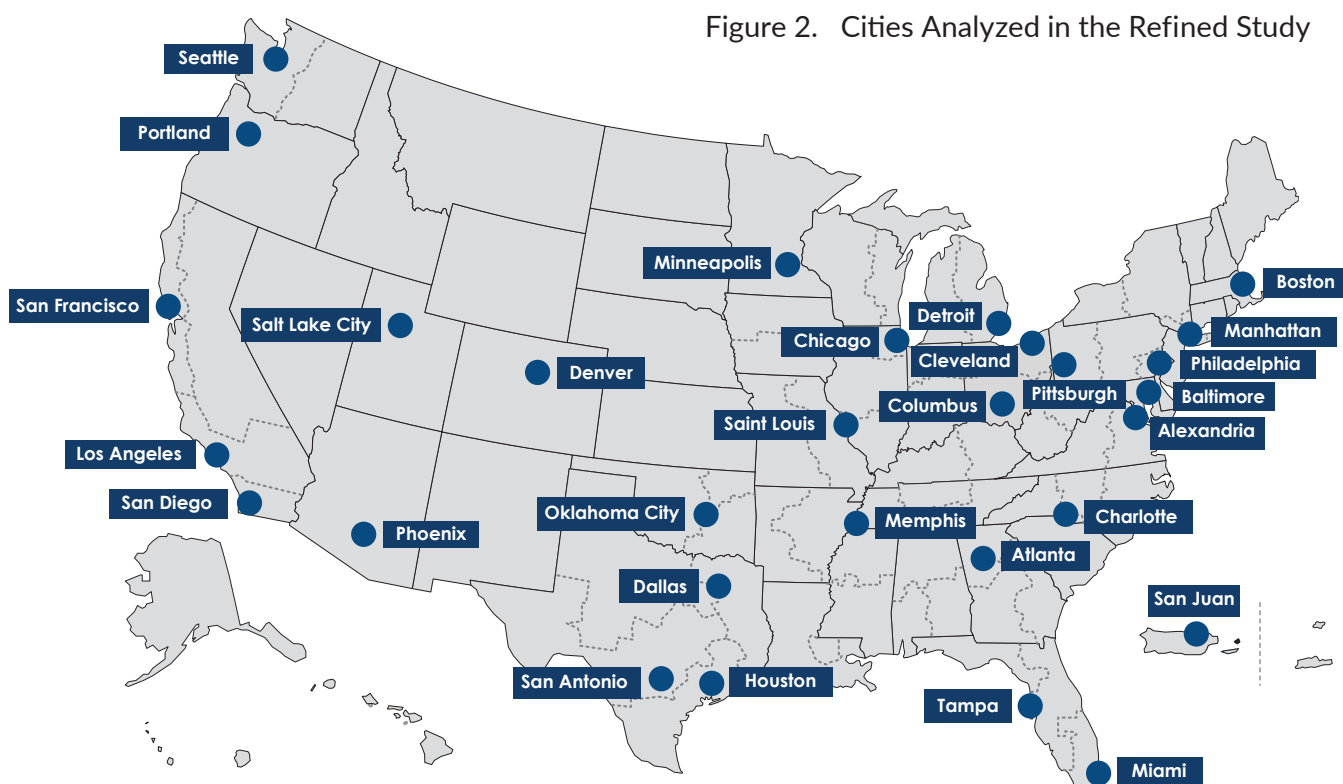
The study of different sentencing practices of judges within a single city offers a distinct advantage over the study of sentencing differences of judges in larger geographical areas, including federal judicial districts. When the sentencing practices of federal judges in a single city are compared, the analysis benefits from random distribution of cases from the same pool of cases, which are subject to generally uniform prosecutorial practices (e.g., charging practices). That distribution is a function of random case assignment generally used in the federal judicial system in each major city or division of a district in which a courthouse is located.<sup>26</sup> Analyzing different sentencing practices among district judges in the same city is akin to a “natural experiment.”<sup>27</sup> Assuming a city’s judges’ caseloads are each large enough as well as randomly assigned, all judges in a city overall will sentence similarly situated offenders with respect to offense types and offender characteristics. By controlling for offense type and offender characteristics through random case assignment, differences in sentencing practices among a city’s judges will primarily be attributable to individual judges’ different degrees of sentencing discretion exercised in their cases.

Conversely, when judges within an entire judicial district are analyzed, the offense types and offender characteristics in the judges’ caseloads may differ substantially depending on the different divisions or cities within the district. Furthermore, prosecutorial

practices may differ depending on the city or division within a district. Therefore, comparing the sentencing practices of an entire district’s judges may result in findings of differences in sentencing practices and sentencing outcomes that could be explained in part by differences in offense types and offender characteristics or different prosecutorial practices associated with different parts of the district.

As part of this analysis, the Commission analyzed the sentencing practices of district judges located in large metropolitan areas in 30 federal judicial districts throughout the country.<sup>28</sup> The cities represent each of the major regions of the United States—the Southeast, the Northeast, the Southwest, the Midwest, the West<sup>29</sup>—as well as 11 of the 12 federal judicial circuits.<sup>30</sup> Each city is located in one of the most densely populated areas of the United States.<sup>31</sup>

The total number of cases from the 30 cities over the three periods analyzed by the Commission was 143,589. The total number of district judges who imposed sentences in those cases was 413 (see p. 15). Judges who imposed 50 or more sentences in more than one period were counted only once in calculating that total. Judges are not identified by name in the Commission’s study. Appendix C lists only identification numbers assigned to each judge by the Commission for research purposes.



1. Alexandria (Eastern District of Virginia);<sup>32</sup>
2. Atlanta (Northern District of Georgia);
3. Baltimore (District of Maryland);
4. Boston (District of Massachusetts);
5. Charlotte (Western District of North Carolina);
6. Chicago (Northern District of Illinois);
7. Cleveland (Northern District of Ohio);
8. Columbus (Southern District of Ohio);
9. Dallas (Northern District of Texas);
10. Denver (District of Colorado);
11. Detroit (Eastern District of Michigan);
12. Houston (Southern District of Texas);
13. Los Angeles (Central District of California);
14. Manhattan (Southern District of New York);<sup>33</sup>
15. Memphis (Western District of Tennessee);
16. Miami (Southern District of Florida);
17. Minneapolis (District of Minnesota);
18. Oklahoma City (Western District of Oklahoma);
19. Philadelphia (Eastern District of Pennsylvania);
20. Phoenix (District of Arizona);
21. Pittsburgh (Western District of Pennsylvania);
22. Portland (District of Oregon);
23. Saint Louis (Eastern District of Missouri);
24. Salt Lake City (District of Utah);
25. San Antonio (Western District of Texas);
26. San Diego (Southern District of California);
27. San Francisco (Northern District of California);
28. San Juan (District of Puerto Rico);
29. Seattle (Western District of Washington); and
30. Tampa (Middle District of Florida).



## METHODOLOGY

### Case Exclusions

#### Focusing on Cases in Which Meaningful Sentencing Discretion Can Be Measured

Another refinement of this study is its inclusion of all types of cases in which judicial sentencing discretion can be measured. In the 2012 study, the Commission focused on cases in which courts sentenced defendants below the guideline range without a motion from the government. The current study analyzes those cases as well as cases in which courts imposed sentences outside of the guideline range based on a government motion (with two exceptions discussed below). In addition, the Commission's current analysis includes cases in which judges imposed sentences *within* or *above* the guideline

range, which together constitute around half of all sentences.<sup>34</sup> The Commission's consideration of these additional categories of cases allows for a fuller study of sentencing discretion.

The Commission, however, narrowed the dataset in other ways in order to focus on sentencing discretion. Specifically, the Commission excluded cases that did not allow for a meaningful assessment of sentencing discretion, or in which it was difficult to accurately measure the percent difference from the guideline minimum.

#### The Commission excluded two categories of cases because they do not allow for a meaningful assessment of judges' sentencing discretion:

##### EXCLUSION 1

Cases in which a statutory mandatory minimum penalty equaled or exceeded the otherwise applicable guideline minimum ("mandatory minimum trumps");<sup>35</sup> and

##### EXCLUSION 2

Cases in which a court departed downwardly based on a defendant's "substantial assistance" to the government or as part of a "fast-track" program (insofar as such departures require the government to file motions requesting them and, when filed, the motions are almost always granted).<sup>36</sup>

## SUMMARY OF ANALYSIS

**30**

CITIES

---

**413**

JUDGES

---

**13**

YEARS

---

**143,589**

CASES

---

**The analysis refines the dataset to allow for a fuller study of sentencing discretion.**

**The Commission excluded three additional types of cases because of difficulties in accurately measuring the percent difference from the guideline minimum in such cases:**

### EXCLUSION 3

Cases with one or more counts of conviction under a statute requiring a mandatory sentence of imprisonment to run *consecutively* to any sentence imposed under the guidelines (e.g., 18 U.S.C. § 924(c));<sup>37</sup>

### EXCLUSION 4

Cases in which the guideline minimum was life imprisonment or cases in which a court varied or departed upwardly from a guideline range of a term of months to a life imprisonment sentence (as there is no meaningful way to measure the extent of a departure or variance below a life term or the extent of an upward departure or variance to a life term, as a life term is not a fixed term of months); and

### EXCLUSION 5

Cases in which the guideline minimum was less than ten months (which, after 2010, necessarily fell in Zones A or B of the Sentencing Table).<sup>38</sup>



## METHODOLOGY

### Impact of Exclusions

After excluding these five categories of cases, along with cases for which incomplete sentencing documentation was submitted to the Commission,<sup>39</sup> 149,363 of the total 291,763 cases from the 30 cities during fiscal years 2005 to 2017 remained for analysis.<sup>40</sup> An additional 5,774 cases were excluded because they were handled by judges who did not meet the minimum 50-case requirement per period for inclusion in the Commission’s analysis—bringing the total number of cases in the Commission’s 30-city dataset to 143,589 (49.2% of the 291,763 cases).

The Commission applied the same case exclusions to the national caseload during the 13-year study period, which showed that the 143,589 cases from the 30 cities were a representative sample of the national caseload.<sup>41</sup> In terms of caseload composition (guideline types), the 30 cities’ caseloads (combined) resembled the national caseload composition during the 13-year period, as shown in the figure below.

Figure 3. Comparison of Caseload Composition After Exclusions

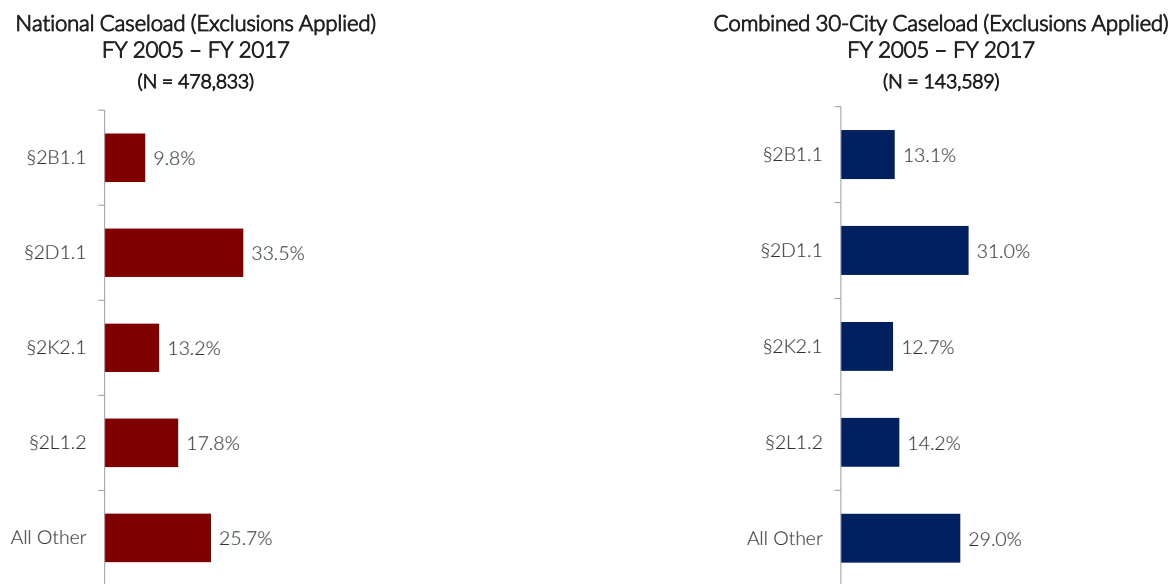
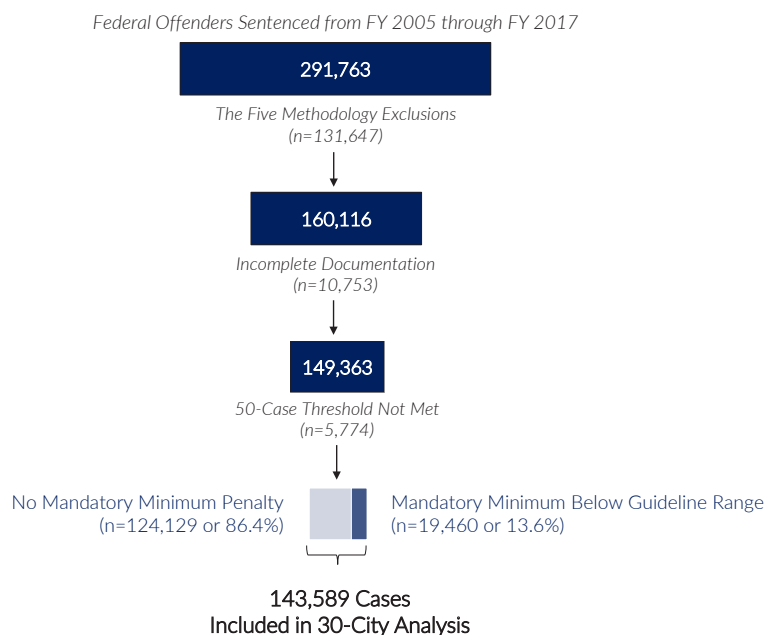




Figure 4. Cases Remaining in 30-City Study After Exclusions



## Impact of Exclusions on the Effect of Prosecutorial Charging Decisions

The exclusion of many cases with statutory mandatory minimum penalties reduced the effect that prosecutorial charging practices could have on the Commission's analyses in this report. Although random case assignment theoretically should make the effect of prosecutorial charging decisions equally spread among all judges in a city, some prosecutors may file superseding indictments containing charges carrying statutory mandatory minimum penalties after they learn that their cases have been assigned to certain judges in a courthouse who are perceived as unduly lenient. In such cases, the filing of the superseding charges could constrain the judge's sentencing discretion.<sup>42</sup> The Commission's methodology has reduced the potential influence of this factor.

In 13.6 percent of the cases in the Commission's dataset for this study (19,460 of 143,589 cases), offenders were subject to statutory mandatory minimum sentences. In all of those cases, however, the statutory minimum fell below the applicable guideline minimum. Therefore, judges retained discretion to sentence below the guideline minimums (down to the statutory minimums). In most of those cases, courts sentenced well above the statutory mandatory minimum sentence even as they departed or varied below the guideline range,<sup>43</sup> suggesting that prosecutorial charging decisions did not constrain the courts' sentencing discretion in such cases.



## METHODOLOGY

# Measuring Judicial Discretion

## Judges' Average Percent Difference from Guideline Minimums

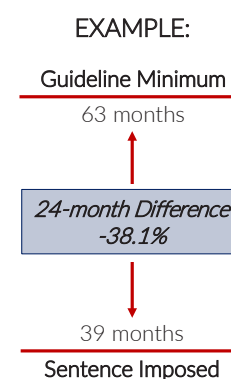
The Commission's city-level analysis focused on the **average percent difference** between the guideline minimums and the sentences imposed in each judge's cases. For each case, the guideline minimum and the actual sentence imposed were determined, and a percent difference between the two was calculated (see Figure 5 on the next page). For example, if the guideline minimum in a case was 63 months and the judge imposed a sentence of 39 months (24 months below the guideline minimum), the percent difference in that case was -38.1 percent. Conversely, if the judge imposed a sentence of 87 months in a case with a guideline minimum of 63 months (24 months above the guideline minimum), the percent difference was 38.1 percent. All of a judge's cases' percent differences were then added together and divided by the total number of his or her cases, which yielded an average percent difference for that judge. For some judges, the average percent difference was a positive percentage (meaning that, on average, his or her sentences were above the guideline minimums), while for others it was a negative percentage (meaning that, on average, his or her sentences were below the guideline minimums).

The guideline minimum was chosen as the baseline for analysis because of the gravitational pull it tends to have on sentences. The Supreme Court has directed district courts to consider the guideline range as the "benchmark" and "starting point" in the post-*Booker* federal sentencing process and also to "remain cognizant" of it during all three steps of the "*Booker* three-step process" used at federal sentencing.<sup>44</sup> In a majority of cases in which judges impose sentences within the applicable guideline range, they impose the guideline minimum (58.4% of cases from fiscal years 2005 through 2017). Furthermore, in the cases analyzed by the Commission for this report, when judges imposed a sentence outside of the guideline range, they departed or varied *below* the range nearly 21 times as often as they departed or varied *above* the range.<sup>45</sup> In those cases with below range sentences, judges were required by Supreme Court precedent to use the guideline minimum as the "starting point" in deciding how far to depart or vary below the guideline range. The guideline minimum is thus the focal point in the advisory guidelines system and, for that reason, the baseline for the Commission's analysis.

Figure 5. Calculating Percent Difference from Guideline Minimum

## Average Percent Difference Versus Average Sentence Length

While other researchers have studied differences in average sentence length among judges in the same city,<sup>46</sup> the Commission focused on average percent differences above or below the guideline minimum because that measure is less sensitive to differences in the judges' caseload compositions and, thus, is a better gauge of sentencing discretion. As shown in Appendix C (p. 65), the judges in the majority of the 30 cities had generally similar caseloads compared to the other judges in their cities. However, even with random case assignments, some judges had caseload compositions that differed somewhat from other judges in the same city. Such differences can have a significant impact on average sentence length per judge. For instance, if one judge in a city drew a disproportionately large number of drug-trafficking or firearms cases, which tend to have much higher guideline minimums (and correspondingly higher sentences) on average than other common offense types,<sup>47</sup> that judge's average sentence could be higher than other judges' sentences in the same city for reasons unrelated to how that judge exercised his or her post-*Booker* sentencing discretion. As discussed in Appendix D (p. 101), however, uneven distributions of offense types among judges in some of the 30 cities did not substantially affect the average percent differences of those judges.

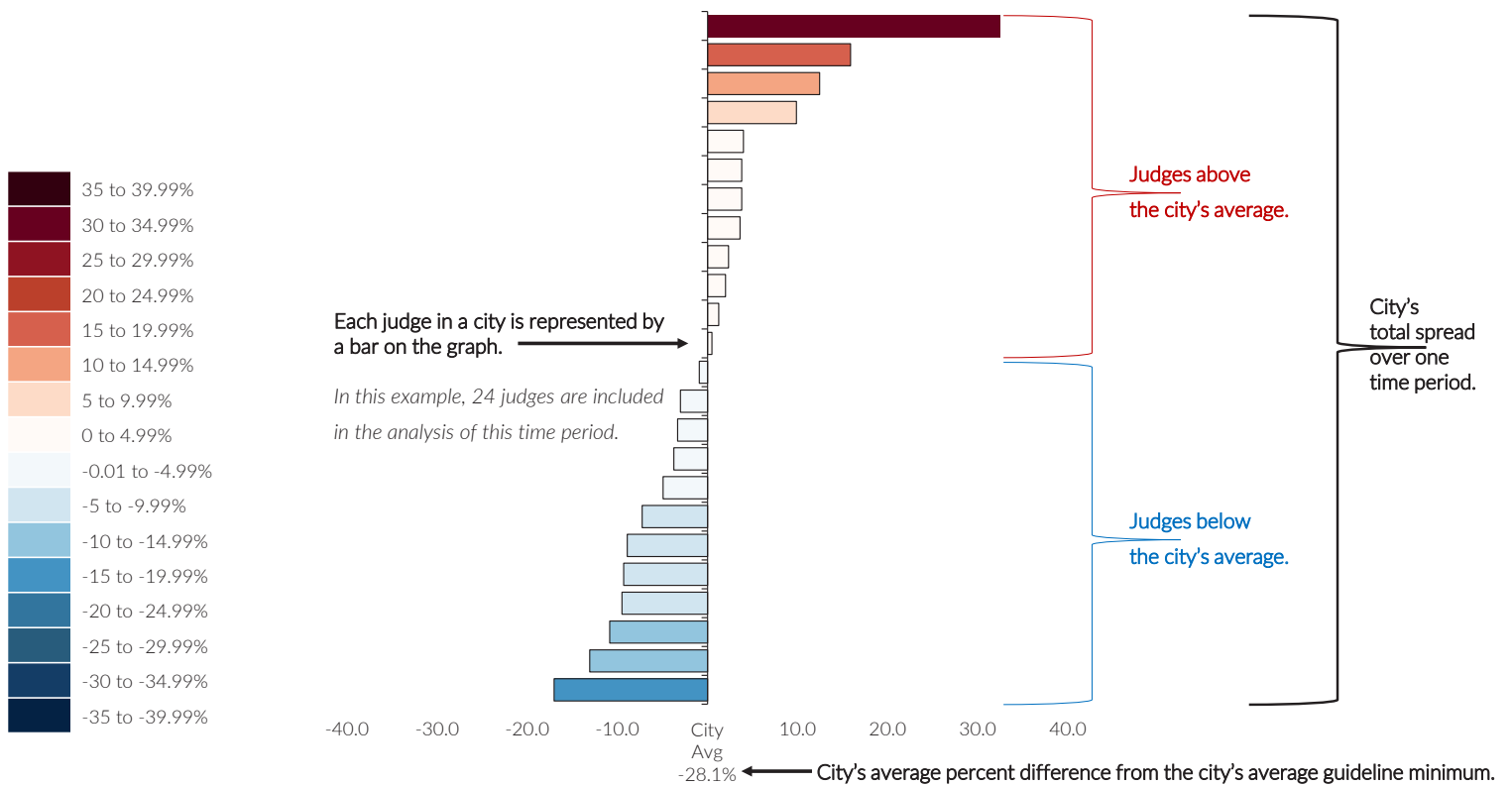


Although the Commission's analysis is not based on average sentence lengths, the Commission's analysis is informative of differences in sentence length in similar cases. Judges' average percent differences from the guideline minimums in their cases are, of course, necessarily associated with their average sentence lengths. For example, assuming two judges' average guideline minimums each reflected the national average of 60 months,<sup>48</sup> but their average percent differences were 10.0 percent and -40.0 percent, they would impose average sentences of 66.0 months and 36.0 months, respectively—a difference of 30 months (or 2½ years). If those two judges had courtrooms in the same city and each drew a sufficiently large number of cases through random case assignment to result in comparable offender and offense characteristics in their caseloads, that difference in average sentences would indicate that similarly situated defendants were receiving substantially different sentences within the same courthouse.

## METHODOLOGY

# Graphical Presentation of the Results

Figure 6. Graphical Depiction of the 30-City Analysis



The complete results of the Commission's 30-city study appear in Appendix B (p. 33). As shown in Figure 6 above, a graph for each city uses horizontal bars to show differences in sentencing practices among district judges in each city studied (for each time period). Each judge in a city (who met the 50-case

minimum for a period) is represented by a bar on the graph. The bars show the sentencing practices of each judge in relation to the city average. Bars are in either the positive or negative halves of the graph depending on judges' average percent differences in relation to the city average.

Red-colored bars represent judges whose average percent differences are above the city's average, while blue-colored bars represent judges whose average percent differences are below the city's average. The darker shades of each color, the further the percentages are away from the city average, positive or negative. A color key shows what range of percentages (in 5% bands) that each shade of each color represents (e.g., "-25 to -29.99%").

Each graph contains one, and usually two, important datapoints relevant to differences in sentencing practices among the city's judges for each time period: (1) the difference between the judge with the largest positive average percent difference in relation to the city average and the judge with the largest negative average percent difference in relation to the city average in a given time period (referred to as the **total spread** or **range**);<sup>49</sup> and (2) the **standard deviation** for all judges' average percent differences in relation to the city average for the same time period.

The total spread or range measures the absolute percentage difference between the two judges at opposite ends of the bar graphs,<sup>50</sup> while the standard deviation measures the overall extent of *all* the city's judges' differences in sentencing practices. The standard deviation is a separate "measure of spread, dispersion or variability of a group of" datapoints.<sup>51</sup> The larger the standard deviation, the greater the dispersion or variability among the datapoints in the dataset. For cities where there were less than five judges in any period, only the total spread is reported because four or less judges are too few for reporting the city's standard deviation. For cities with five or more judges in all three periods, both the total spread and the standard deviation are reported. Twenty-seven of the 30 cities had at least five judges in all the periods.<sup>52</sup> Appendix E (p. 105) contains a discussion of the relevance of the standard deviation to the Commission's analysis, as well as a discussion of statistical outliers in the analysis.

## METHODOLOGY

### Graphical Presentation Depicting a Single Time Period

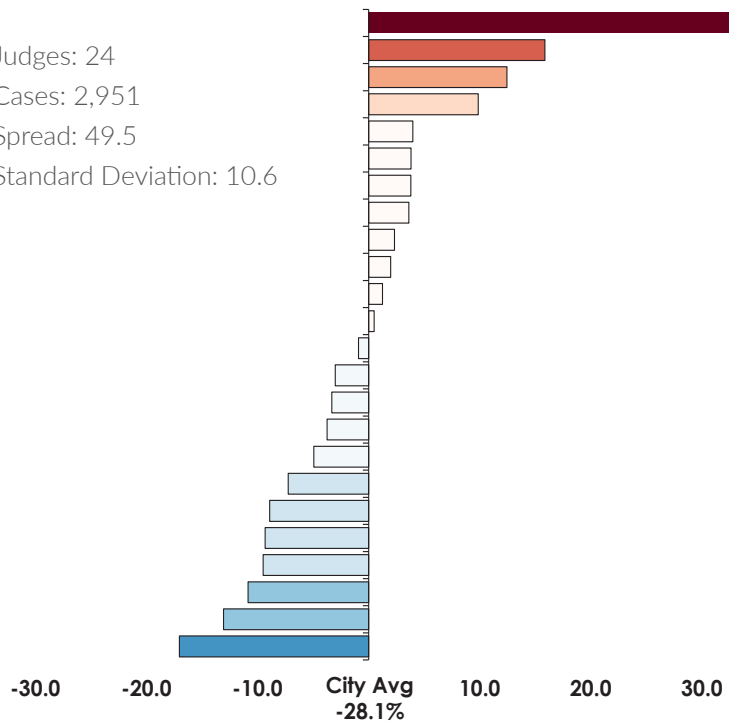
An example of the bar graph (in a single time period) is depicted in Figure 7 to the right.

In the case of Chicago in the Post-Report Period, the city's average percent difference from the guideline minimum was -28.1 percent. This means, on average, judges in Chicago imposed sentences 28.1 percent below the guideline minimums in their cases in the most recent period. The judge represented by the bar with the darkest red shade was the farthest from the city's average in the positive direction (with an average percent difference 32.4 percentage points higher than the city average). The judge represented by the bar with the darkest blue shade was the farthest from the city's average in the negative direction (with an average percent difference 17.0 percentage points lower than the city average). The total spread of 49.5 is the absolute percentage difference between those two judges' average percent differences.<sup>53</sup> The standard deviation of 10.6 is the measure of the dispersion from the city average for all 24 judges in the analysis.

Figure 7. Chicago-Based Federal Judges in the Post-Report Period

#### POST-REPORT PERIOD

Judges: 24  
Cases: 2,951  
Spread: 49.5  
Standard Deviation: 10.6



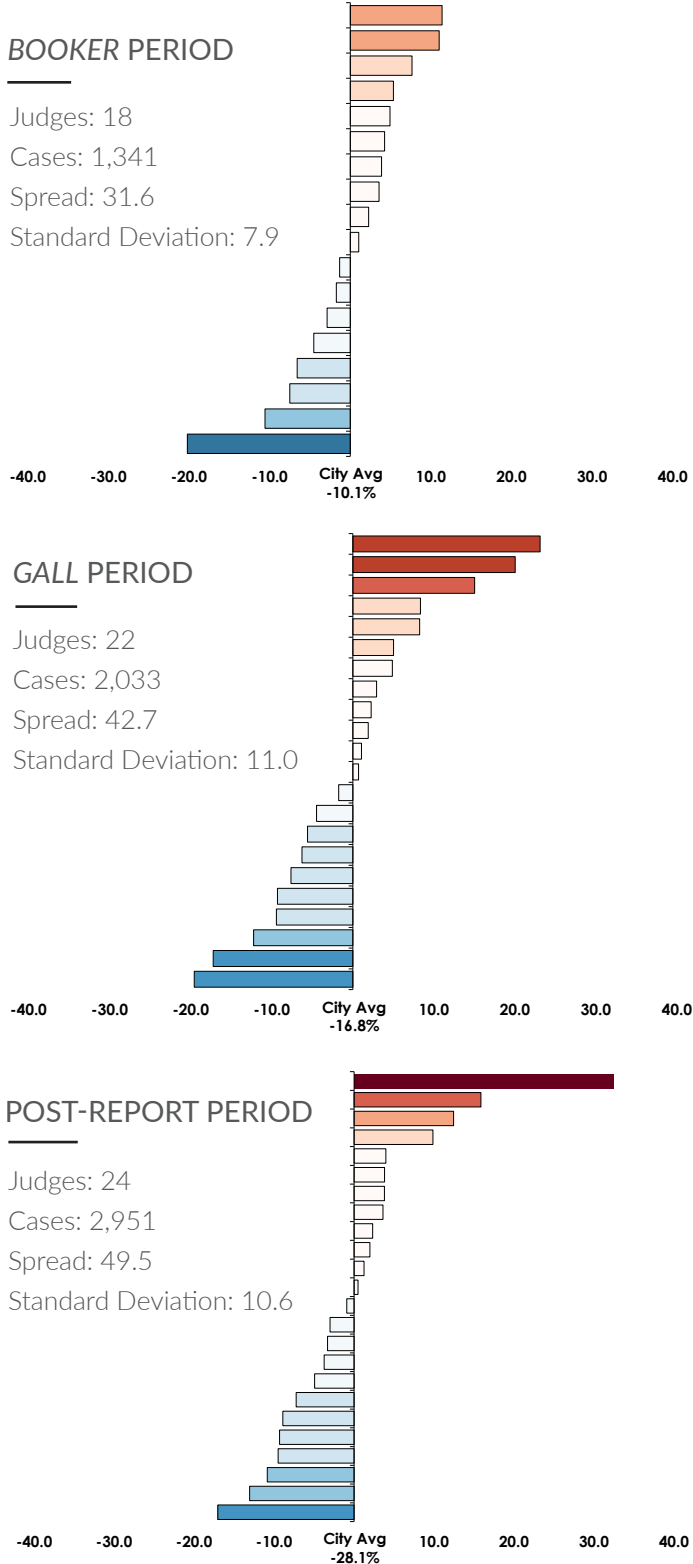
METHODOLOGY

Graphical Presentation  
Depicting All Time Periods

The bar graphs for all 30 cities in Appendix B (p. 33) show all three time periods together, so that changes in the total spread and standard deviation from one period to the next can be seen.

An example of bar graphs for a single city over all three periods is depicted on the right in Figure 8. This graphical presentation for Chicago shows that the total spread increased from 31.6 in the Booker Period to 42.7 in the Gall Period to 49.5 in the Post-Report Period. During the same three periods, the standard deviation increased from 7.9 to 11.0 but then decreased slightly to 10.6.

Figure 8. Chicago-Based Federal Judges in All Periods





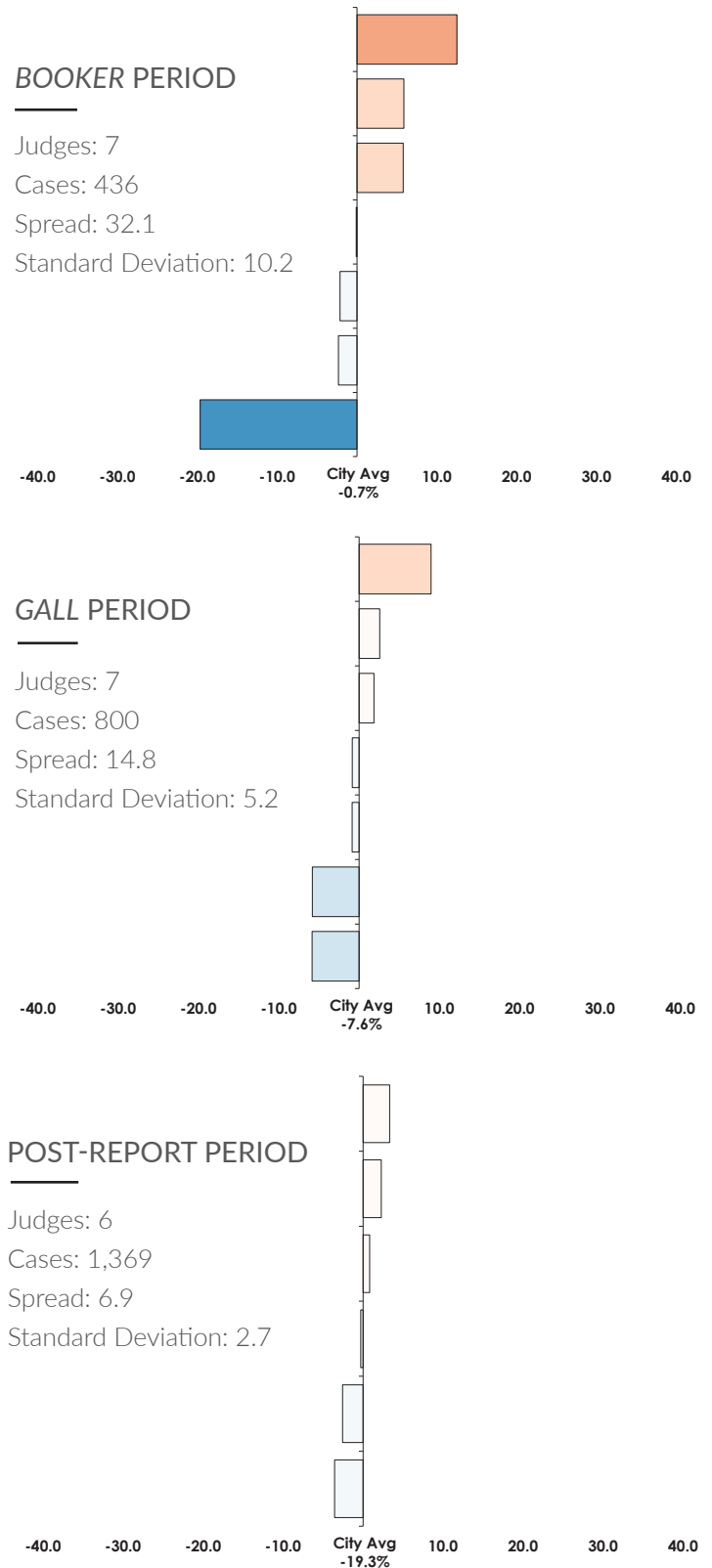
## METHODOLOGY

### Graphical Presentation Depicting All Time Periods

In contrast to Chicago, Oklahoma City is an example of a city whose total spreads and standard deviations consistently *decreased* during the three periods.

Its total spread decreased from 32.1 in the *Booker* Period to 14.8 in the *Gall* Period to 6.9 in the *Post-Report* Period. During the same three periods, the standard deviation decreased from 10.2 to 5.2 and then to 2.7.

Figure 9. Oklahoma City-Based Federal Judges in All Periods





## FINDINGS

# Overall Findings of the 30-City Analysis

Results for all 30 cities, as depicted in the bar charts for the three periods (including the total spreads and standard deviations), are contained in Appendix B.

### City-by-City Changes Across Periods

#### *Booker Period to Gall Period*

Consistent with the findings of the Commission's 2012 *Booker Report*, the city-level analysis demonstrated an overall increase in differences in sentencing practices from the *Booker Period* to the *Gall Period*. Specifically, as shown in Appendix B (p. 33), 23 of the 30 cities had increases in their total spreads, and 22 of 27 cities (those with at least five judges in all three periods) had increases in their standard deviations. Seven cities had decreases in their total spreads, and five cities had decreases in the standard deviations.<sup>54</sup> Not all cities experienced increases or decreases in *both* measures. Some had an increase in one measure and a decrease in the other measure.

#### *Gall Period to Post-Report Period*

This trend continued from the *Gall Period* to the *Post-Report Period*, but at a slower rate. As shown in Appendix B (p. 33), 20 of the 30 cities had increases in their total spreads. Sixteen of the 27 cities (those with at least five judges in all periods) had increases in their standard deviations, although the magnitude of the increases was noticeably less than the magnitude of the increases from the *Booker Period* to the *Gall Period*. Ten cities had decreases in their total spreads, and 11 had

#### 23 CITIES

INCREASES IN TOTAL SPREAD

#### 7 CITIES

DECREASES IN TOTAL SPREAD

#### 22 CITIES

INCREASES IN STANDARD DEVIATION

#### 5 CITIES

DECREASES IN STANDARD DEVIATION

#### 20 CITIES

INCREASES IN TOTAL SPREAD

#### 10 CITIES

DECREASES IN TOTAL SPREAD

#### 16 CITIES

INCREASES IN STANDARD DEVIATION

#### 11 CITIES

DECREASES IN STANDARD DEVIATION



decreases in their standard deviations.<sup>55</sup> Just as in the prior period change, not all cities experienced increases or decreases in *both* measures. Some had an increase in one measure and a decrease in the other measure.

### **Booker Period to Post-Report Period**

Of the 30 cities, five—Boston, Cleveland, Columbus, Oklahoma City, and Saint Louis—saw net decreases in their total spreads from the *Booker* Period to the Post-Report Period, while four (four of the same five, with the exception of Cleveland) saw net decreases in their standard deviations as well. The rest of the cities saw net increases in their total spreads and standard deviations from the *Booker* Period to the Post-Report Period.

## **Largest and Smallest Total Spreads and Standard Deviations**

### **Post-Report Period**

Looking at the most recent period, the Post-Report Period, the city with the largest total spread was Philadelphia (63.8), and the city with the smallest total spread was Oklahoma City (6.9). The city with the largest standard deviation was Houston (14.6), and the city with the smallest standard deviation was Oklahoma City (2.7).

### **25 CITIES**

INCREASES IN TOTAL SPREAD

---

### **5 CITIES**

DECREASES IN TOTAL SPREAD

---

### **23 CITIES**

INCREASES IN STANDARD DEVIATION

---

### **4 CITIES**

DECREASES IN STANDARD DEVIATION

### **PHILADELPHIA**

LARGEST SPREAD

---

### **OKLAHOMA CITY**

SMALLEST SPREAD

---

### **HOUSTON**

LARGEST STANDARD DEVIATION

---

### **OKLAHOMA CITY**

SMALLEST STANDARD DEVIATION

## Changes for All 30 Cities Combined Across Periods

A similar trend of overall increasing sentencing differences is seen with respect to the average total spread and average standard deviation for all 30 cities combined (except for the three cities with fewer than five judges for at least one period, for which standard deviations were not reported). As reflected in Figure 10 below, average total spreads for all 30 cities in the three periods grew from 18.2 in the *Booker* Period to 23.7 in the *Gall* Period to 27.6 in the Post-Report Period. Average standard deviations for the 27 cities (those with at least five judges in all three periods) grew from 5.8 in the *Booker* Period to 7.7 in the *Gall* Period to 8.3 in the Post-Report Period.



Figure 10. Averages for All 30 Cities Combined

	<i>Booker</i> Period	<i>Gall</i> Period	Post-Report Period
Average Total Spread	18.2	23.7	27.6
Average Standard Deviation	5.8	7.7	8.3

**This report's findings of overall increasing differences in sentencing practices among judges within the same cities are consistent with intra-district findings from the Commission's 2012 report.**





## CONCLUSIONS

# Differences in Sentencing Practices Among Federal Judges



Although the trend of increasing differences among judges slowed after 2011, the increasing differences in sentencing practices first reported at the district level in the Commission's 2012 *Booker Report* generally persist to this day, even within the same courthouse. In particular, the Commission finds that:

### CONCLUSION 1

From the *Booker* to *Gall* Periods, 23 of the 30 cities had increases in their total spreads, and 22 of 27 cities (those with at least five judges in all three periods) had increases in their standard deviations. From the *Gall* to the Post-Report Periods, 20 of the 30 cities had increases in their total spreads, and 16 of the 27 cities (those with at least five judges in all periods) had increases in their standard deviations, although the magnitude of the increases was less than the magnitude of the increases from the *Booker* Period to the *Gall* Period.

### CONCLUSION 2

In terms of the overall changes during the 13 years, from the *Booker* Period to the Post-Report Period, 25 of the 30 cities saw a net increase in their total spreads and 23 cities of the 27 with reported standard deviations saw a net increase in their standard deviations.

### CONCLUSION 3

Considering all 30 cities together as a representative sample of the country as a whole, the average total spreads for all 30 cities in the three periods increased from 18.2 in the *Booker* Period to 23.7 in the *Gall* Period to 27.6 in the Post-Report Period. The average standard deviations for the 27 cities (those with at least five judges) grew from 5.8 to 7.7 to 8.3 during the same three periods.

### CONCLUSION 4

In most cities, the length of a defendant's sentence increasingly depends on which judge in the courthouse is assigned to his or her case.

The Commission's 2012 *Booker Report* depicted differences among judges within districts using bubble plots and scatter plots.



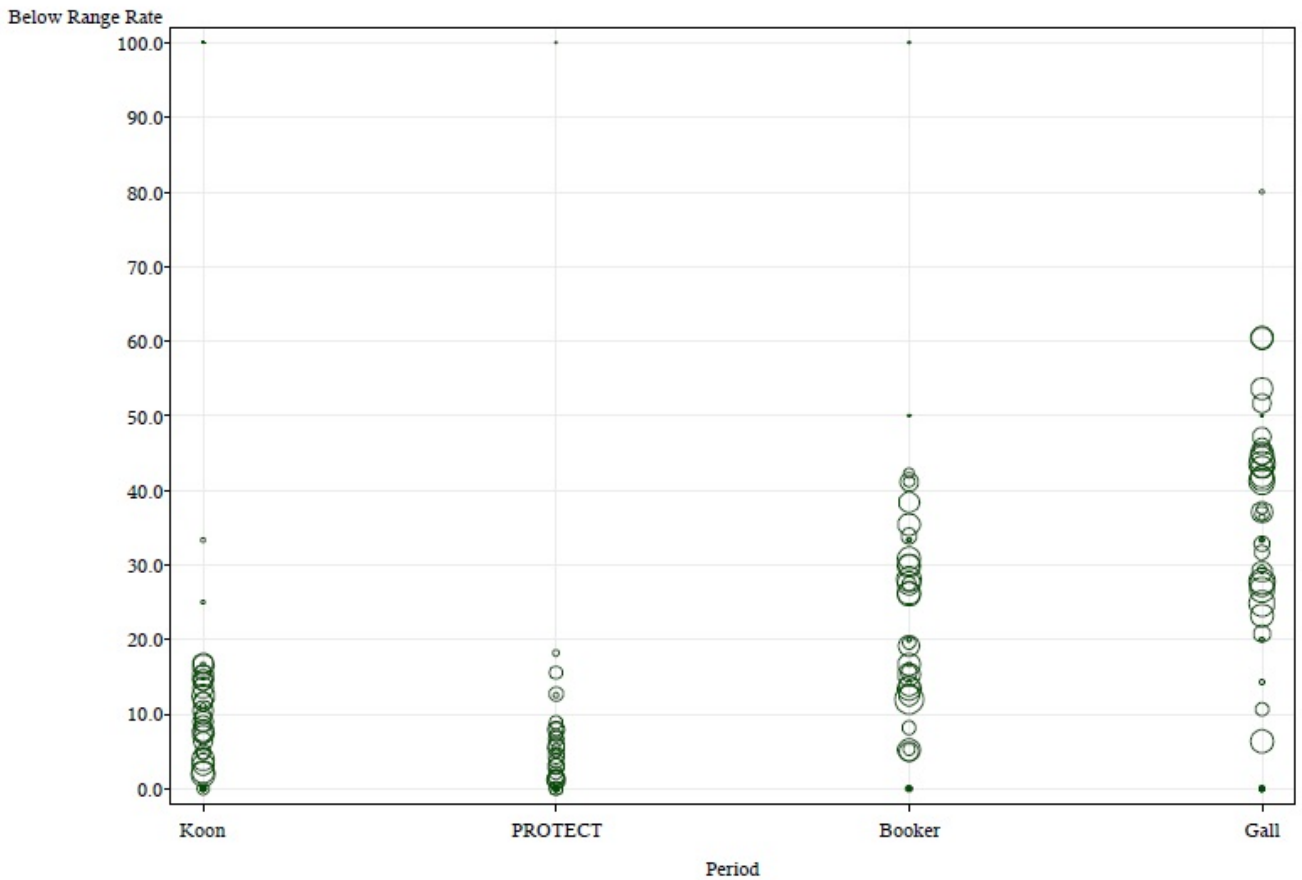
## APPENDIX A

# 2012 Booker Report Analysis



## Bubble Plot Example

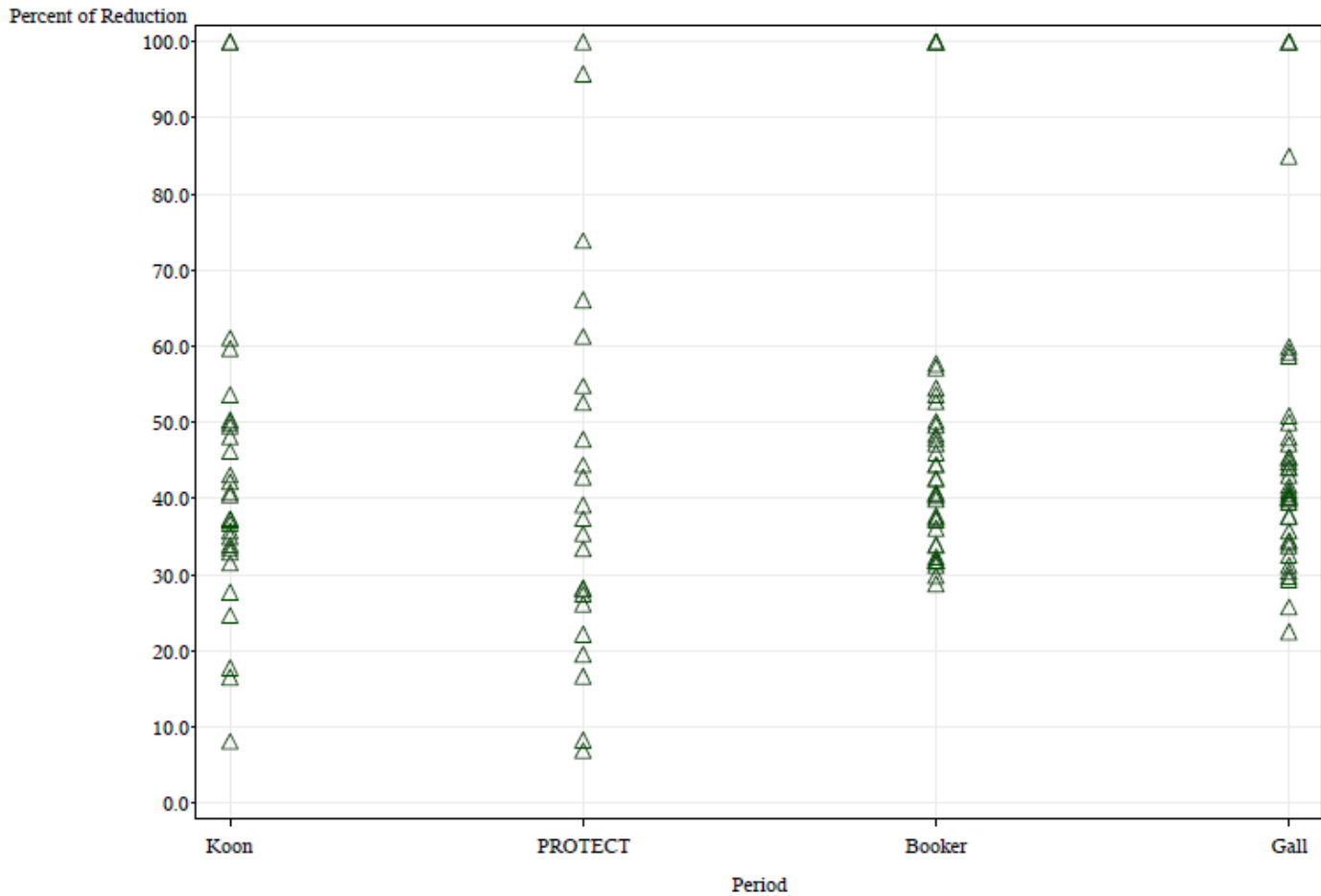
Relative Caseload and Rate of Non-Government Sponsored Below Range Sentences by Federal Judge  
 Koon Period through Gall Period (Post FY 2001)  
 Illinois, Northern





## Scatter Plot Example

Average Extent of Reduction for Non-Government Sponsored Below Range Sentences by Federal Judge  
Koon Period through Gall Period (Post FY 2001)  
Illinois, Northern





## APPENDIX B

## City-By-City Results



The results for the 30 cities, as depicted in the bar charts for the three periods with information about the total spreads and standard deviations, are contained in this appendix. As noted at the outset of this report, the 30 cities' results are not offered for the purpose of comparing the cities to each other.

Rather, the Commission's analysis in this report is offered to compare judges within each city to one another and also to compare the extent of sentencing differences in each city over time.



## KEY FINDINGS

# ALEXANDRIA-BASED FEDERAL JUDGES

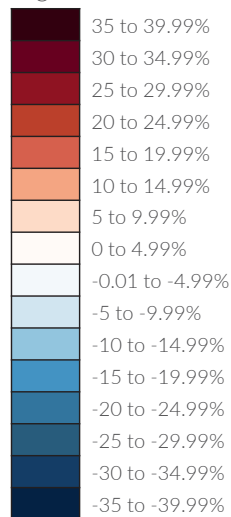
## EASTERN DISTRICT OF VIRGINIA

The Commission analyzed 3,263 cases from Alexandria across the three periods.

From the *Booker* Period to the *Gall* Period, Alexandria's total spread increased from 8.5 to 21.0, and its standard deviation increased from 3.5 to 7.9.

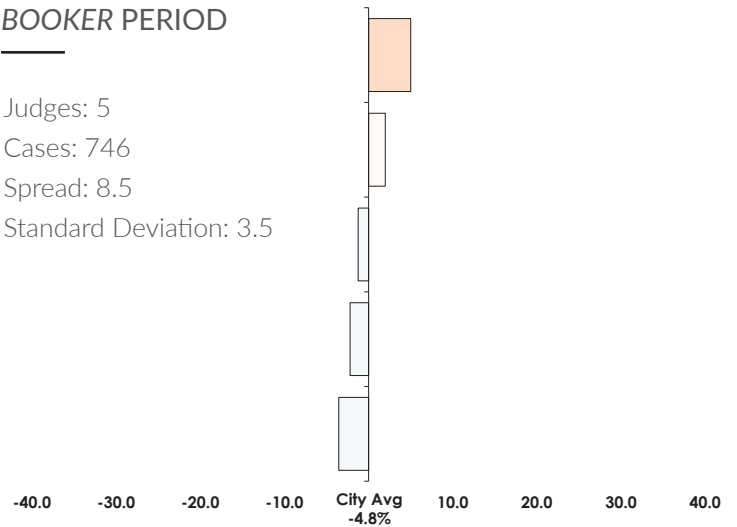
From the *Gall* Period to the Post-Report Period, Alexandria's total spread increased from 21.0 to 22.1, and its standard deviation decreased from 7.9 to 7.5.

### Legend



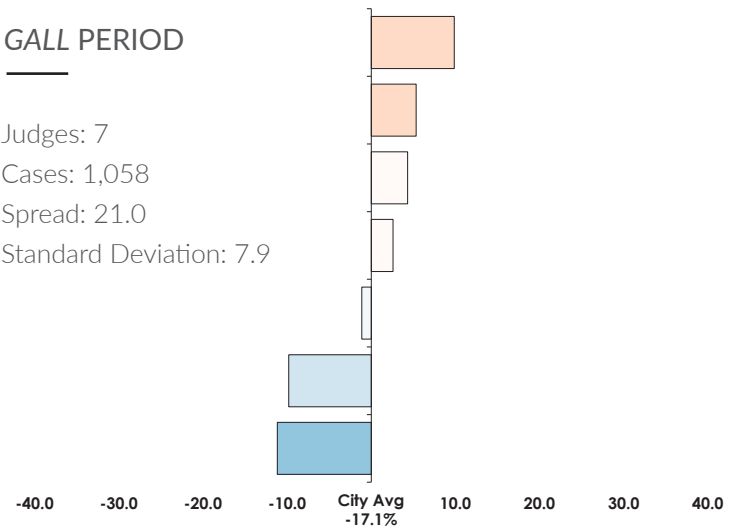
### BOOKER PERIOD

Judges: 5  
Cases: 746  
Spread: 8.5  
Standard Deviation: 3.5



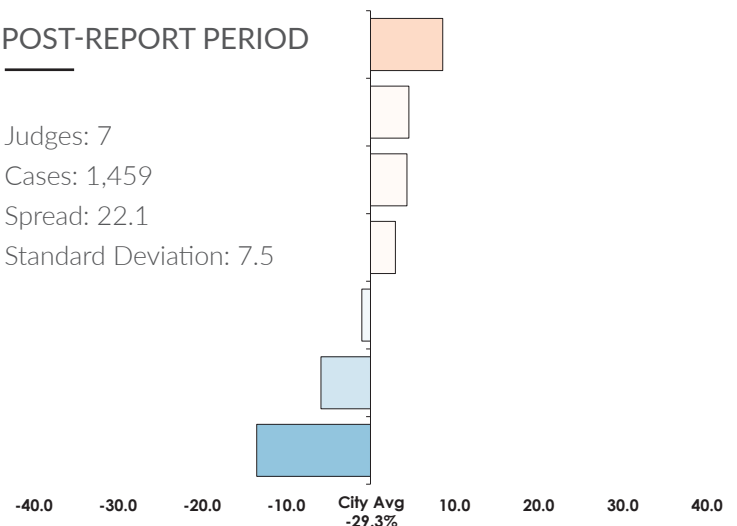
### GALL PERIOD

Judges: 7  
Cases: 1,058  
Spread: 21.0  
Standard Deviation: 7.9



### POST-REPORT PERIOD

Judges: 7  
Cases: 1,459  
Spread: 22.1  
Standard Deviation: 7.5



## KEY FINDINGS

# ATLANTA-BASED FEDERAL JUDGES

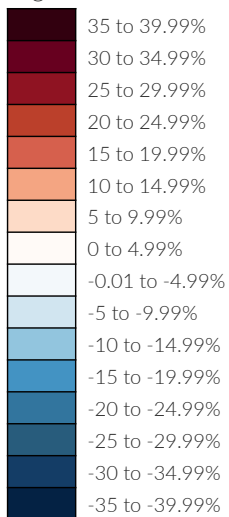
## NORTHERN DISTRICT OF GEORGIA

The Commission analyzed 4,642 cases from Atlanta across the three periods.

From the *Booker* Period to the *Gall* Period, Atlanta's total spread increased from 19.6 to 31.8, and its standard deviation increased from 5.5 to 7.2.

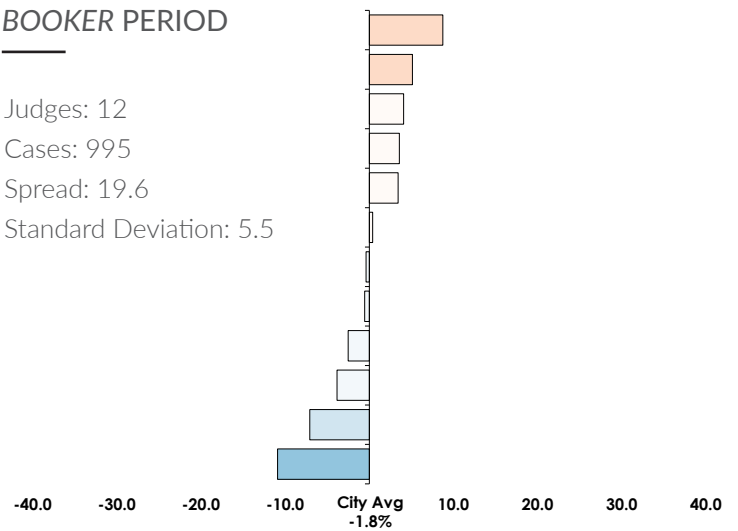
From the *Gall* Period to the Post-Report Period, Atlanta's total spread decreased from 31.8 to 26.9, and its standard deviation increased from 7.2 to 9.6.

### Legend



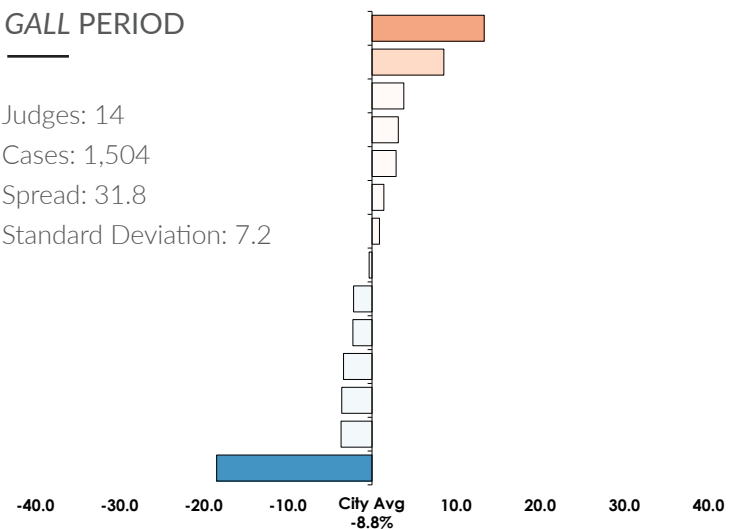
### BOOKER PERIOD

Judges: 12  
Cases: 995  
Spread: 19.6  
Standard Deviation: 5.5



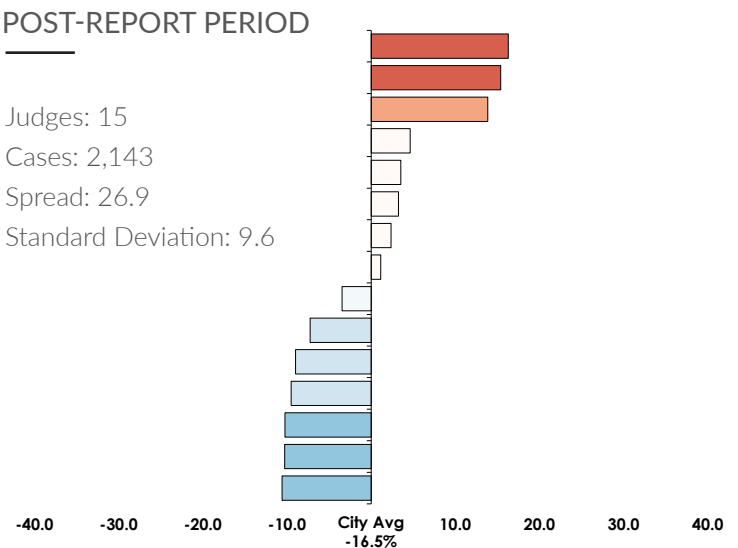
### GALL PERIOD

Judges: 14  
Cases: 1,504  
Spread: 31.8  
Standard Deviation: 7.2



### POST-REPORT PERIOD

Judges: 15  
Cases: 2,143  
Spread: 26.9  
Standard Deviation: 9.6





## KEY FINDINGS

# BALTIMORE-BASED FEDERAL JUDGES

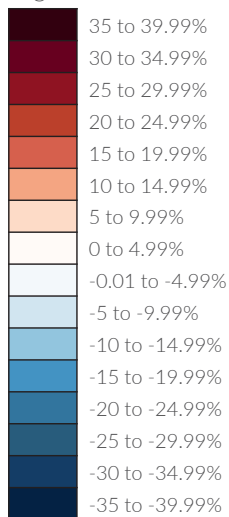
## DISTRICT OF MARYLAND

The Commission analyzed 3,354 cases from Baltimore across the three periods.

From the *Booker* Period to the *Gall* Period, Baltimore's total spread increased from 18.7 to 24.5, and its standard deviation increased from 6.7 to 8.2.

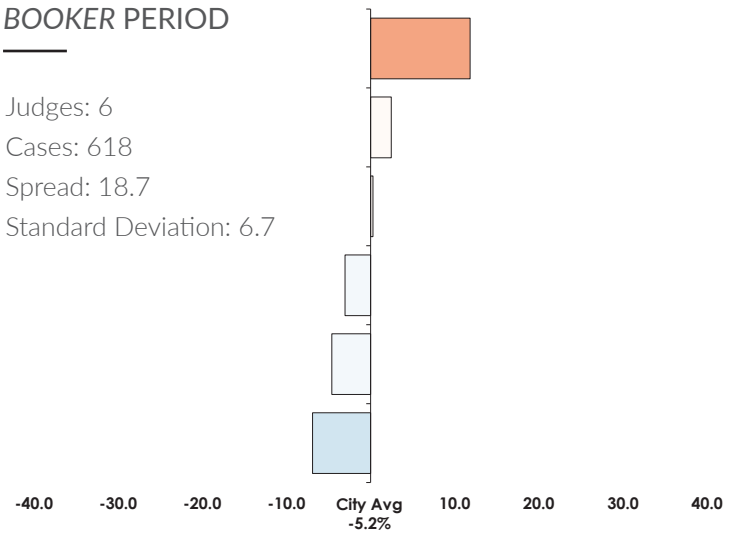
From the *Gall* Period to the Post-Report Period, Baltimore's total spread decreased from 24.5 to 19.7, and its standard deviation decreased from 8.2 to 6.7.

### Legend



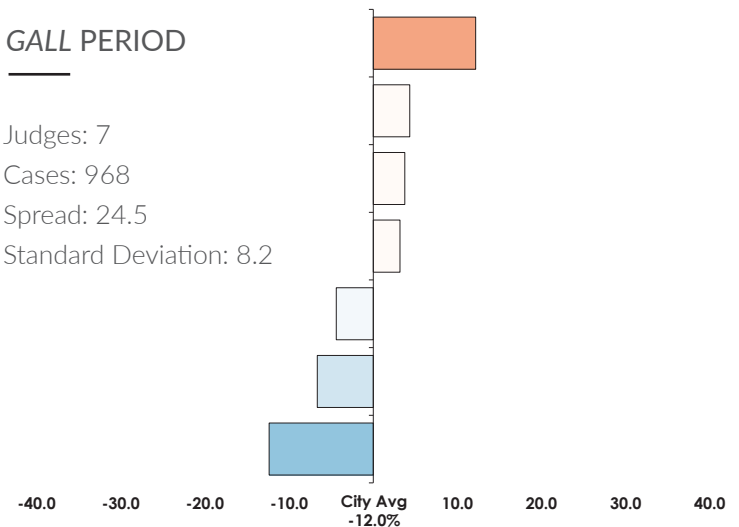
### BOOKER PERIOD

Judges: 6  
Cases: 618  
Spread: 18.7  
Standard Deviation: 6.7



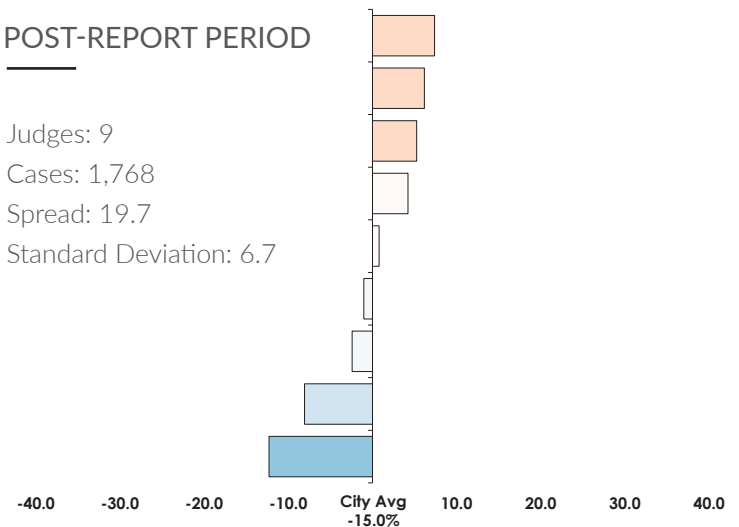
### GALL PERIOD

Judges: 7  
Cases: 968  
Spread: 24.5  
Standard Deviation: 8.2



### POST-REPORT PERIOD

Judges: 9  
Cases: 1,768  
Spread: 19.7  
Standard Deviation: 6.7



### KEY FINDINGS

## BOSTON-BASED FEDERAL JUDGES

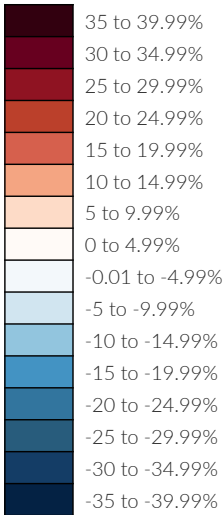
### DISTRICT OF MASSACHUSETTS

The Commission analyzed 3,619 cases from Boston across the three periods.

From the *Booker* Period to the *Gall* Period, Boston's total spread increased from 32.2 to 35.2, and its standard deviation increased from 9.1 to 11.3.

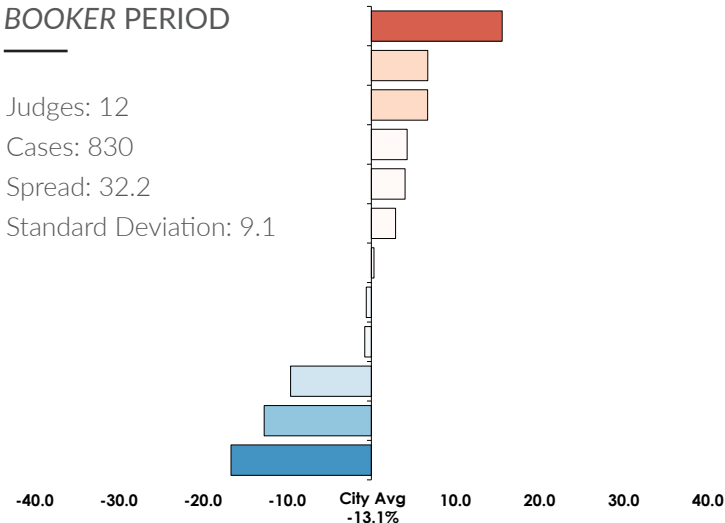
From the *Gall* Period to the Post-Report Period, Boston's total spread decreased from 35.2 to 28.7, and its standard deviation decreased from 11.3 to 8.9.

#### Legend



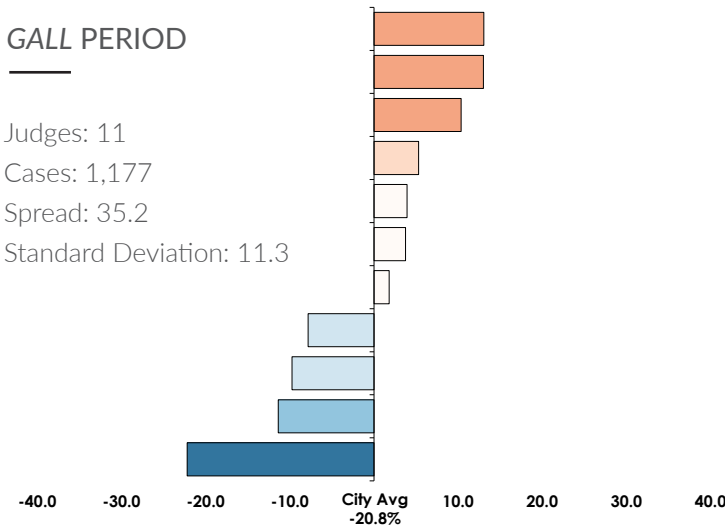
#### BOOKER PERIOD

Judges: 12  
Cases: 830  
Spread: 32.2  
Standard Deviation: 9.1



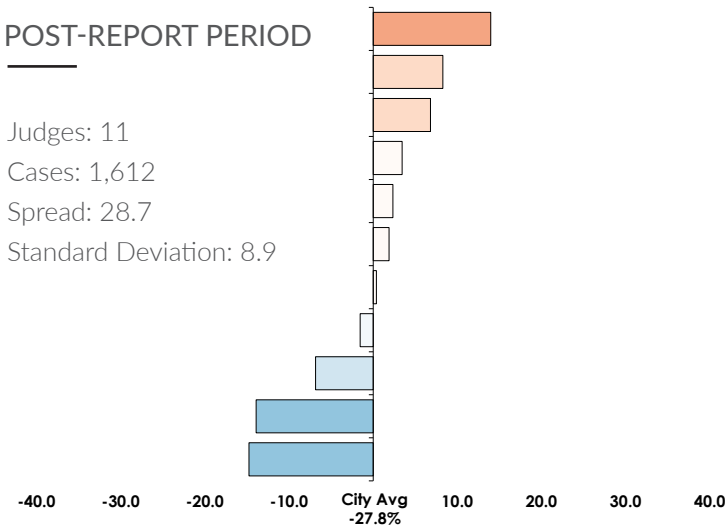
#### GALL PERIOD

Judges: 11  
Cases: 1,177  
Spread: 35.2  
Standard Deviation: 11.3



#### POST-REPORT PERIOD

Judges: 11  
Cases: 1,612  
Spread: 28.7  
Standard Deviation: 8.9





## KEY FINDINGS

# CHARLOTTE-BASED FEDERAL JUDGES

## WESTERN DISTRICT OF NORTH CAROLINA

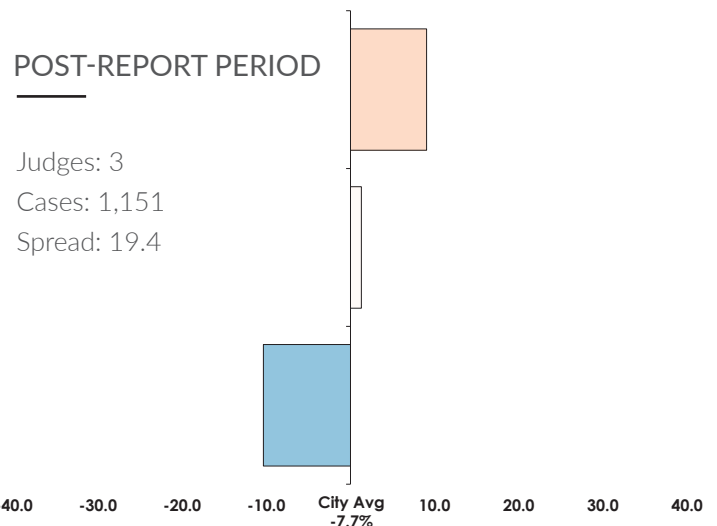
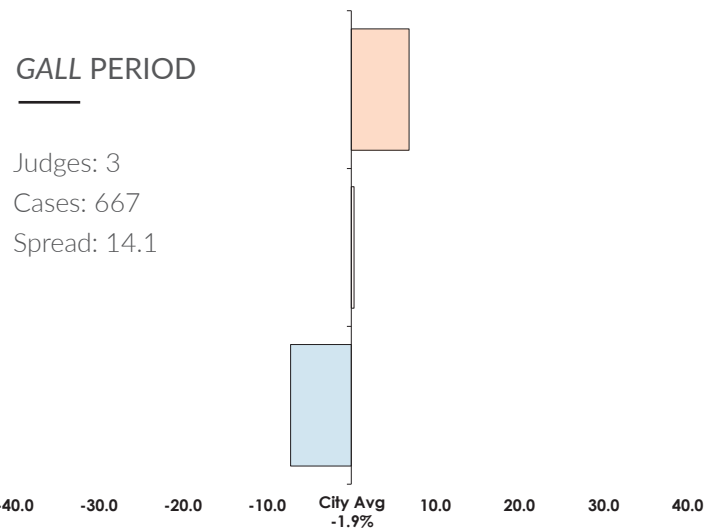
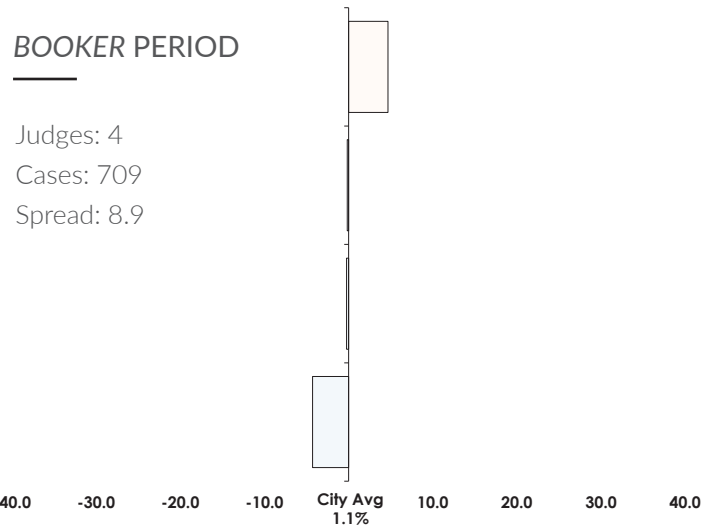
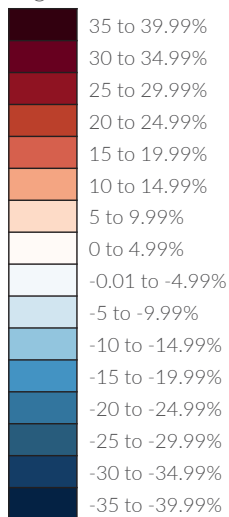
The Commission analyzed 2,527 cases from Charlotte across the three periods.

From the *Booker* Period to the *Gall* Period, Charlotte's total spread increased from 8.9 to 14.1.

From the *Gall* Period to the Post-Report Period, Charlotte's total spread increased from 14.1 to 19.4.

Because Charlotte did not have at least five judges in all three periods, the standard deviations for the three periods are not reported.

### Legend





### KEY FINDINGS

## CHICAGO-BASED FEDERAL JUDGES

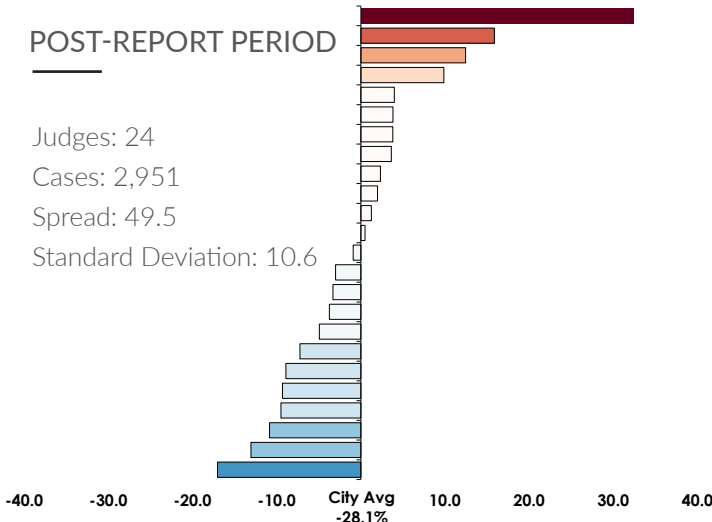
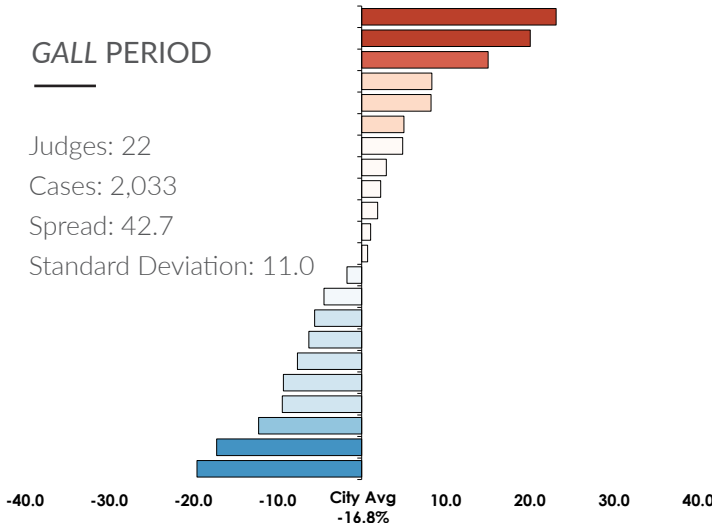
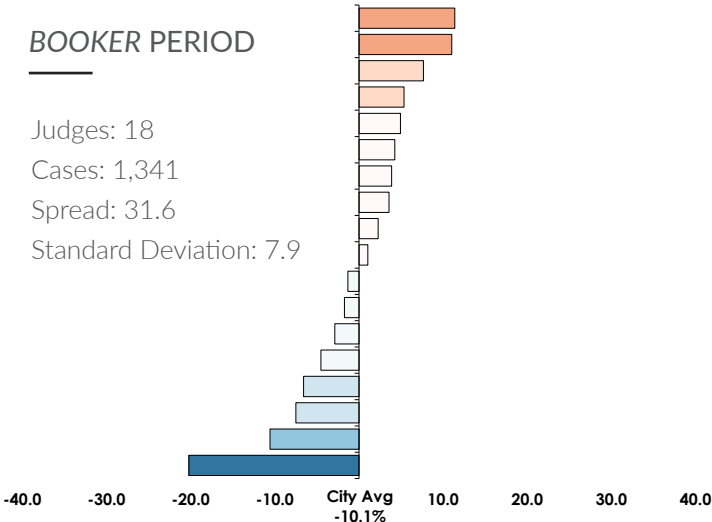
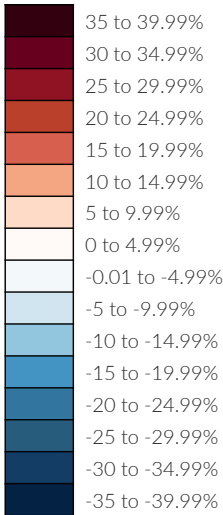
### NORTHERN DISTRICT OF ILLINOIS

The Commission analyzed 6,325 cases from Chicago across the three periods.

From the *Booker* Period to the *Gall* Period, Chicago's total spread increased from 31.6 to 42.7, and its standard deviation increased from 7.9 to 11.0.

From the *Gall* Period to the *Post-Report* Period, Chicago's total spread increased from 42.7 to 49.5, and its standard deviation decreased from 11.0 to 10.6.

#### Legend





## KEY FINDINGS

# CLEVELAND-BASED FEDERAL JUDGES

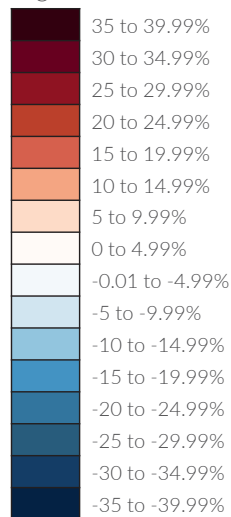
## NORTHERN DISTRICT OF OHIO

The Commission analyzed 2,908 cases from Cleveland across the three periods.

From the *Booker* Period to the *Gall* Period, Cleveland's total spread decreased from 22.7 to 16.6, and its standard deviation decreased from 6.6 to 5.2.

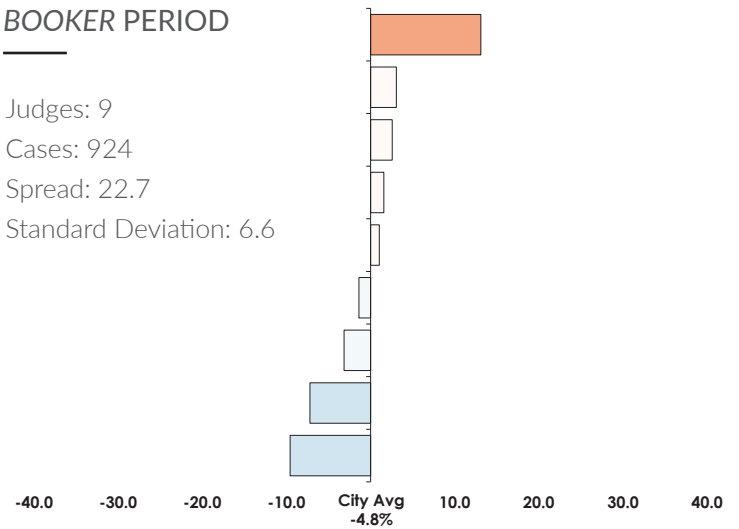
From the *Gall* Period to the Post-Report Period, Cleveland's total spread increased from 16.6 to 19.9, and its standard deviation increased from 5.2 to 7.5.

### Legend



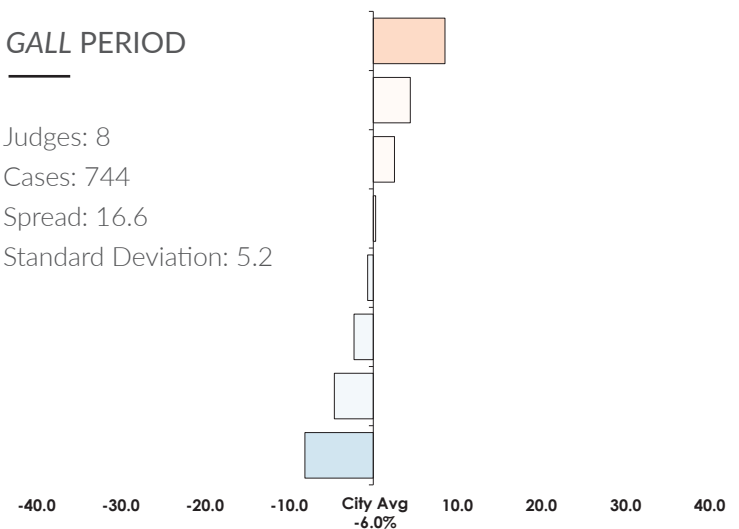
### BOOKER PERIOD

Judges: 9  
Cases: 924  
Spread: 22.7  
Standard Deviation: 6.6



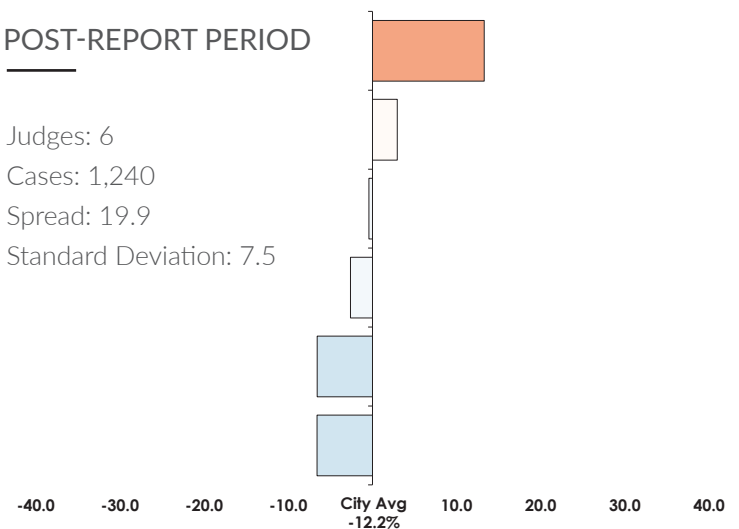
### GALL PERIOD

Judges: 8  
Cases: 744  
Spread: 16.6  
Standard Deviation: 5.2



### POST-REPORT PERIOD

Judges: 6  
Cases: 1,240  
Spread: 19.9  
Standard Deviation: 7.5



## KEY FINDINGS

# COLUMBUS-BASED FEDERAL JUDGES

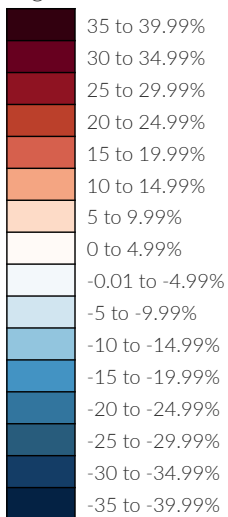
## SOUTHERN DISTRICT OF OHIO

The Commission analyzed 1,672 cases from Columbus across the three periods.

From the *Booker* Period to the *Gall* Period, Columbus's total spread decreased from 15.2 to 12.4, and its standard deviation decreased from 6.0 to 5.0.

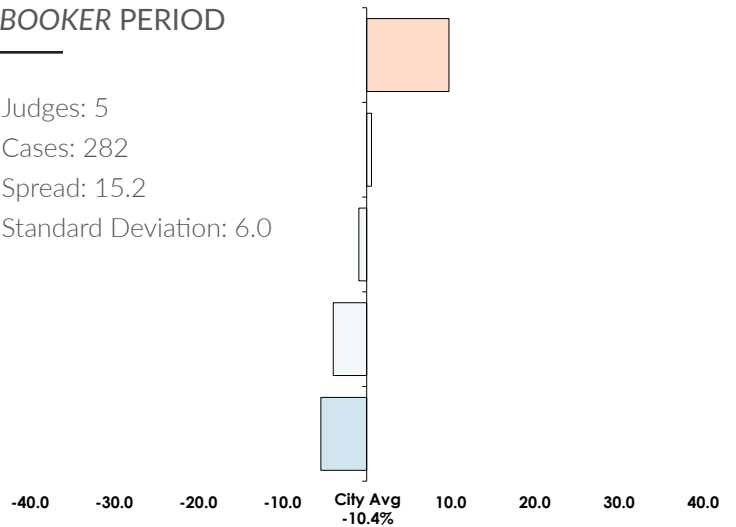
From the *Gall* Period to the Post-Report Period, Columbus's total spread decreased from 12.4 to 8.7, and its standard deviation decreased from 5.0 to 3.1.

### Legend



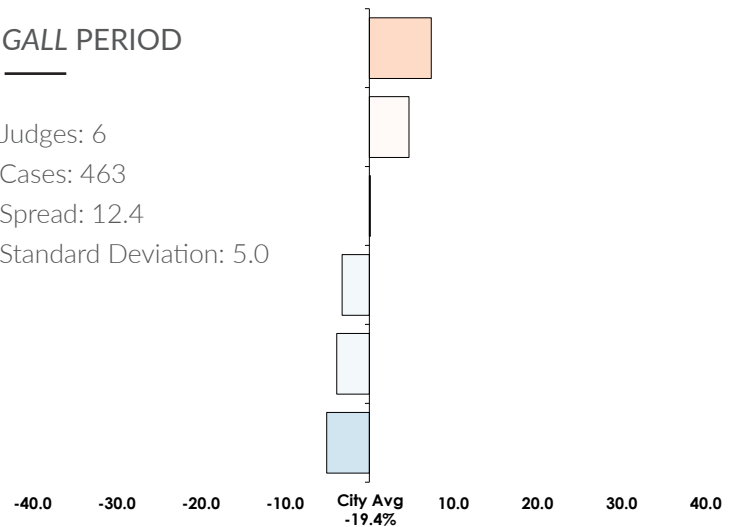
### BOOKER PERIOD

Judges: 5  
 Cases: 282  
 Spread: 15.2  
 Standard Deviation: 6.0



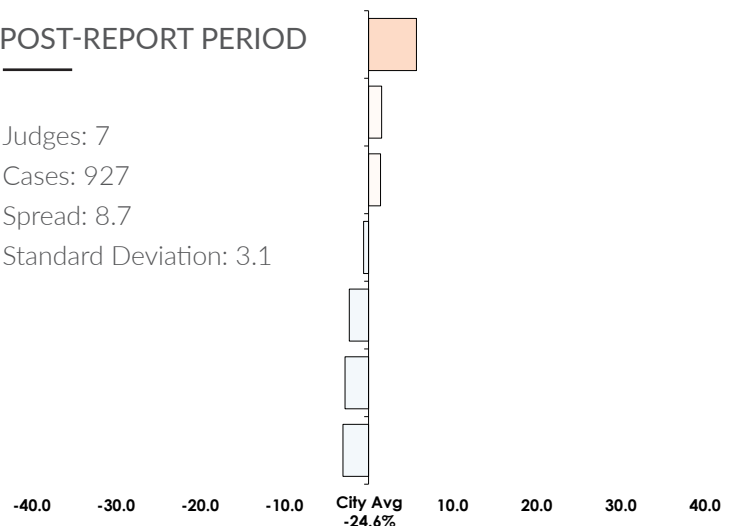
### GALL PERIOD

Judges: 6  
 Cases: 463  
 Spread: 12.4  
 Standard Deviation: 5.0



### POST-REPORT PERIOD

Judges: 7  
 Cases: 927  
 Spread: 8.7  
 Standard Deviation: 3.1





## KEY FINDINGS

# DALLAS-BASED FEDERAL JUDGES

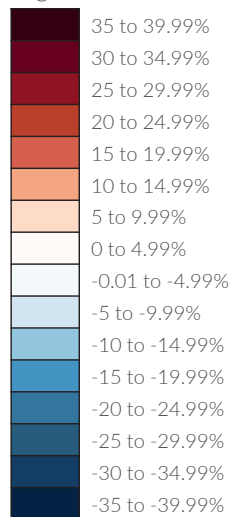
## NORTHERN DISTRICT OF TEXAS

The Commission analyzed 4,071 cases from Dallas across the three periods.

From the *Booker* Period to the *Gall* Period, Dallas' total spread increased from 22.0 to 33.0, and its standard deviation increased from 6.6 to 10.9.

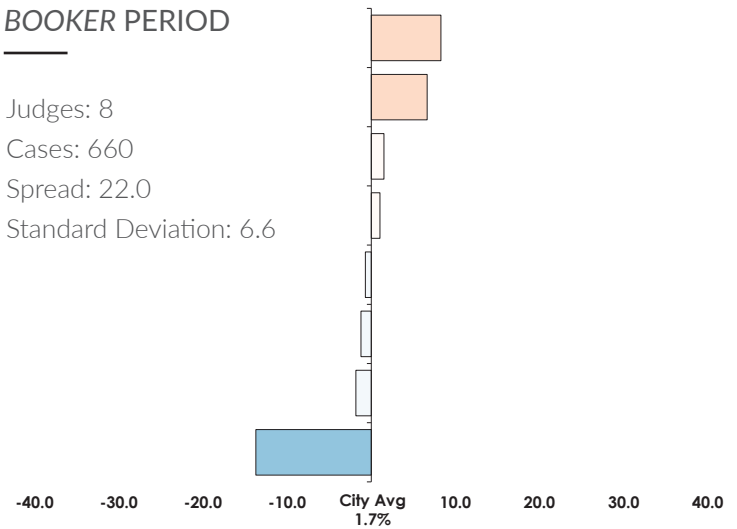
From the *Gall* Period to the Post-Report Period, Dallas' total spread increased from 33.0 to 40.3, and its standard deviation increased from 10.9 to 12.5.

### Legend



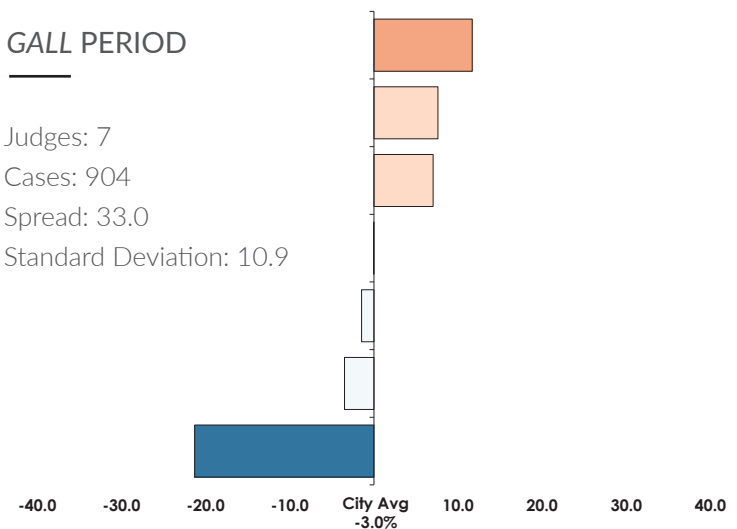
### BOOKER PERIOD

Judges: 8  
Cases: 660  
Spread: 22.0  
Standard Deviation: 6.6



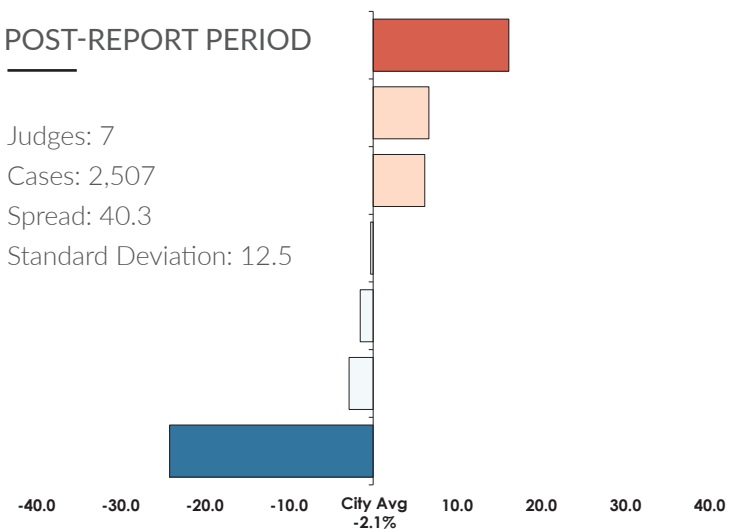
### GALL PERIOD

Judges: 7  
Cases: 904  
Spread: 33.0  
Standard Deviation: 10.9



### POST-REPORT PERIOD

Judges: 7  
Cases: 2,507  
Spread: 40.3  
Standard Deviation: 12.5



## KEY FINDINGS

# DENVER-BASED FEDERAL JUDGES

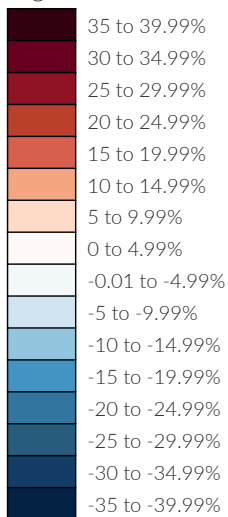
## DISTRICT OF COLORADO

The Commission analyzed 3,417 cases from Denver across the three periods.

From the *Booker* Period to the *Gall* Period, Denver's total spread increased from 4.9 to 12.7, and its standard deviation increased from 2.3 to 4.4.

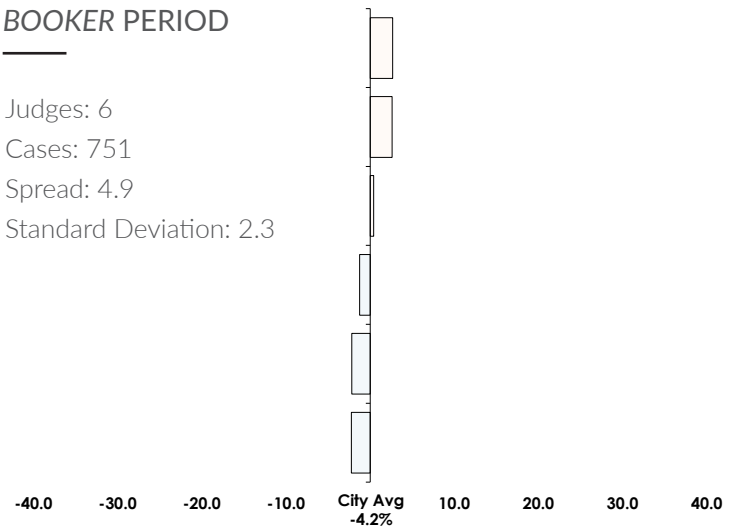
From the *Gall* Period to the Post-Report Period, Denver's total spread increased from 12.7 to 17.9, and its standard deviation increased from 4.4 to 6.3.

### Legend



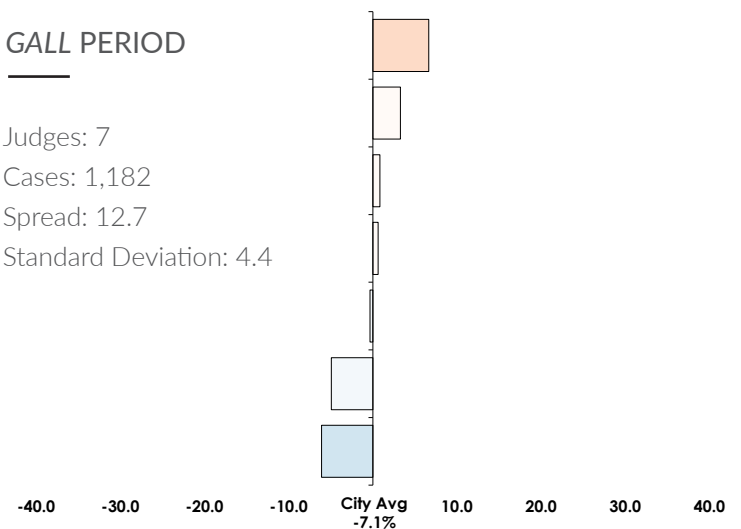
### BOOKER PERIOD

Judges: 6  
 Cases: 751  
 Spread: 4.9  
 Standard Deviation: 2.3



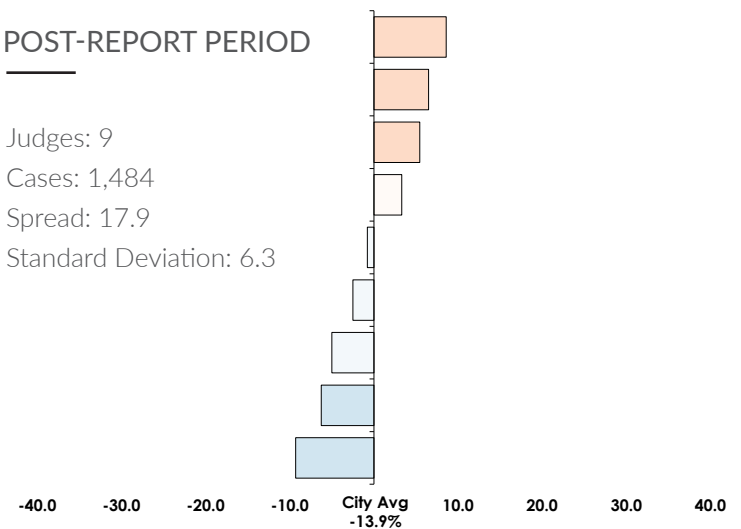
### GALL PERIOD

Judges: 7  
 Cases: 1,182  
 Spread: 12.7  
 Standard Deviation: 4.4



### POST-REPORT PERIOD

Judges: 9  
 Cases: 1,484  
 Spread: 17.9  
 Standard Deviation: 6.3







## KEY FINDINGS

# DETROIT-BASED FEDERAL JUDGES

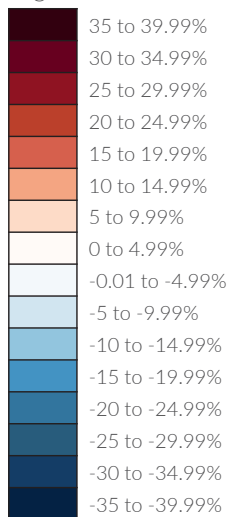
## EASTERN DISTRICT OF MICHIGAN

The Commission analyzed 3,901 cases from Detroit across the three periods.

From the *Booker* Period to the *Gall* Period, Detroit's total spread decreased from 34.4 to 34.1, and its standard deviation increased from 9.5 to 10.6.

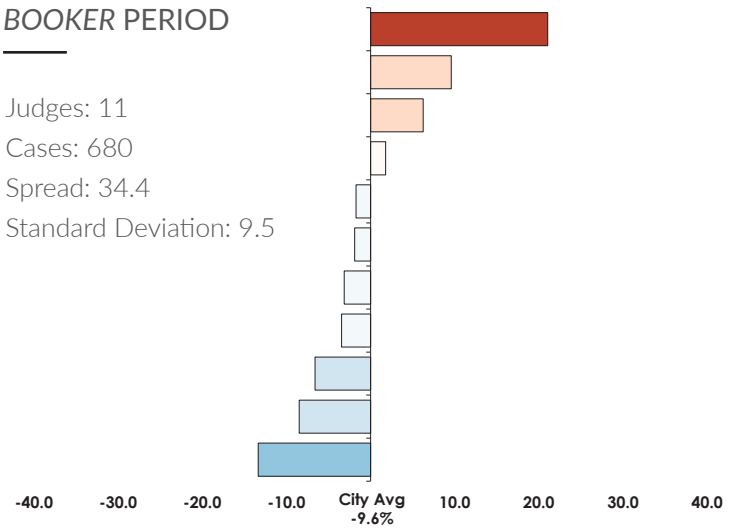
From the *Gall* Period to the Post-Report Period, Detroit's total spread increased from 34.1 to 47.7, and its standard deviation increased from 10.6 to 11.1.

### Legend



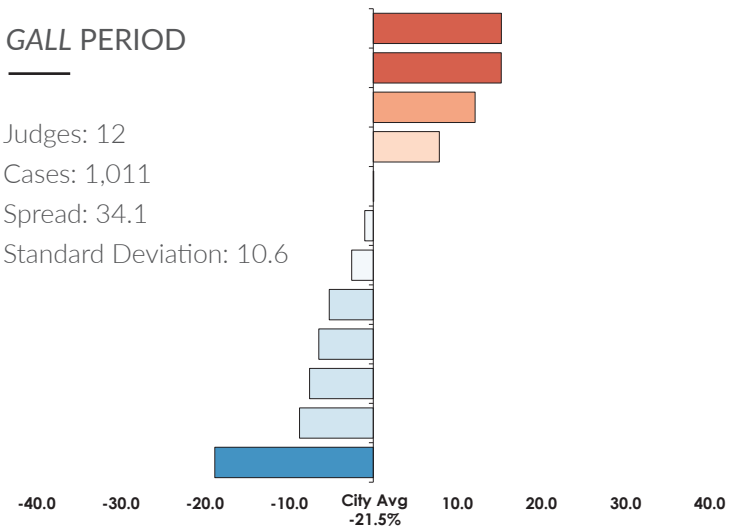
### BOOKER PERIOD

Judges: 11  
Cases: 680  
Spread: 34.4  
Standard Deviation: 9.5



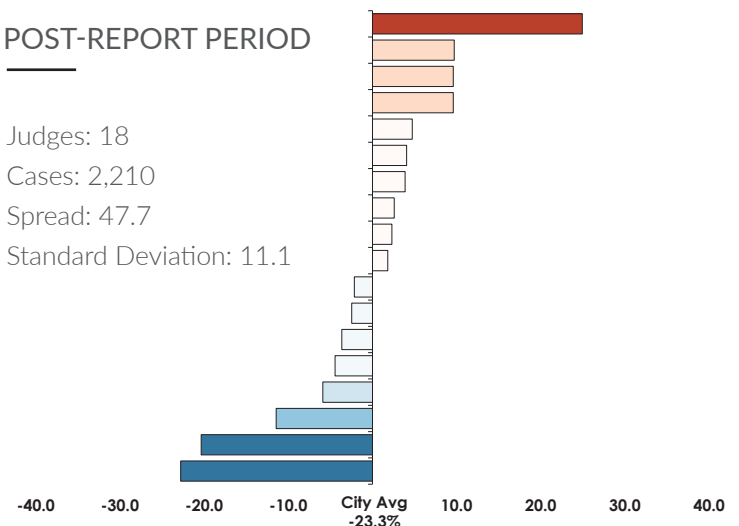
### GALL PERIOD

Judges: 12  
Cases: 1,011  
Spread: 34.1  
Standard Deviation: 10.6



### POST-REPORT PERIOD

Judges: 18  
Cases: 2,210  
Spread: 47.7  
Standard Deviation: 11.1



## KEY FINDINGS

# HOUSTON-BASED FEDERAL JUDGES

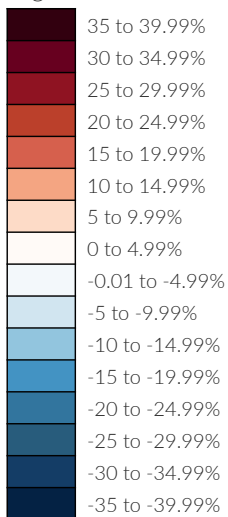
## SOUTHERN DISTRICT OF TEXAS

The Commission analyzed 6,417 cases from Houston across the three periods.

From the *Booker* Period to the *Gall* Period, Houston's total spread increased from 23.3 to 36.5, and its standard deviation increased from 7.9 to 12.6.

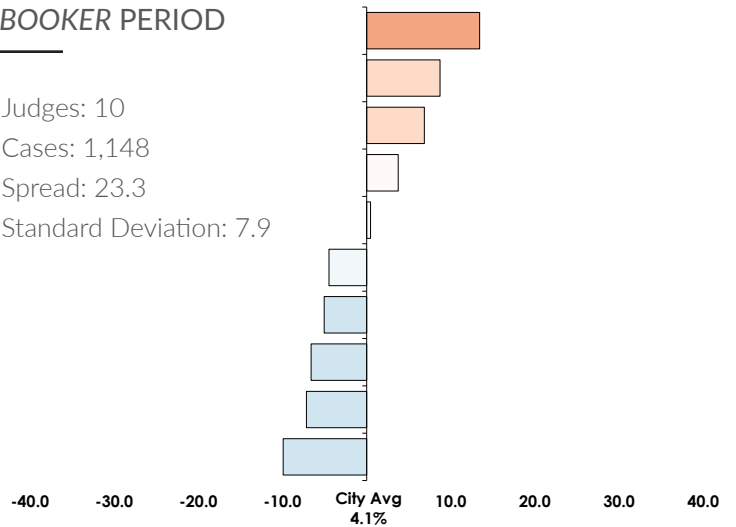
From the *Gall* Period to the Post-Report Period, Houston's total spread increased from 36.5 to 38.4, and its standard deviation increased from 12.6 to 14.6.

### Legend



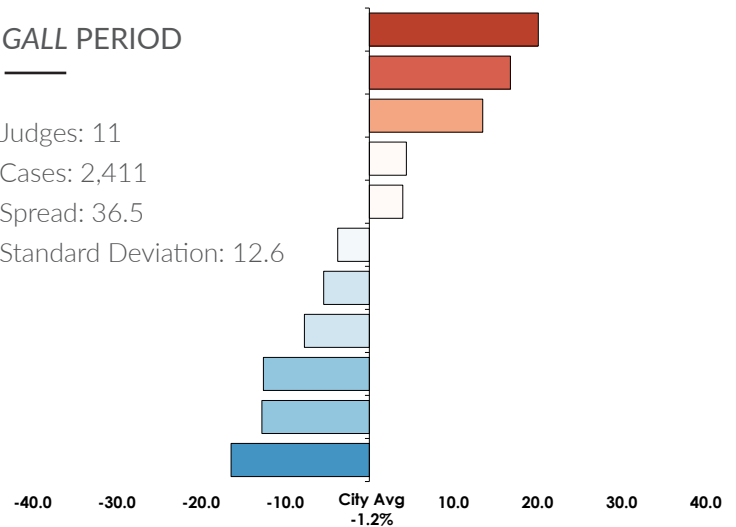
### BOOKER PERIOD

Judges: 10  
Cases: 1,148  
Spread: 23.3  
Standard Deviation: 7.9



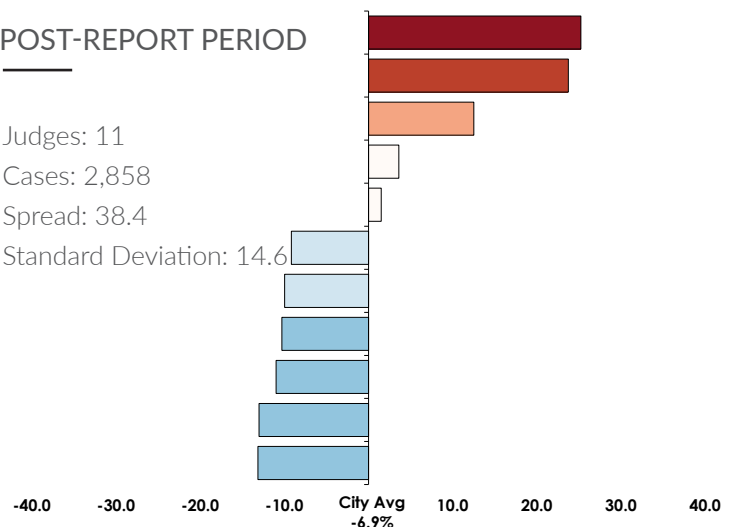
### GALL PERIOD

Judges: 11  
Cases: 2,411  
Spread: 36.5  
Standard Deviation: 12.6



### POST-REPORT PERIOD

Judges: 11  
Cases: 2,858  
Spread: 38.4  
Standard Deviation: 14.6





## KEY FINDINGS

# LOS ANGELES-BASED FEDERAL JUDGES

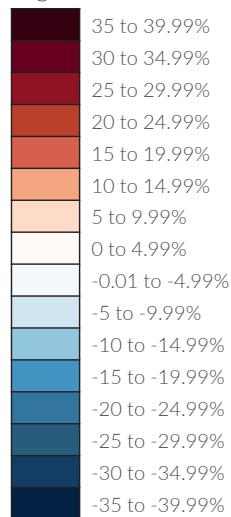
## CENTRAL DISTRICT OF CALIFORNIA

The Commission analyzed 6,791 cases from Los Angeles across the three periods.

From the *Booker* Period to the *Gall* Period, Los Angeles' total spread increased from 29.1 to 29.3, and its standard deviation increased from 7.6 to 8.0.

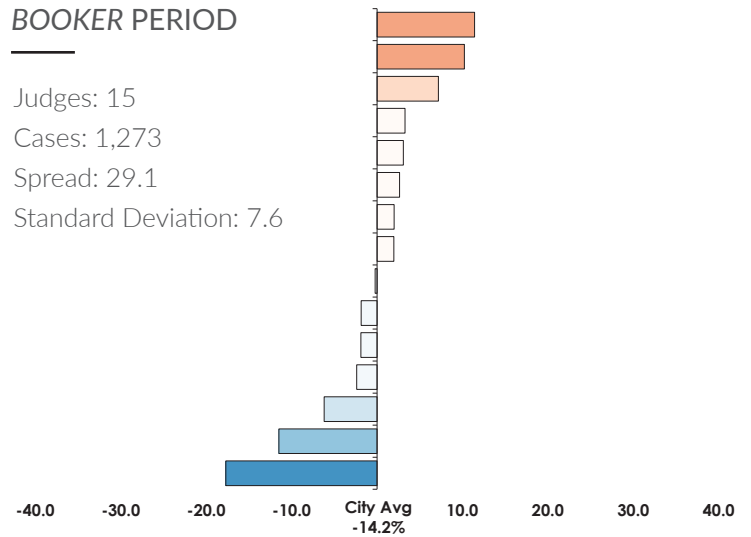
From the *Gall* Period to the Post-Report Period, Los Angeles' total spread increased from 29.3 to 42.9, and its standard deviation increased from 8.0 to 11.8.

### Legend



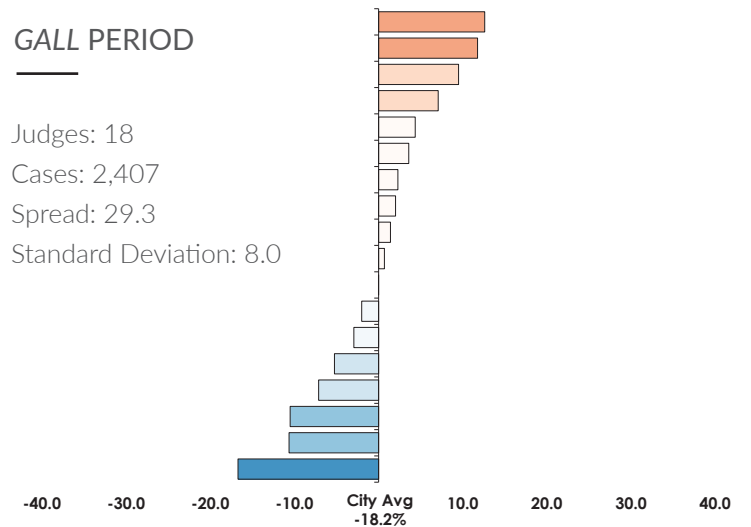
### BOOKER PERIOD

Judges: 15  
Cases: 1,273  
Spread: 29.1  
Standard Deviation: 7.6



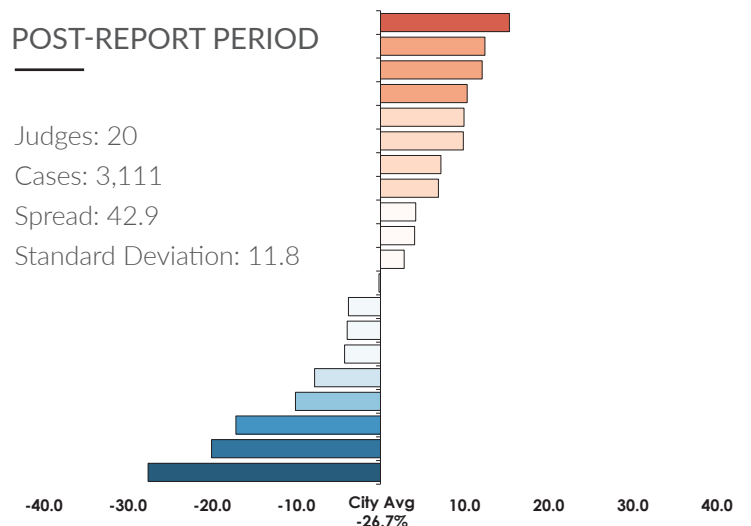
### GALL PERIOD

Judges: 18  
Cases: 2,407  
Spread: 29.3  
Standard Deviation: 8.0



### POST-REPORT PERIOD

Judges: 20  
Cases: 3,111  
Spread: 42.9  
Standard Deviation: 11.8



## KEY FINDINGS

# MANHATTAN-BASED FEDERAL JUDGES

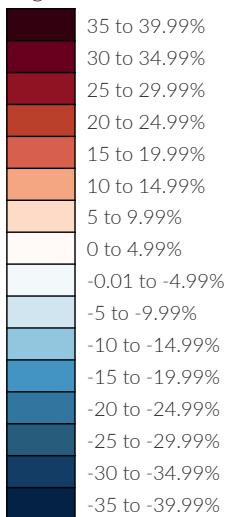
## SOUTHERN DISTRICT OF NEW YORK

The Commission analyzed 11,197 cases from Manhattan across the three periods.

From the *Booker* Period to the *Gall* Period, Manhattan's total spread decreased from 44.8 to 34.5 and its standard deviation decreased from 9.2 to 8.7.

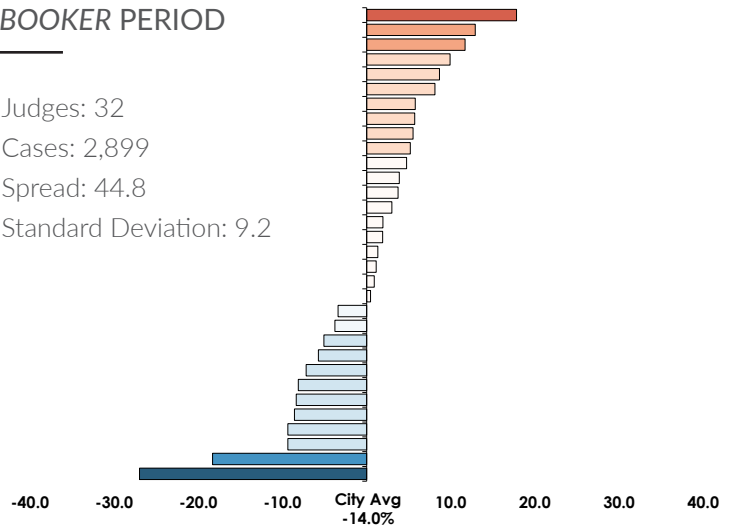
From the *Gall* Period to the Post-Report Period, Manhattan's total spread increased from 34.5 to 59.1, and its standard deviation increased from 8.7 to 12.9.

### Legend



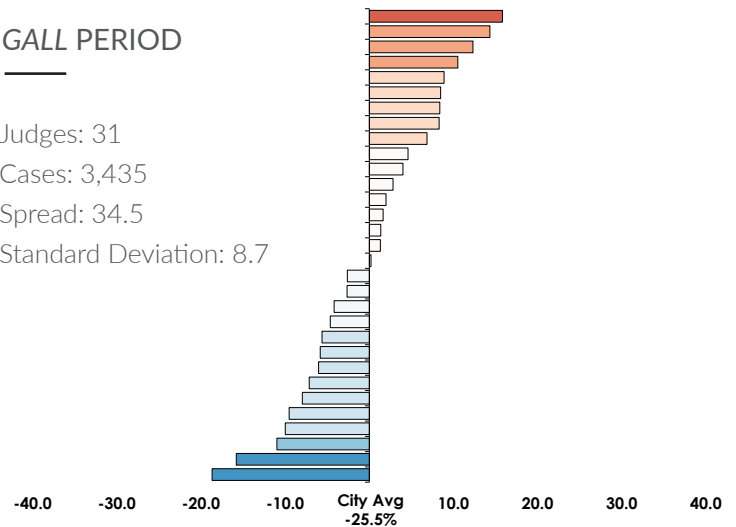
### BOOKER PERIOD

Judges: 32  
 Cases: 2,899  
 Spread: 44.8  
 Standard Deviation: 9.2



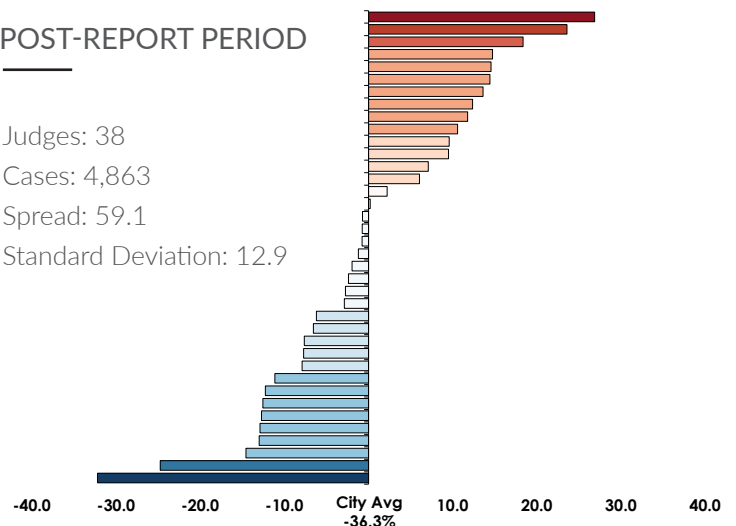
### GALL PERIOD

Judges: 31  
 Cases: 3,435  
 Spread: 34.5  
 Standard Deviation: 8.7



### POST-REPORT PERIOD

Judges: 38  
 Cases: 4,863  
 Spread: 59.1  
 Standard Deviation: 12.9





## KEY FINDINGS

# MEMPHIS-BASED FEDERAL JUDGES

## WESTERN DISTRICT OF TENNESSEE

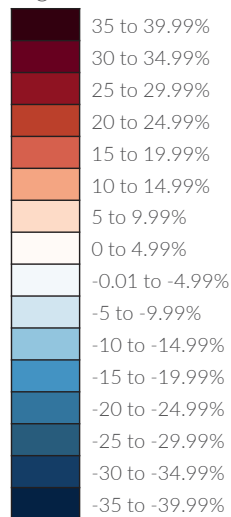
The Commission analyzed 2,914 cases from Memphis across the three periods.

From the *Booker* Period to the *Gall* Period, Memphis' total spread increased from 14.0 to 17.4.

From the *Gall* Period to the Post-Report Period, Memphis' total spread increased from 17.4 to 18.6.

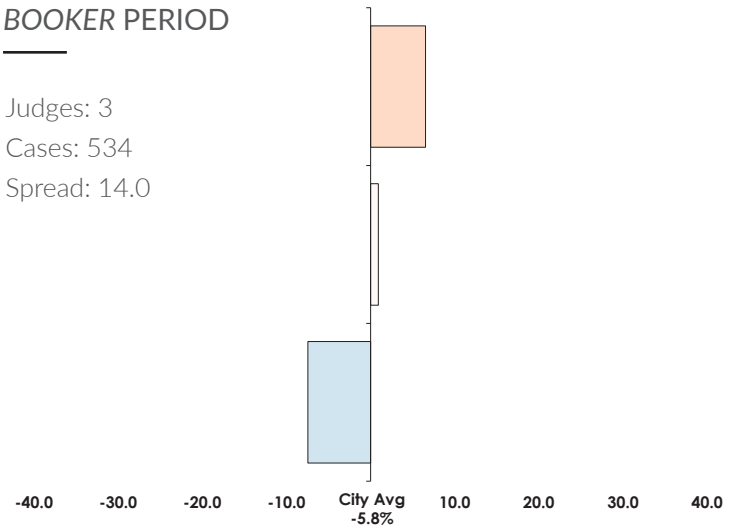
Because Memphis did not have at least five judges in all three periods, the standard deviations for the three periods are not reported.

### Legend



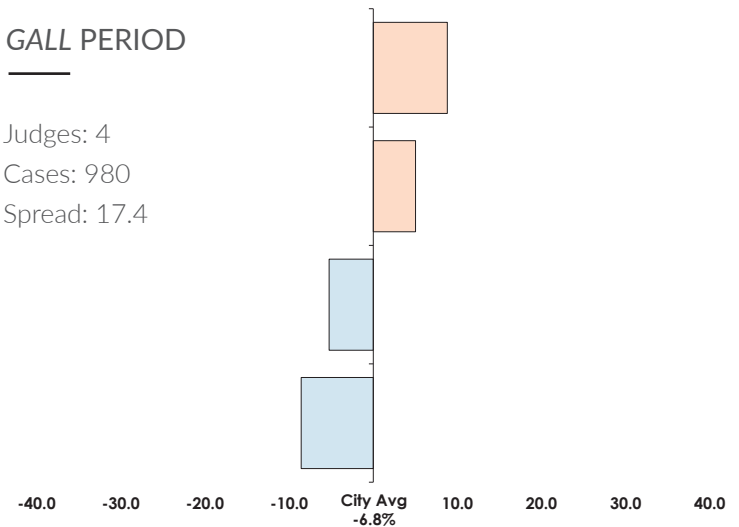
### BOOKER PERIOD

Judges: 3  
Cases: 534  
Spread: 14.0



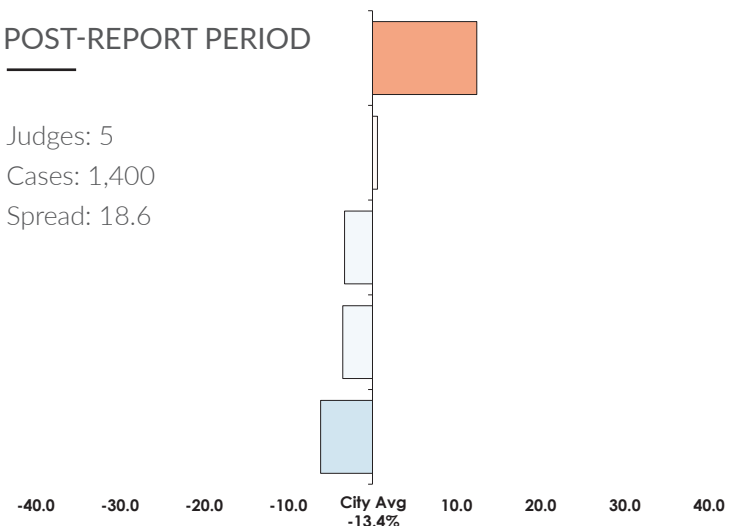
### GALL PERIOD

Judges: 4  
Cases: 980  
Spread: 17.4



### POST-REPORT PERIOD

Judges: 5  
Cases: 1,400  
Spread: 18.6



## KEY FINDINGS

# MIAMI-BASED FEDERAL JUDGES

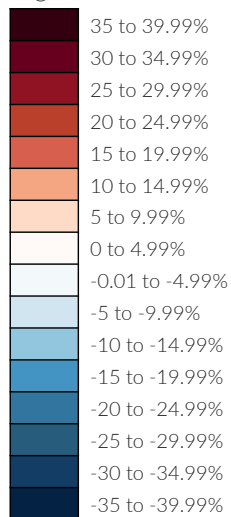
## SOUTHERN DISTRICT OF FLORIDA

The Commission analyzed 9,467 cases from Miami across the three periods.

From the *Booker* Period to the *Gall* Period, Miami's total spread increased from 16.0 to 17.1, and its standard deviation increased from 4.1 to 5.2.

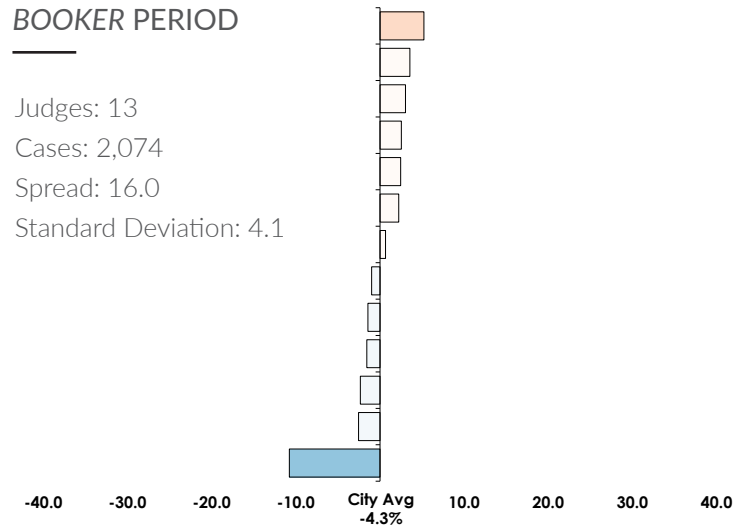
From the *Gall* Period to the Post-Report Period, Miami's total spread increased from 17.1 to 29.9, and its standard deviation increased from 5.2 to 9.0.

### Legend



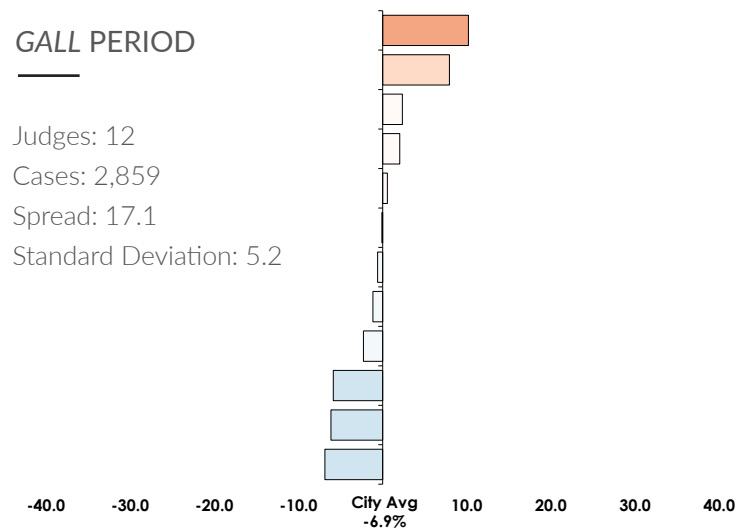
### BOOKER PERIOD

Judges: 13  
Cases: 2,074  
Spread: 16.0  
Standard Deviation: 4.1



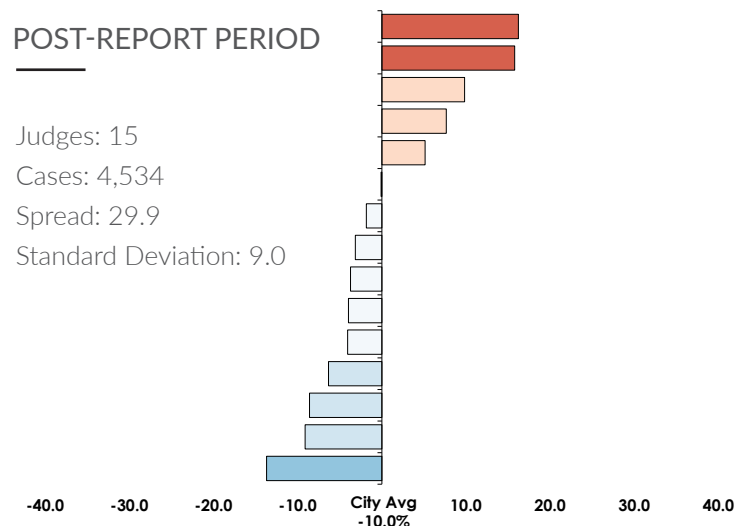
### GALL PERIOD

Judges: 12  
Cases: 2,859  
Spread: 17.1  
Standard Deviation: 5.2



### POST-REPORT PERIOD

Judges: 15  
Cases: 4,534  
Spread: 29.9  
Standard Deviation: 9.0







## KEY FINDINGS

# MINNEAPOLIS-BASED FEDERAL JUDGES

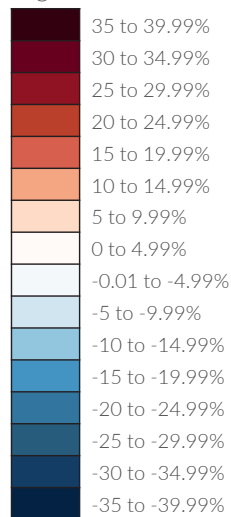
## DISTRICT OF MINNESOTA

The Commission analyzed 2,510 cases from Minneapolis across the three periods.

From the *Booker* Period to the *Gall* Period, Minneapolis' total spread increased from 13.7 to 20.5, and its standard deviation increased from 5.1 to 6.9.

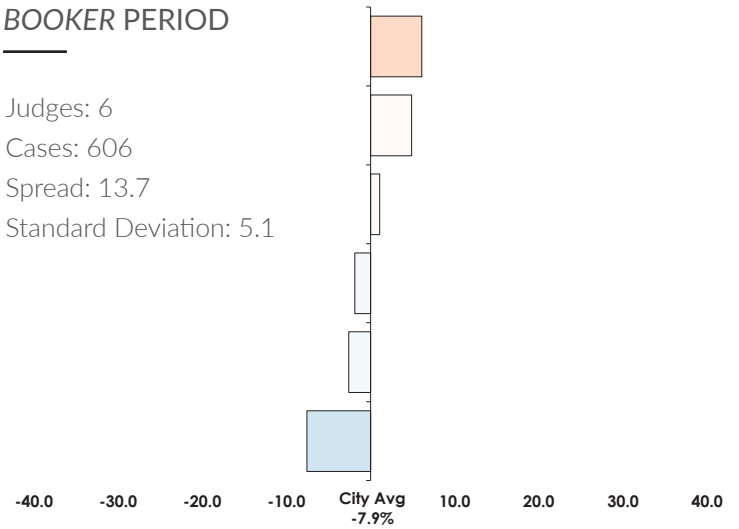
From the *Gall* Period to the Post-Report Period, Minneapolis' total spread decreased from 20.5 to 15.0, and its standard deviation decreased from 6.9 to 5.3.

### Legend



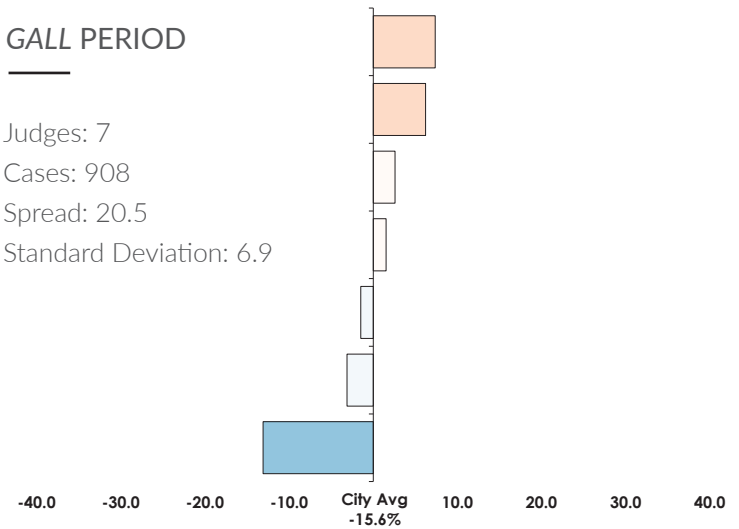
### BOOKER PERIOD

Judges: 6  
Cases: 606  
Spread: 13.7  
Standard Deviation: 5.1



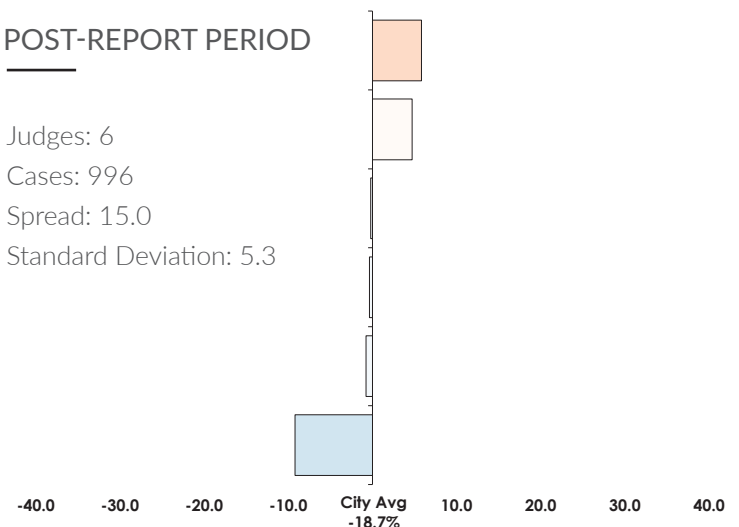
### GALL PERIOD

Judges: 7  
Cases: 908  
Spread: 20.5  
Standard Deviation: 6.9



### POST-REPORT PERIOD

Judges: 6  
Cases: 996  
Spread: 15.0  
Standard Deviation: 5.3



## KEY FINDINGS

# OKLAHOMA CITY-BASED FEDERAL JUDGES

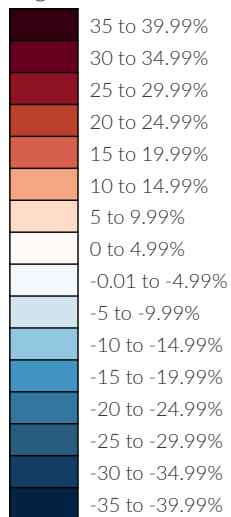
## WESTERN DISTRICT OF OKLAHOMA

The Commission analyzed 2,605 cases from Oklahoma City across the three periods.

From the *Booker* Period to the *Gall* Period, Oklahoma City's total spread decreased from 32.1 to 14.8, and its standard deviation decreased from 10.2 to 5.2.

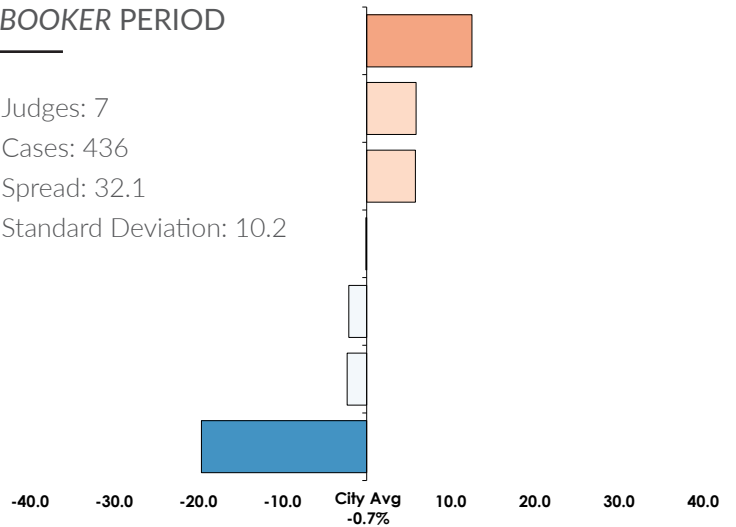
From the *Gall* Period to the Post-Report Period, Oklahoma City's total spread decreased from 14.8 to 6.9, and its standard deviation decreased from 5.2 to 2.7.

### Legend



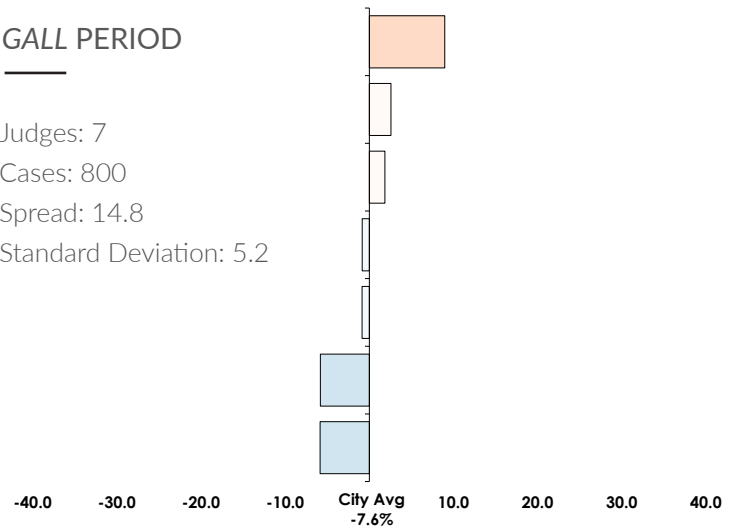
### BOOKER PERIOD

Judges: 7  
 Cases: 436  
 Spread: 32.1  
 Standard Deviation: 10.2



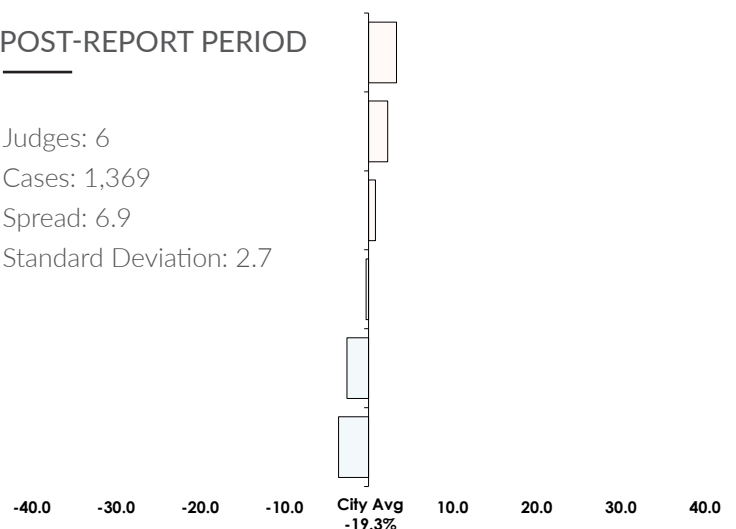
### GALL PERIOD

Judges: 7  
 Cases: 800  
 Spread: 14.8  
 Standard Deviation: 5.2



### POST-REPORT PERIOD

Judges: 6  
 Cases: 1,369  
 Spread: 6.9  
 Standard Deviation: 2.7





## KEY FINDINGS

# PHILADELPHIA-BASED FEDERAL JUDGES

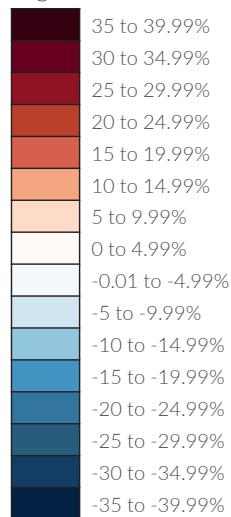
## EASTERN DISTRICT OF PENNSYLVANIA

The Commission analyzed 2,852 cases from Philadelphia across the three periods.

From the *Booker* Period to the *Gall* Period, Philadelphia's total spread increased from 33.8 to 53.7, and its standard deviation increased from 9.6 to 13.5.

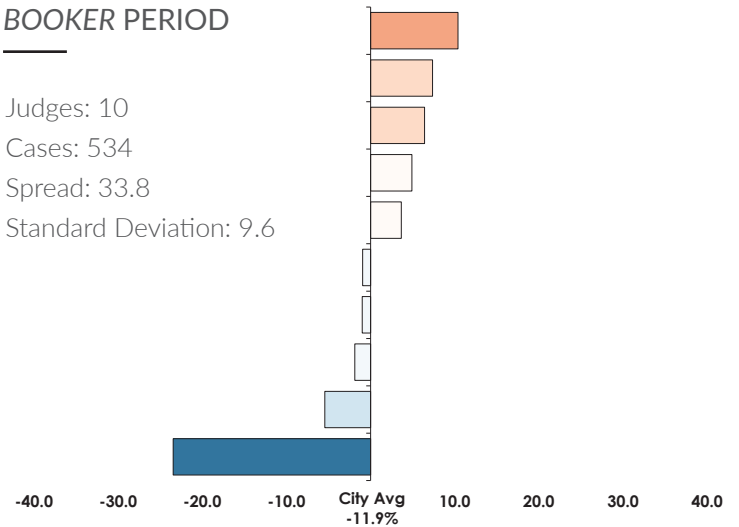
From the *Gall* Period to the Post-Report Period, Philadelphia's total spread increased from 53.7 to 63.8, and its standard deviation increased from 13.5 to 13.6.

### Legend



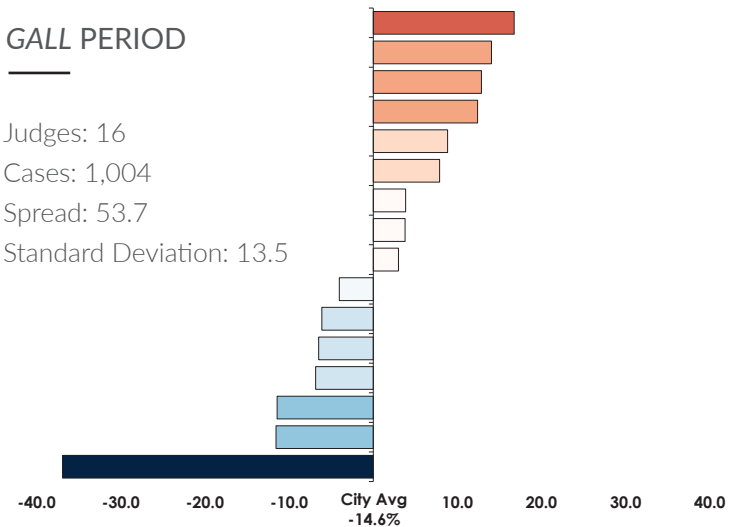
### BOOKER PERIOD

Judges: 10  
Cases: 534  
Spread: 33.8  
Standard Deviation: 9.6



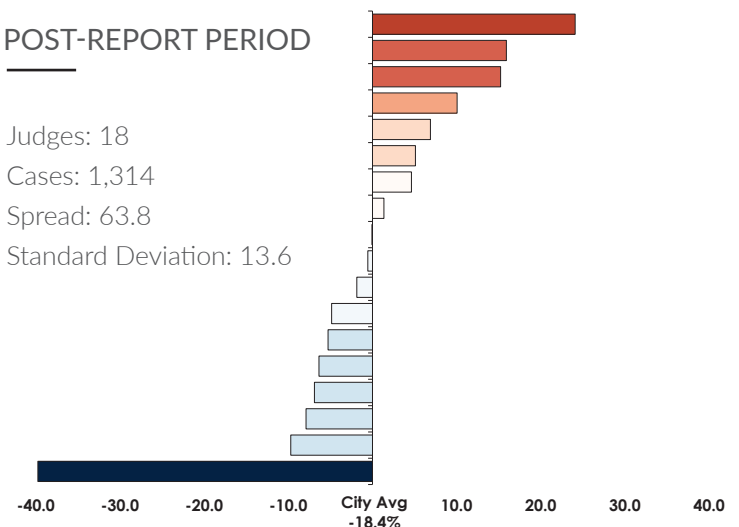
### GALL PERIOD

Judges: 16  
Cases: 1,004  
Spread: 53.7  
Standard Deviation: 13.5



### POST-REPORT PERIOD

Judges: 18  
Cases: 1,314  
Spread: 63.8  
Standard Deviation: 13.6



### KEY FINDINGS

## PHOENIX-BASED FEDERAL JUDGES

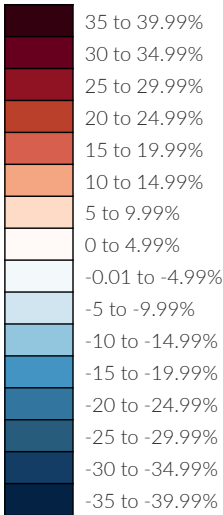
### DISTRICT OF ARIZONA

The Commission analyzed 7,915 cases from Phoenix across the three periods.

From the *Booker* Period to the *Gall* Period, Phoenix's total spread increased from 8.7 to 25.7, and its standard deviation increased from 2.8 to 7.1.

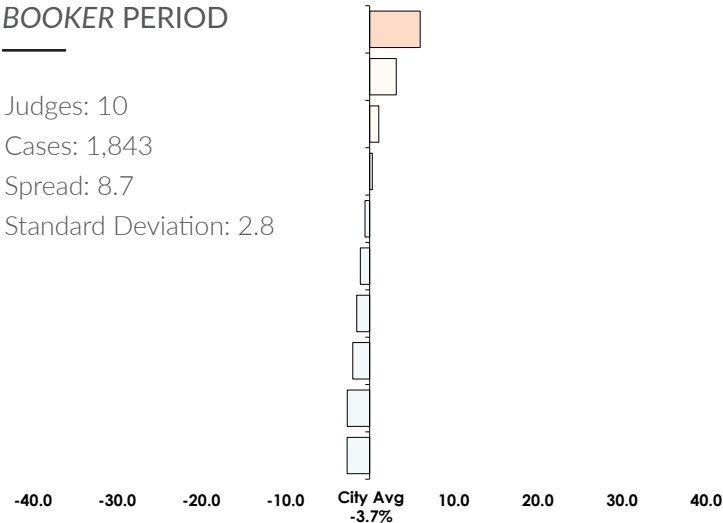
From the *Gall* Period to the Post-Report Period, Phoenix's total spread increased from 25.7 to 27.5, and its standard deviation increased from 7.1 to 7.9.

#### Legend



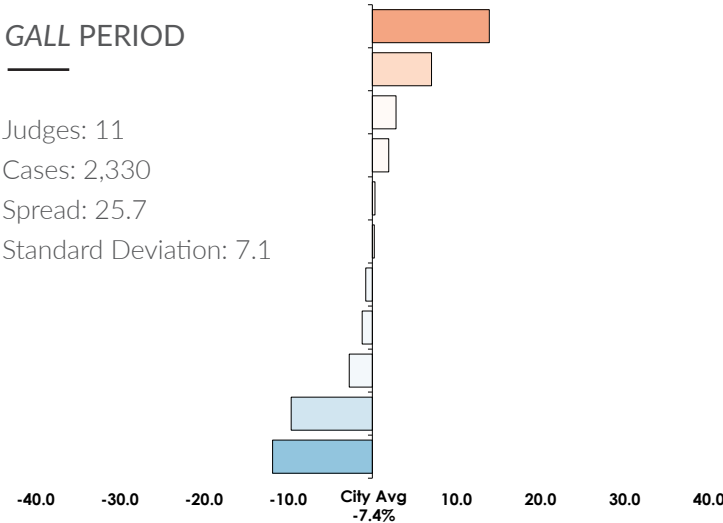
#### BOOKER PERIOD

Judges: 10  
Cases: 1,843  
Spread: 8.7  
Standard Deviation: 2.8



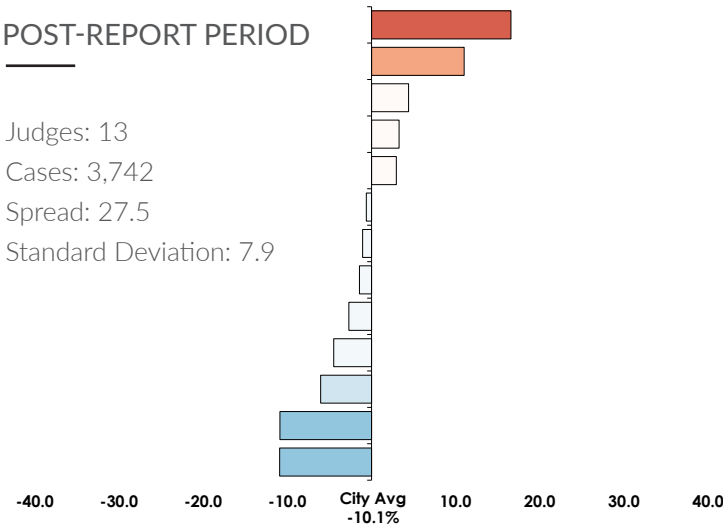
#### GALL PERIOD

Judges: 11  
Cases: 2,330  
Spread: 25.7  
Standard Deviation: 7.1



#### POST-REPORT PERIOD

Judges: 13  
Cases: 3,742  
Spread: 27.5  
Standard Deviation: 7.9





## KEY FINDINGS

# PITTSBURGH-BASED FEDERAL JUDGES

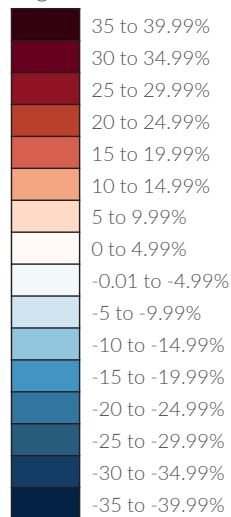
## WESTERN DISTRICT OF PENNSYLVANIA

The Commission analyzed 2,770 cases from Pittsburgh across the three periods.

From the *Booker* Period to the *Gall* Period, Pittsburgh's total spread increased from 19.7 to 32.5, and its standard deviation increased from 5.9 to 9.4.

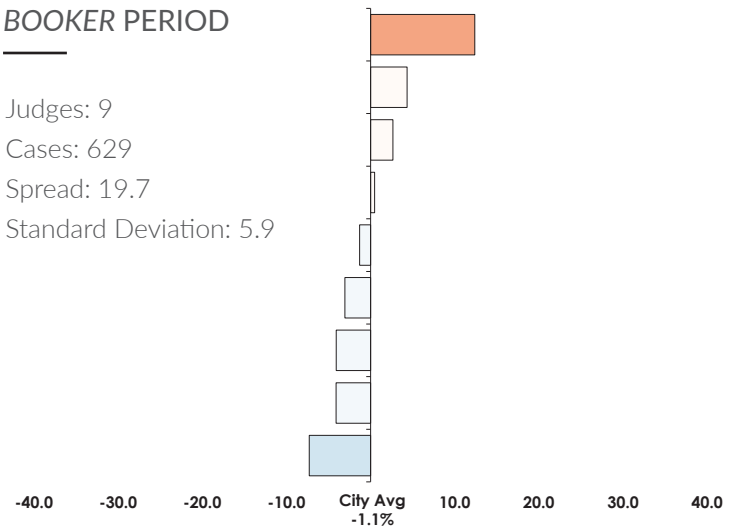
From the *Gall* Period to the Post-Report Period, Pittsburgh's total spread decreased from 32.5 to 19.8, and its standard deviation decreased from 9.4 to 6.9.

### Legend



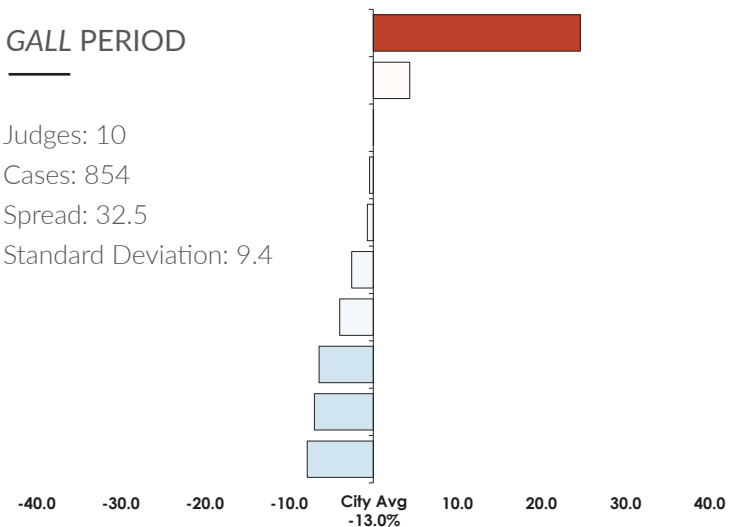
### BOOKER PERIOD

Judges: 9  
Cases: 629  
Spread: 19.7  
Standard Deviation: 5.9



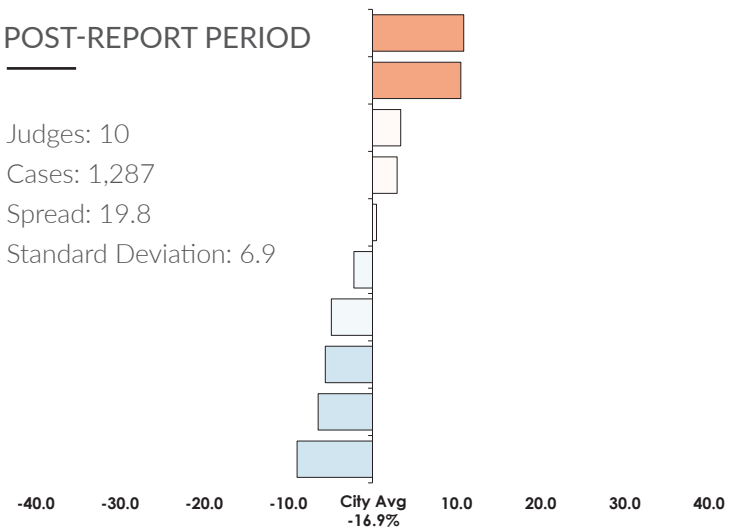
### GALL PERIOD

Judges: 10  
Cases: 854  
Spread: 32.5  
Standard Deviation: 9.4



### POST-REPORT PERIOD

Judges: 10  
Cases: 1,287  
Spread: 19.8  
Standard Deviation: 6.9



### KEY FINDINGS

## PORTLAND-BASED FEDERAL JUDGES

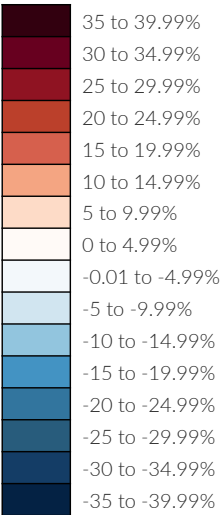
### DISTRICT OF OREGON

The Commission analyzed 3,314 cases from Portland across the three periods.

From the *Booker* Period to the *Gall* Period, Portland's total spread increased from 8.3 to 14.7, and its standard deviation increased from 3.3 to 5.8.

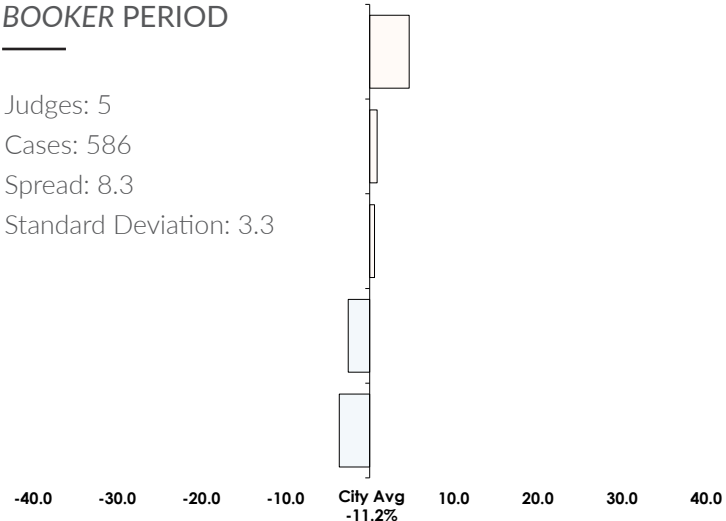
From the *Gall* Period to the Post-Report Period, Portland's total spread increased from 14.7 to 24.6, and its standard deviation increased from 5.8 to 7.1.

#### Legend



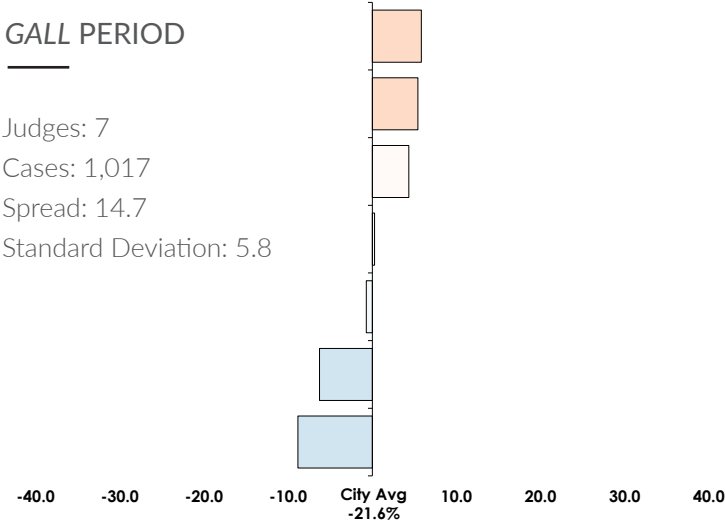
#### BOOKER PERIOD

Judges: 5  
Cases: 586  
Spread: 8.3  
Standard Deviation: 3.3



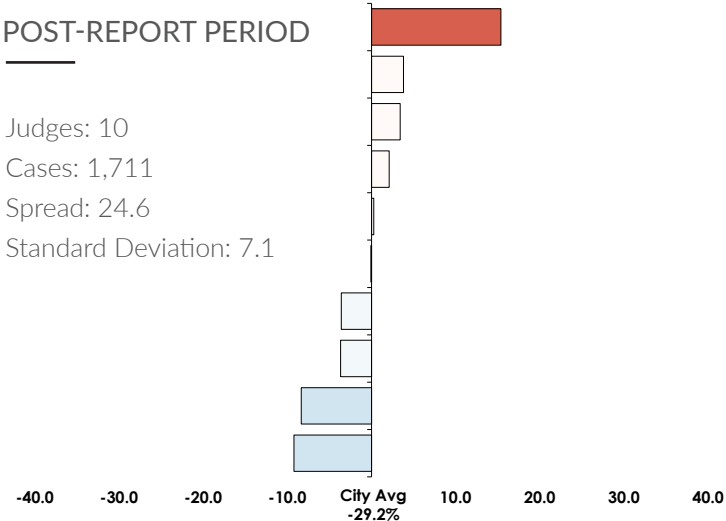
#### GALL PERIOD

Judges: 7  
Cases: 1,017  
Spread: 14.7  
Standard Deviation: 5.8



#### POST-REPORT PERIOD

Judges: 10  
Cases: 1,711  
Spread: 24.6  
Standard Deviation: 7.1







## KEY FINDINGS

# SAINT LOUIS-BASED FEDERAL JUDGES

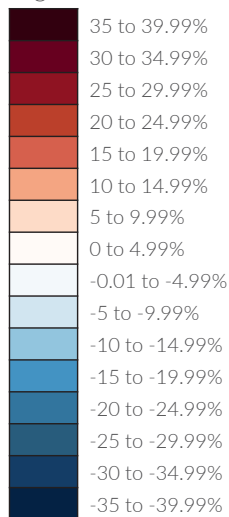
## EASTERN DISTRICT OF MISSOURI

The Commission analyzed 6,007 cases from Saint Louis across the three periods.

From the *Booker* Period to the *Gall* Period, Saint Louis' total spread increased from 11.5 to 19.6, and its standard deviation increased from 4.2 to 5.8.

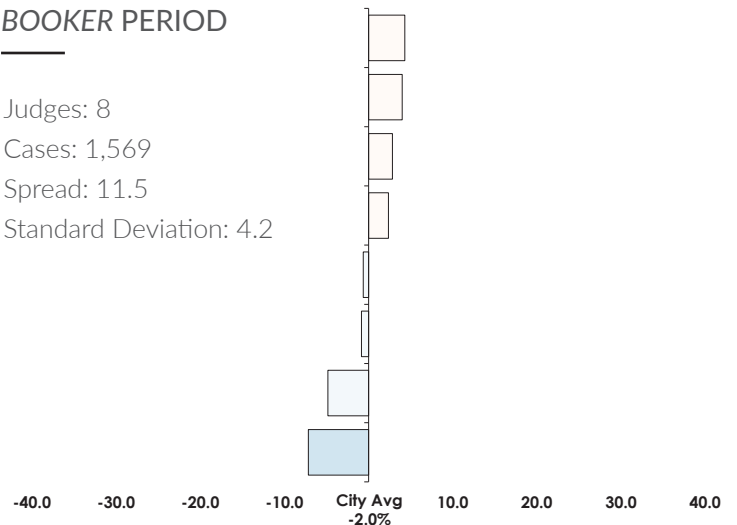
From the *Gall* Period to the Post-Report Period, Saint Louis' total spread decreased from 19.6 to 10.4, and its standard deviation decreased from 5.8 to 3.6.

### Legend



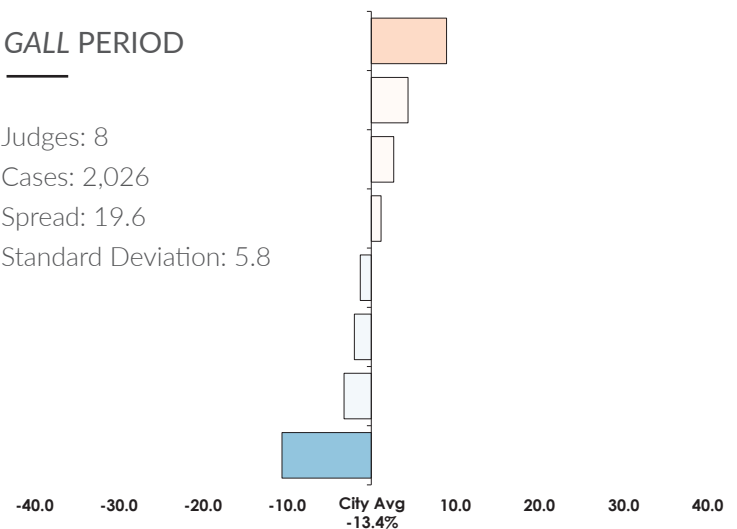
### BOOKER PERIOD

Judges: 8  
Cases: 1,569  
Spread: 11.5  
Standard Deviation: 4.2



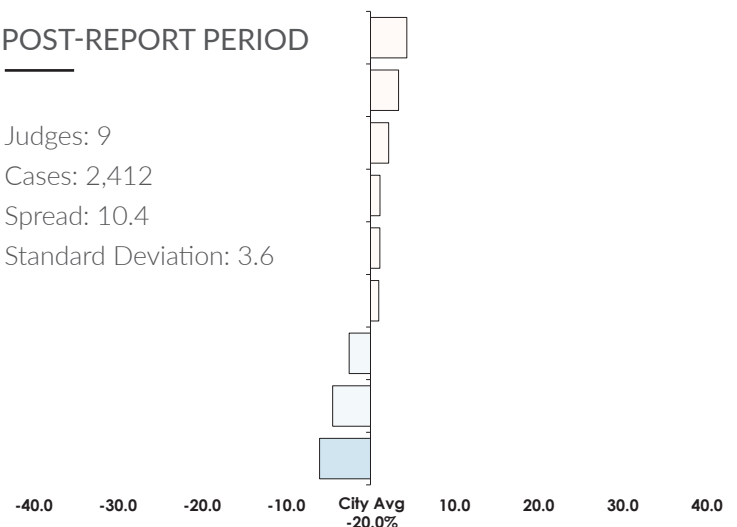
### GALL PERIOD

Judges: 8  
Cases: 2,026  
Spread: 19.6  
Standard Deviation: 5.8



### POST-REPORT PERIOD

Judges: 9  
Cases: 2,412  
Spread: 10.4  
Standard Deviation: 3.6



### KEY FINDINGS

## SALT LAKE CITY-BASED FEDERAL JUDGES

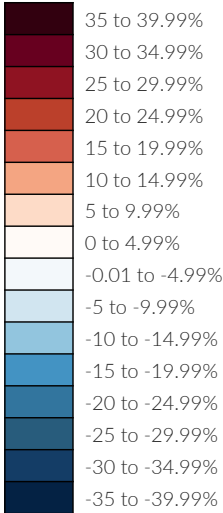
### DISTRICT OF UTAH

The Commission analyzed 4,665 cases from Salt Lake City across the three periods.

From the *Booker* Period to the *Gall* Period, Salt Lake City's total spread increased from 7.8 to 14.7, and its standard deviation increased from 3.0 to 5.6.

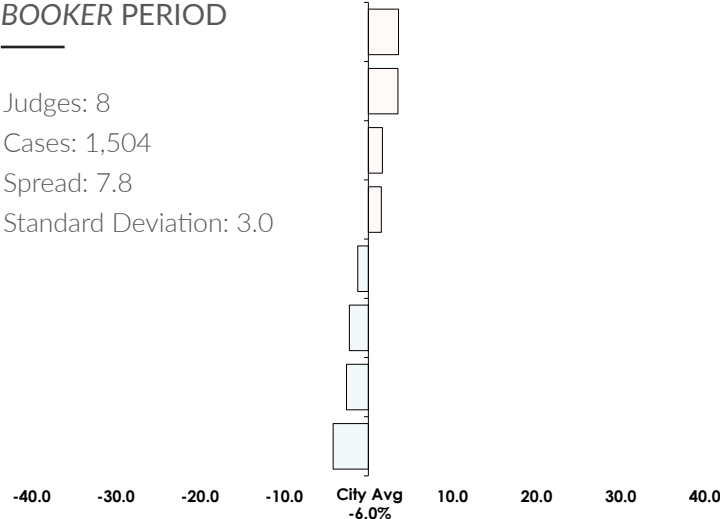
From the *Gall* Period to the Post-Report Period, Salt Lake City's total spread increased from 14.7 to 20.1, and its standard deviation increased from 5.6 to 5.8.

#### Legend



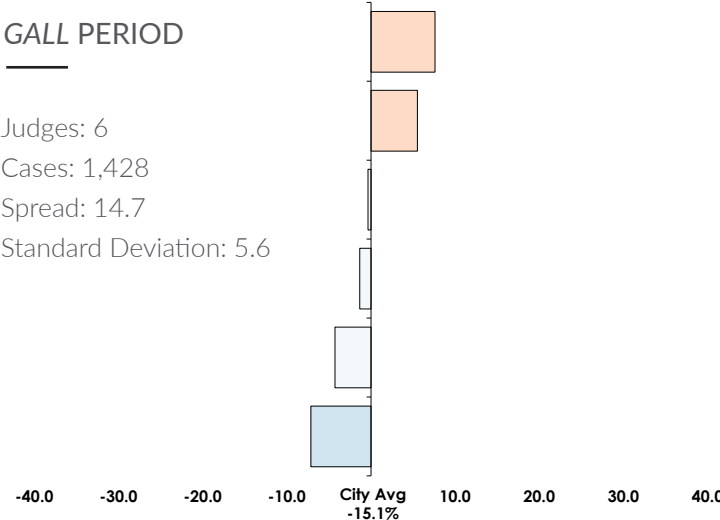
#### BOOKER PERIOD

Judges: 8  
Cases: 1,504  
Spread: 7.8  
Standard Deviation: 3.0



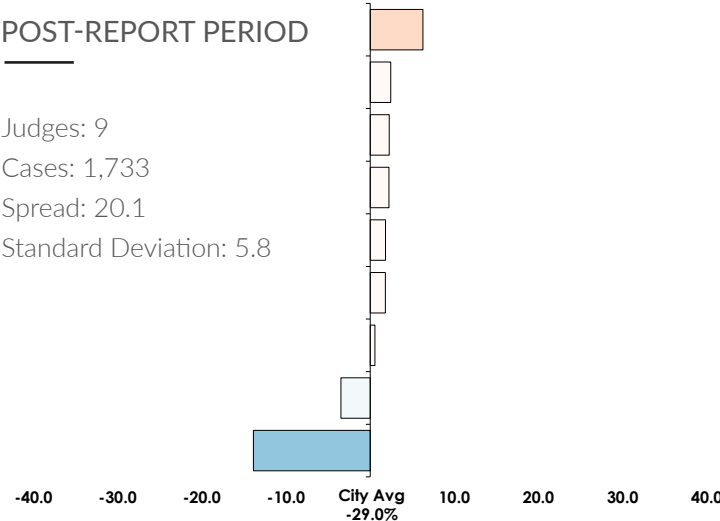
#### GALL PERIOD

Judges: 6  
Cases: 1,428  
Spread: 14.7  
Standard Deviation: 5.6



#### POST-REPORT PERIOD

Judges: 9  
Cases: 1,733  
Spread: 20.1  
Standard Deviation: 5.8





## KEY FINDINGS

# SAN ANTONIO-BASED FEDERAL JUDGES

## WESTERN DISTRICT OF TEXAS

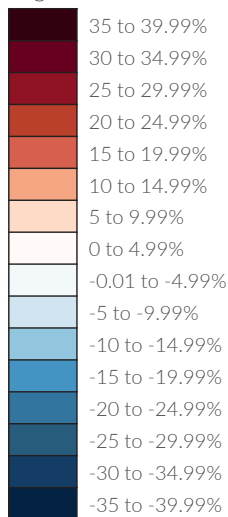
The Commission analyzed 5,198 cases from San Antonio across the three periods.

From the *Booker* Period to the *Gall* Period, San Antonio's total spread decreased from 7.5 to 7.1.

From the *Gall* Period to the Post-Report Period, San Antonio's total spread increased from 7.1 to 12.2.

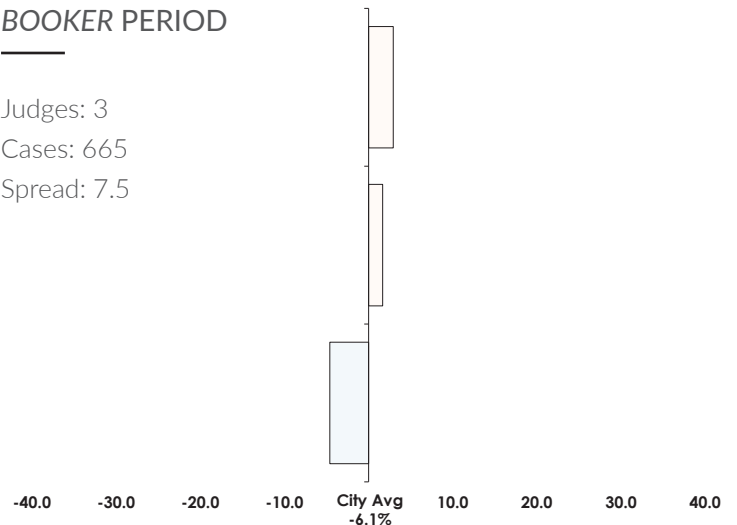
Because San Antonio did not have at least five judges in all three periods, the standard deviations for the three periods are not reported.

### Legend



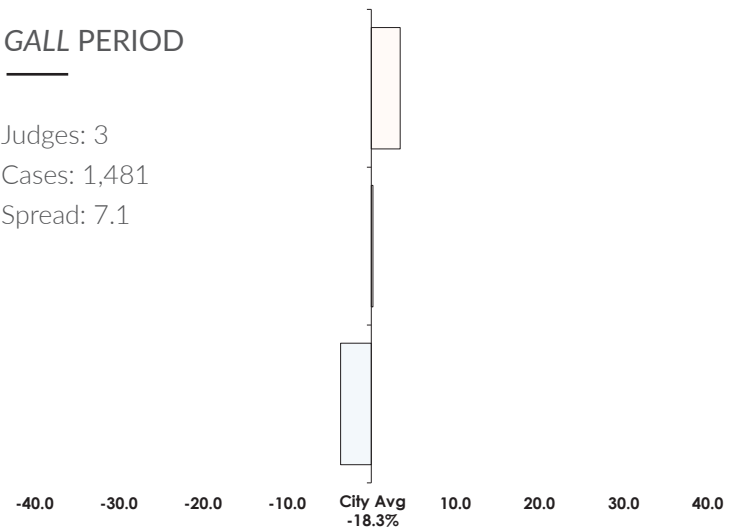
### BOOKER PERIOD

Judges: 3  
Cases: 665  
Spread: 7.5



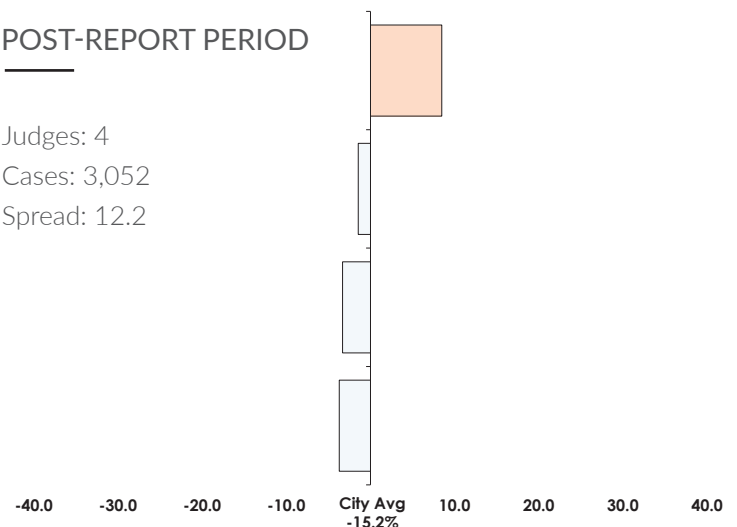
### GALL PERIOD

Judges: 3  
Cases: 1,481  
Spread: 7.1



### POST-REPORT PERIOD

Judges: 4  
Cases: 3,052  
Spread: 12.2



## KEY FINDINGS

# SAN DIEGO-BASED FEDERAL JUDGES

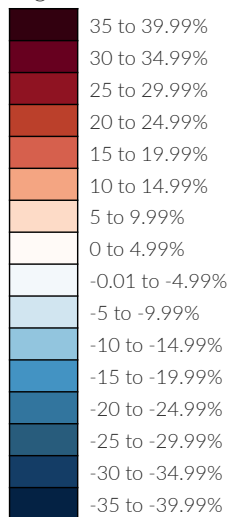
## SOUTHERN DISTRICT OF CALIFORNIA

The Commission analyzed 11,960 cases from San Diego across the three periods.

From the *Booker* Period to the *Gall* Period, San Diego's total spread increased from 13.9 to 21.3, and its standard deviation increased from 4.5 to 6.4.

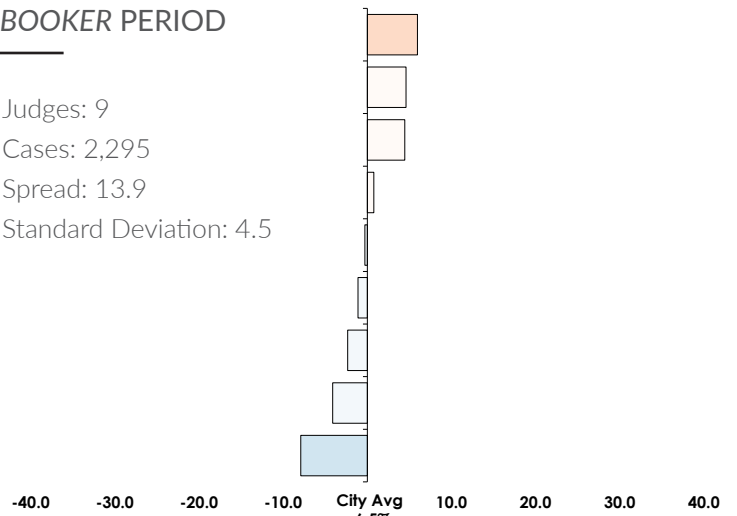
From the *Gall* Period to the Post-Report Period, San Diego's total spread increased from 21.3 to 54.4, and its standard deviation increased from 6.4 to 13.0.

### Legend



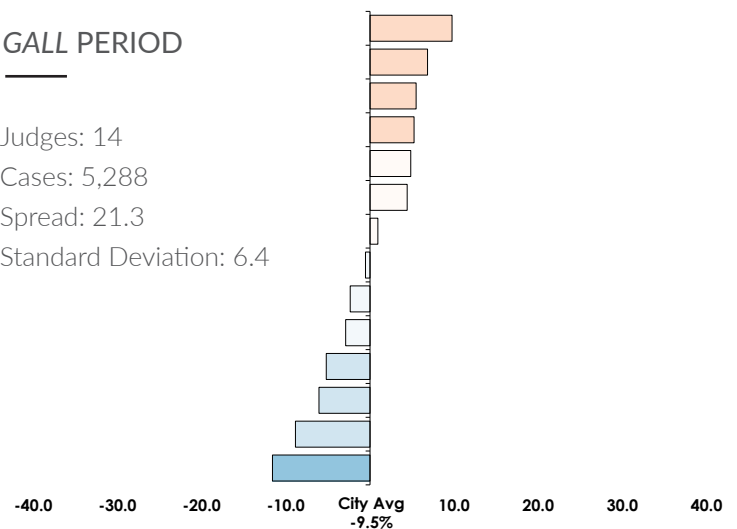
### BOOKER PERIOD

Judges: 9  
 Cases: 2,295  
 Spread: 13.9  
 Standard Deviation: 4.5



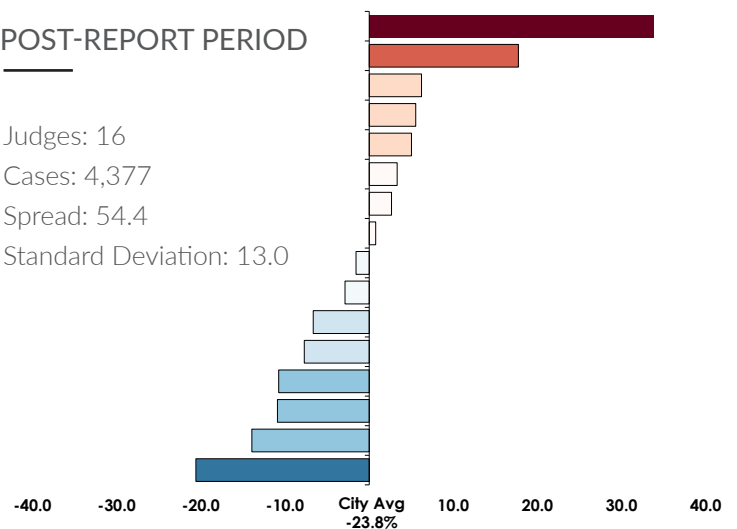
### GALL PERIOD

Judges: 14  
 Cases: 5,288  
 Spread: 21.3  
 Standard Deviation: 6.4



### POST-REPORT PERIOD

Judges: 16  
 Cases: 4,377  
 Spread: 54.4  
 Standard Deviation: 13.0





## KEY FINDINGS

# SAN FRANCISCO-BASED FEDERAL JUDGES

## NORTHERN DISTRICT OF CALIFORNIA

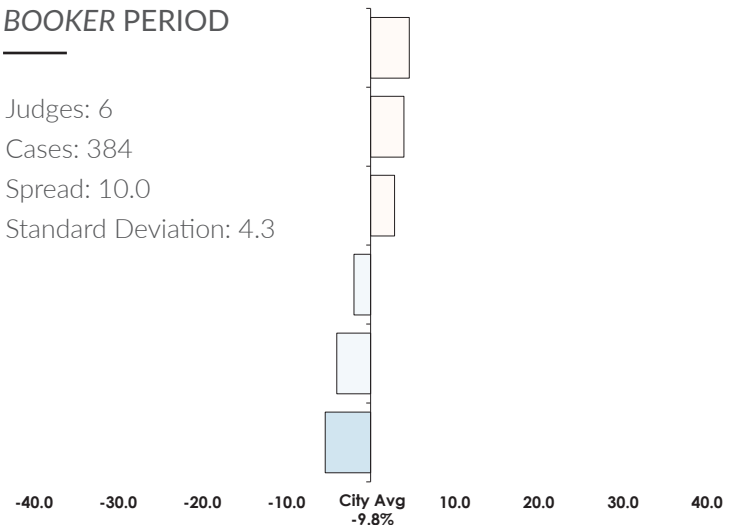
The Commission analyzed 1,880 cases from San Francisco across the three periods.

From the *Booker* Period to the *Gall* Period, San Francisco's total spread increased from 10.0 to 18.3, and its standard deviation increased from 4.3 to 7.4.

From the *Gall* Period to the Post-Report Period, San Francisco's total spread decreased from 18.3 to 17.9, and its standard deviation decreased from 7.4 to 6.1.

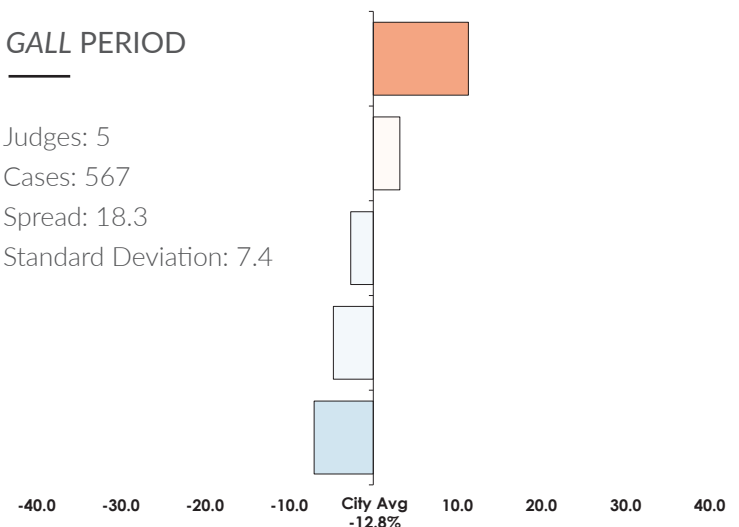
### BOOKER PERIOD

Judges: 6  
Cases: 384  
Spread: 10.0  
Standard Deviation: 4.3



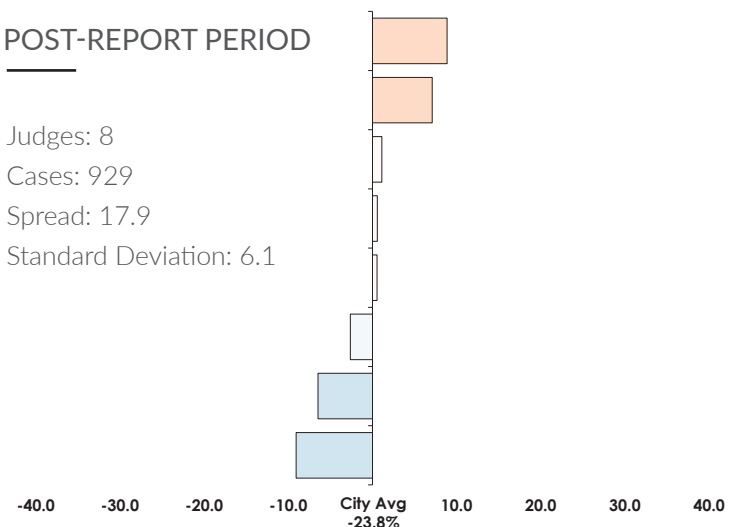
### GALL PERIOD

Judges: 5  
Cases: 567  
Spread: 18.3  
Standard Deviation: 7.4

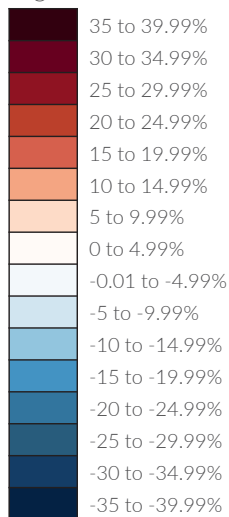


### POST-REPORT PERIOD

Judges: 8  
Cases: 929  
Spread: 17.9  
Standard Deviation: 6.1



#### Legend



## KEY FINDINGS

# SAN JUAN-BASED FEDERAL JUDGES

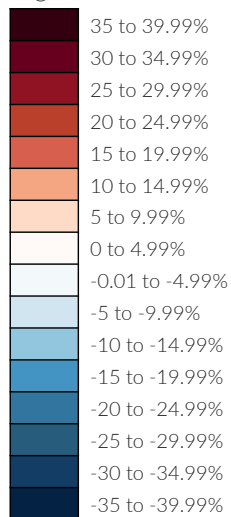
## DISTRICT OF PUERTO RICO

The Commission analyzed 6,460 cases from San Juan across the three periods.

From the *Booker* Period to the *Gall* Period, San Juan's total spread increased from 9.6 to 20.9, and its standard deviation increased from 3.6 to 7.2.

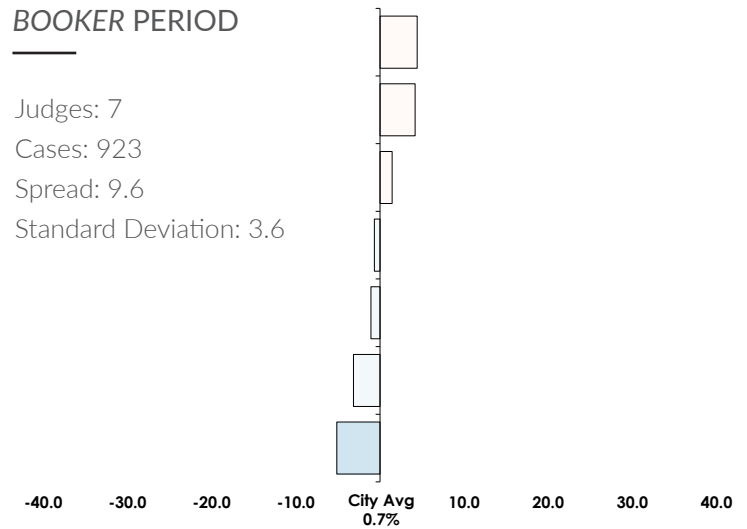
From the *Gall* Period to the Post-Report Period, San Juan's total spread increased from 20.9 to 22.2, and its standard deviation increased from 7.2 to 7.4.

### Legend



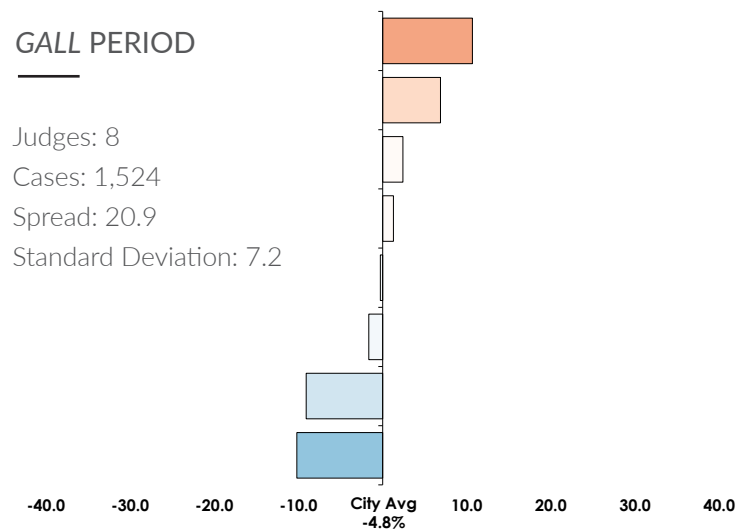
### BOOKER PERIOD

Judges: 7  
Cases: 923  
Spread: 9.6  
Standard Deviation: 3.6



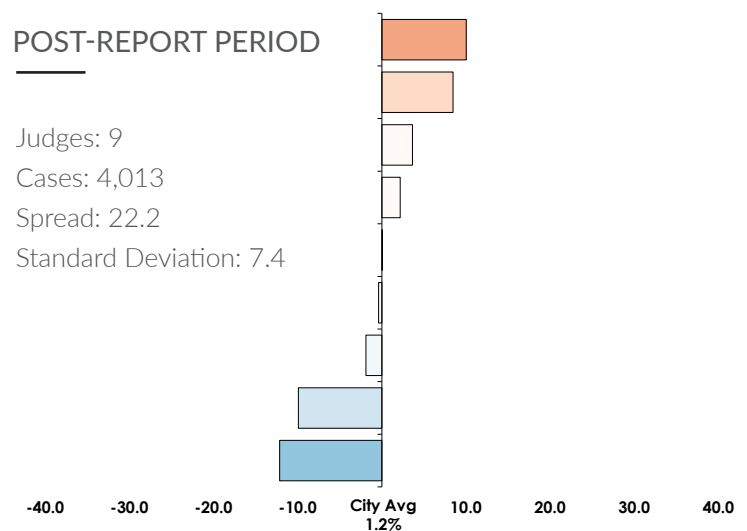
### GALL PERIOD

Judges: 8  
Cases: 1,524  
Spread: 20.9  
Standard Deviation: 7.2



### POST-REPORT PERIOD

Judges: 9  
Cases: 4,013  
Spread: 22.2  
Standard Deviation: 7.4







## KEY FINDINGS

# SEATTLE-BASED FEDERAL JUDGES

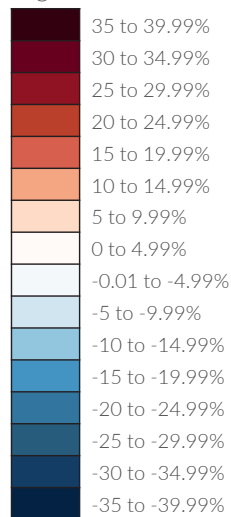
## WESTERN DISTRICT OF WASHINGTON

The Commission analyzed 3,689 cases from Seattle across the three periods.

From the *Booker* Period to the *Gall* Period, Seattle's total spread decreased from 10.4 to 4.9, and its standard deviation decreased from 3.9 to 1.6.

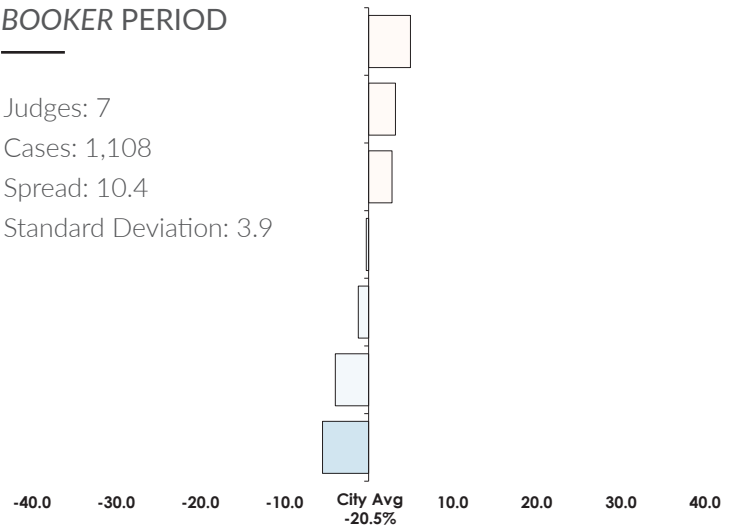
From the *Gall* Period to the Post-Report Period, Seattle's total spread increased from 4.9 to 21.1, and its standard deviation increased from 1.6 to 7.1.

### Legend



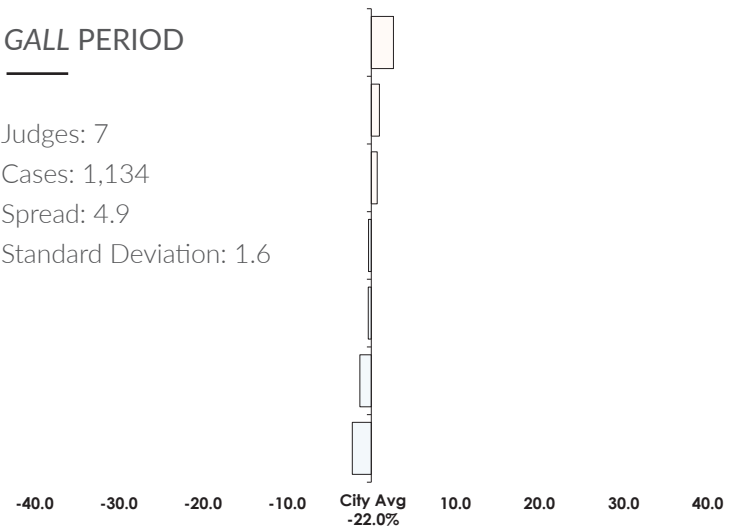
### BOOKER PERIOD

Judges: 7  
Cases: 1,108  
Spread: 10.4  
Standard Deviation: 3.9



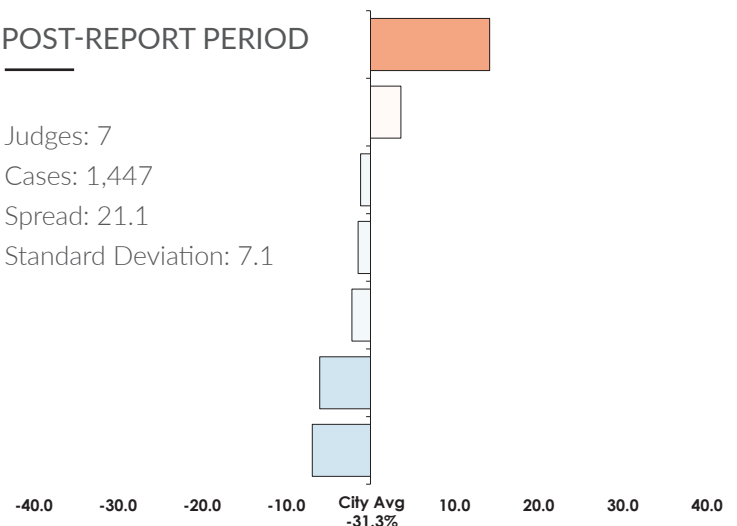
### GALL PERIOD

Judges: 7  
Cases: 1,134  
Spread: 4.9  
Standard Deviation: 1.6



### POST-REPORT PERIOD

Judges: 7  
Cases: 1,447  
Spread: 21.1  
Standard Deviation: 7.1



## KEY FINDINGS

# TAMPA-BASED FEDERAL JUDGES

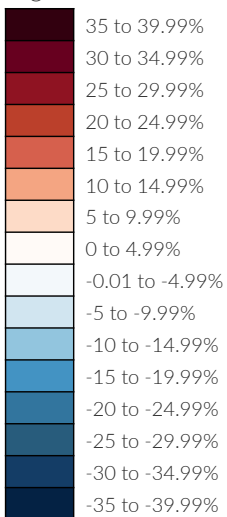
## MIDDLE DISTRICT OF FLORIDA

The Commission analyzed 5,279 cases from Tampa across the three periods.

From the *Booker* Period to the *Gall* Period, Tampa's total spread increased from 11.9 to 29.7, and its standard deviation increased from 3.7 to 9.6.

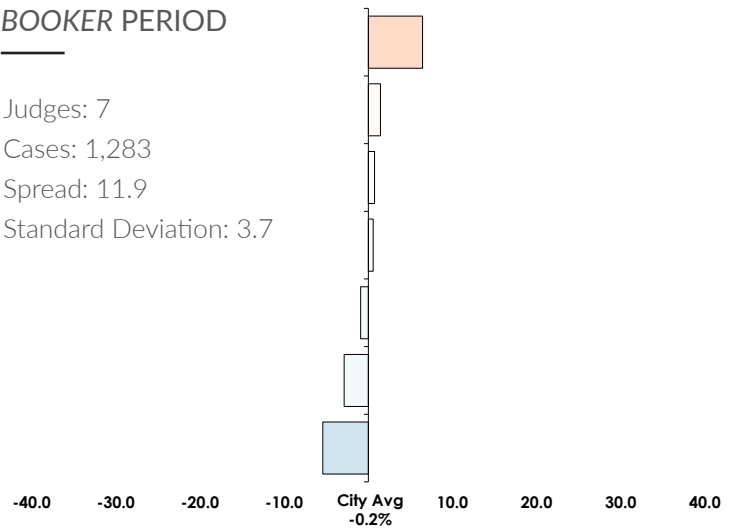
From the *Gall* Period to the Post-Report Period, Tampa's total spread decreased from 29.7 to 22.7, and its standard deviation decreased from 9.6 to 5.9.

### Legend



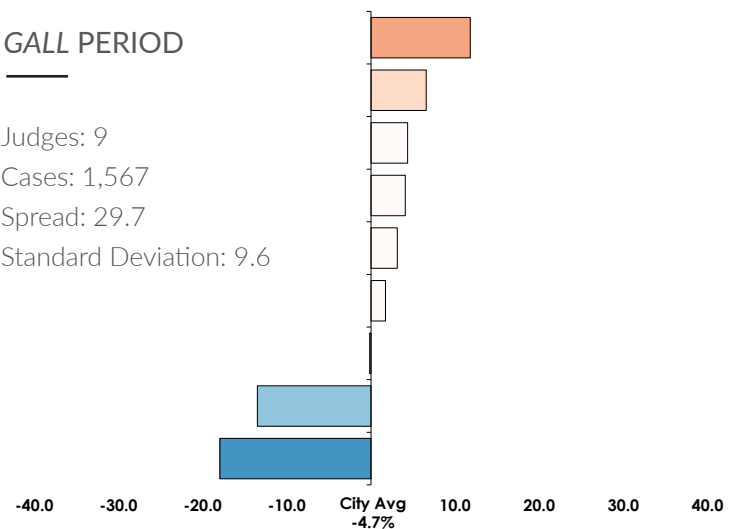
### BOOKER PERIOD

Judges: 7  
Cases: 1,283  
Spread: 11.9  
Standard Deviation: 3.7



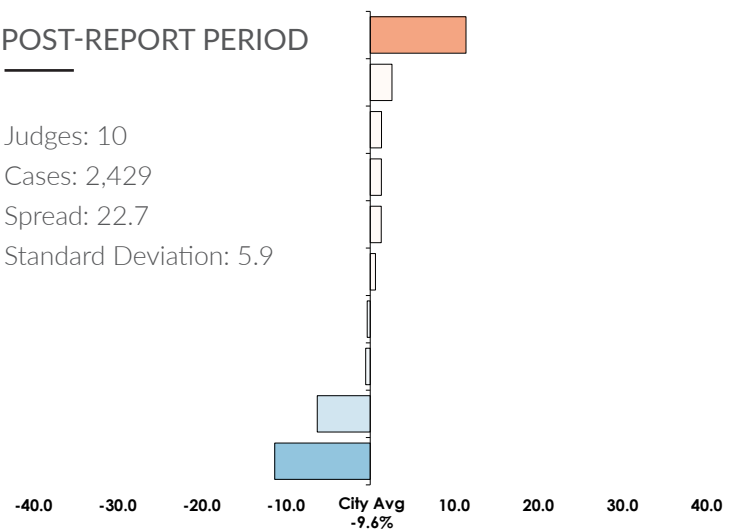
### GALL PERIOD

Judges: 9  
Cases: 1,567  
Spread: 29.7  
Standard Deviation: 9.6



### POST-REPORT PERIOD

Judges: 10  
Cases: 2,429  
Spread: 22.7  
Standard Deviation: 5.9



**The Commission analyzed whether random assignment of cases resulted in even distribution of offense types among judges.**





## APPENDIX C

# Caseload Compositions of 30 Cities



As discussed above, a key reason for studying differences in sentencing practices of judges within a single city—as opposed to judges in a larger geographical region, such as a federal judicial district with multiple divisions—is that, as a general practice, federal district judges within a single city are randomly assigned cases from the same pool of cases. Assuming a sufficiently large enough number of cases per judge, random assignment should generally result in each judge in a city having a roughly even distribution of guideline offense types. The Commission selected the 50-case minimum per judge requirement for each period studied for the purpose of increasing the likelihood that case assignment resulted in randomly distributed guideline offense types.

The Commission analyzed each city's sentencing data in each period to determine if random distribution resulted in a generally even distribution of cases—both among judges in each city in the three periods and across the three periods in each city with respect to the city's total caseload. In the majority of cities, random assignment resulted in

fairly even distribution of the primary four guideline types—§§2B1.1 (fraud and theft offenses), 2D1.1 (drug-trafficking offenses), 2K2.1 (firearm offenses), and 2L1.2 (illegal reentry offenses)—as well as all other offense types (as a catch-all fifth category).<sup>56</sup> This appendix contains data regarding all 30 cities' judges' caseload compositions in each period, as well as data about each city's total caseload over the three periods. It shows that for most judges in most cities, their caseload compositions were generally similar. It likewise shows that most cities had comparable caseload compositions over the three periods.<sup>57</sup> Judges are identified only by a four-digit number assigned by the Commission for research purposes.

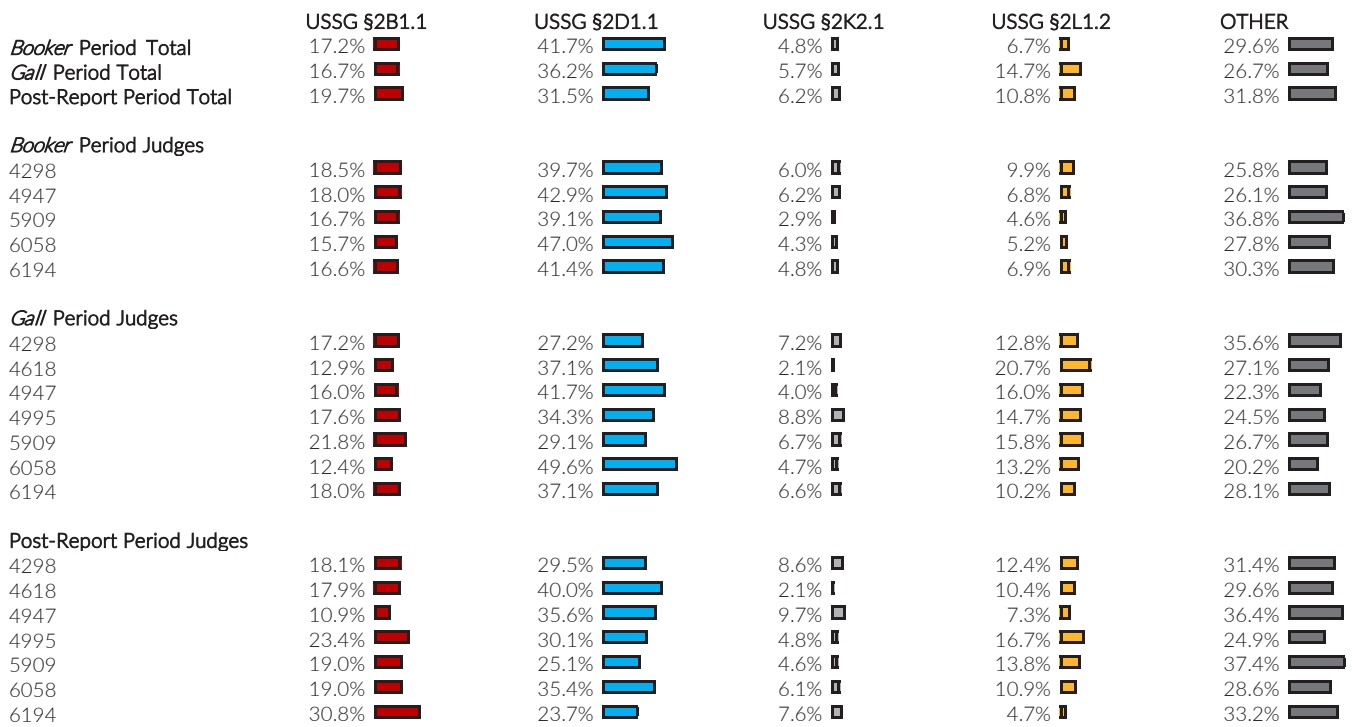
There were some exceptions, however. As a result, as discussed in Appendix D (p. 101), the Commission conducted weighting analyses to determine whether those differences substantially contributed to differences in caseload compositions among the 30 cities' judges in terms of their average percent differences or corresponding differences in the 30 cities' total spreads and standard deviations.



## Judge's Caseload by Guideline

# ALEXANDRIA-BASED FEDERAL JUDGES

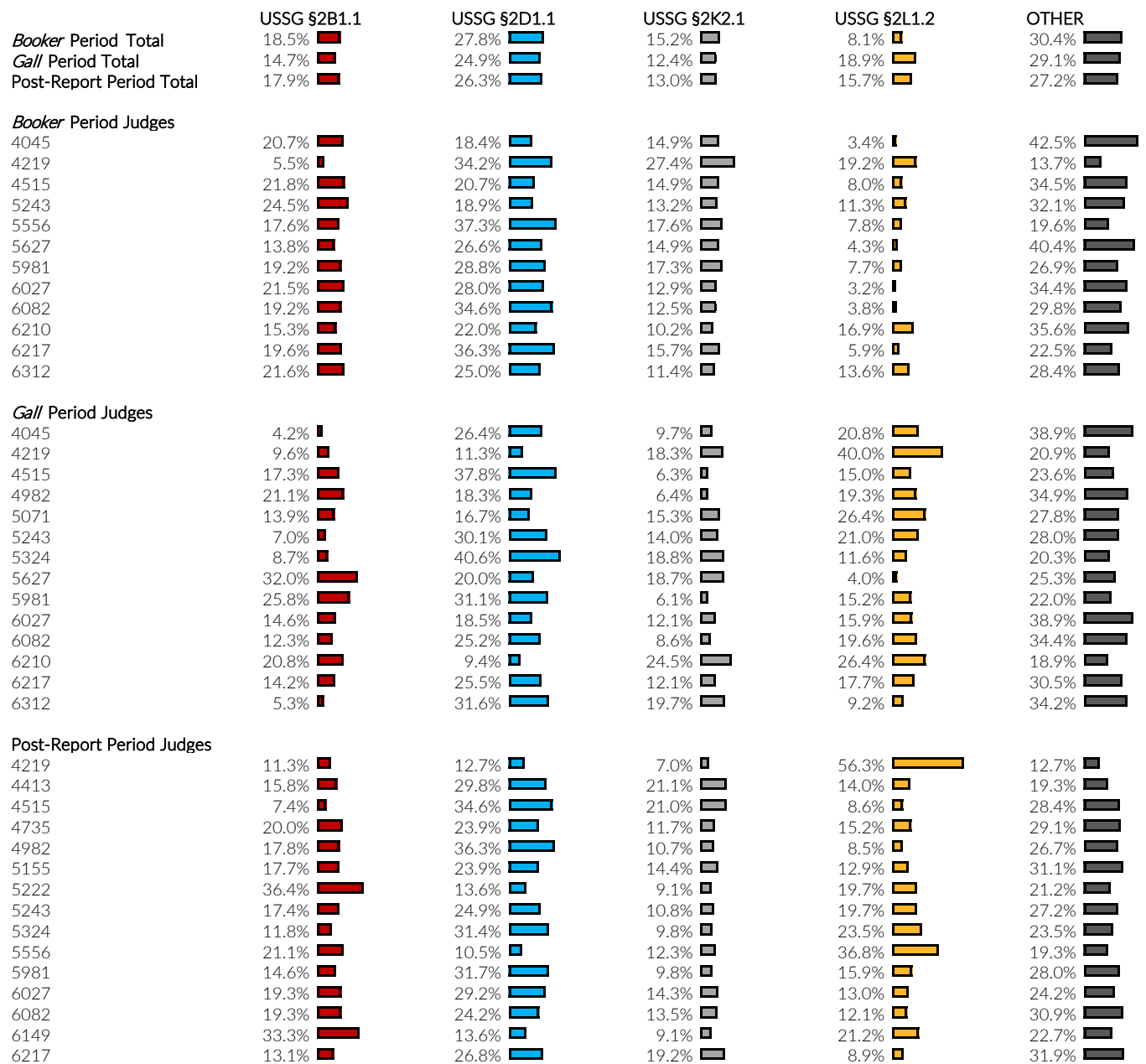
## EASTERN DISTRICT OF VIRGINIA



## Judge's Caseload by Guideline

# ATLANTA-BASED FEDERAL JUDGES

## NORTHERN DISTRICT OF GEORGIA



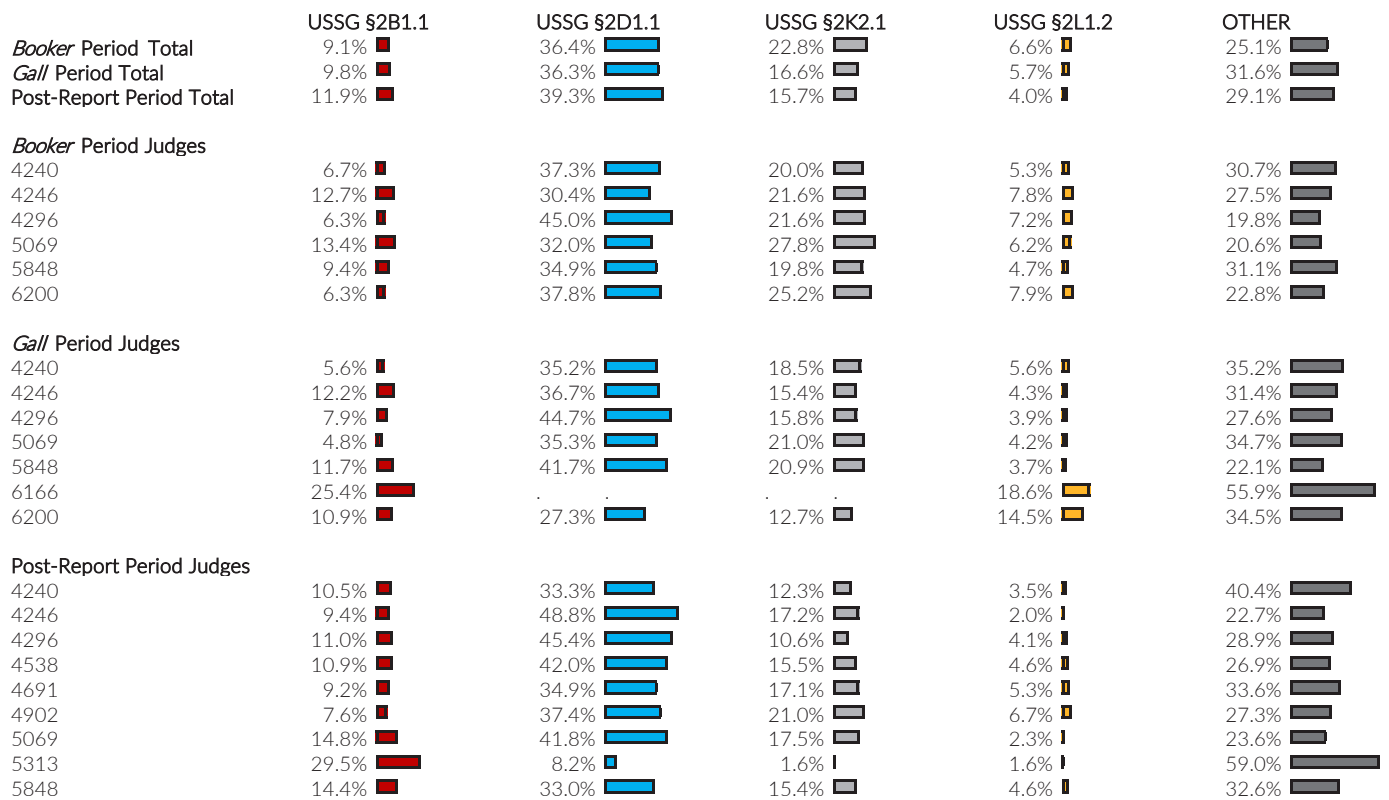




## Judge's Caseload by Guideline

# BALTIMORE-BASED FEDERAL JUDGES

## DISTRICT OF MARYLAND



## Judge's Caseload by Guideline

# BOSTON-BASED FEDERAL JUDGES

## DISTRICT OF MASSACHUSETTS

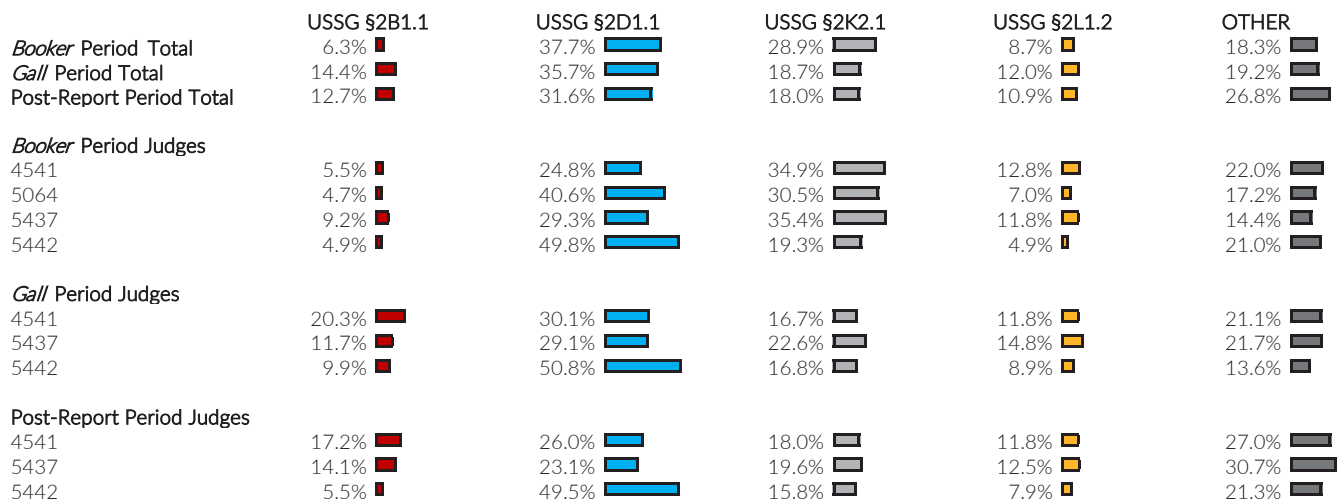




## Judge's Caseload by Guideline

# CHARLOTTE-BASED FEDERAL JUDGES

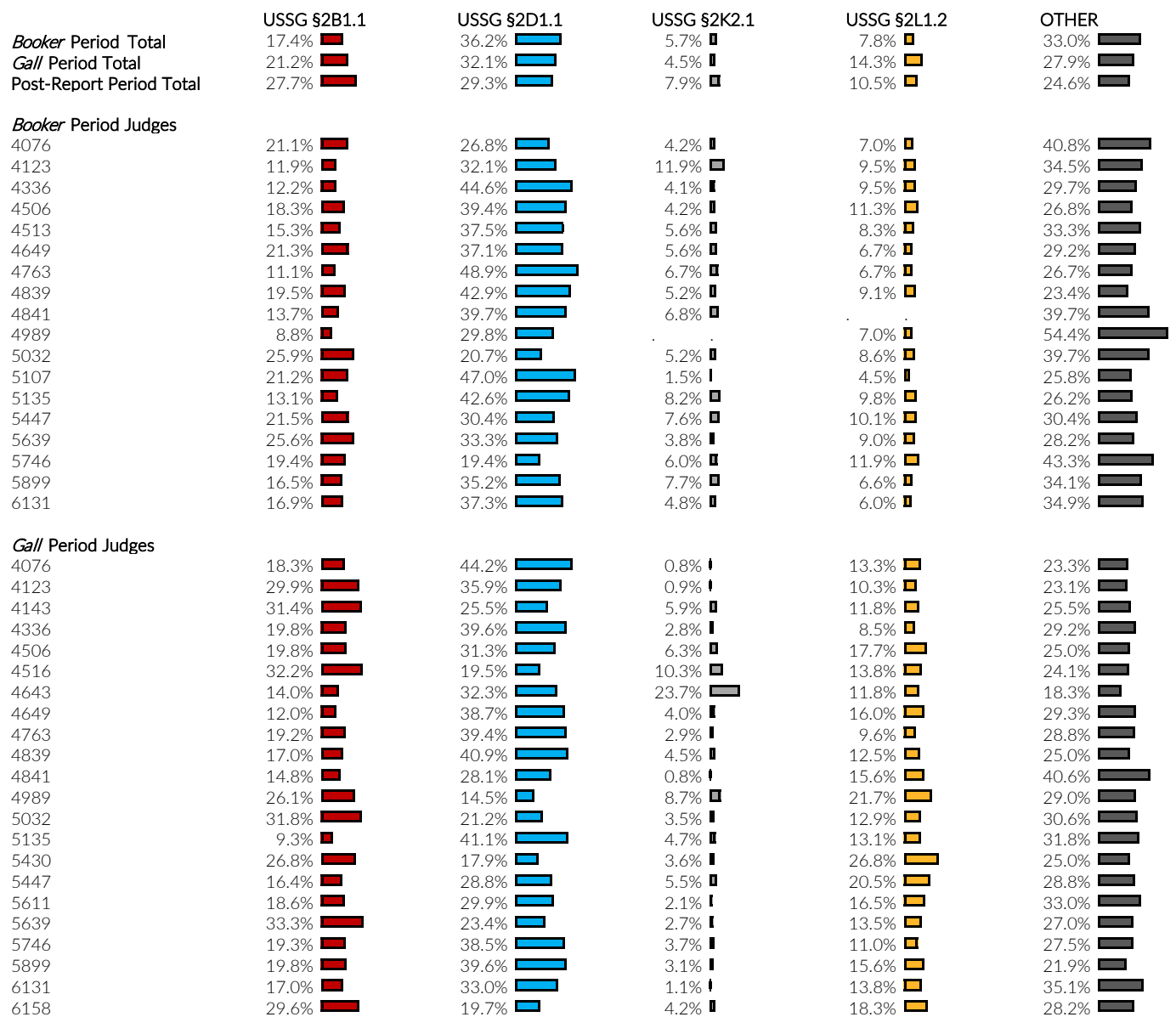
## WESTERN DISTRICT OF NORTH CAROLINA



## Judge's Caseload by Guideline

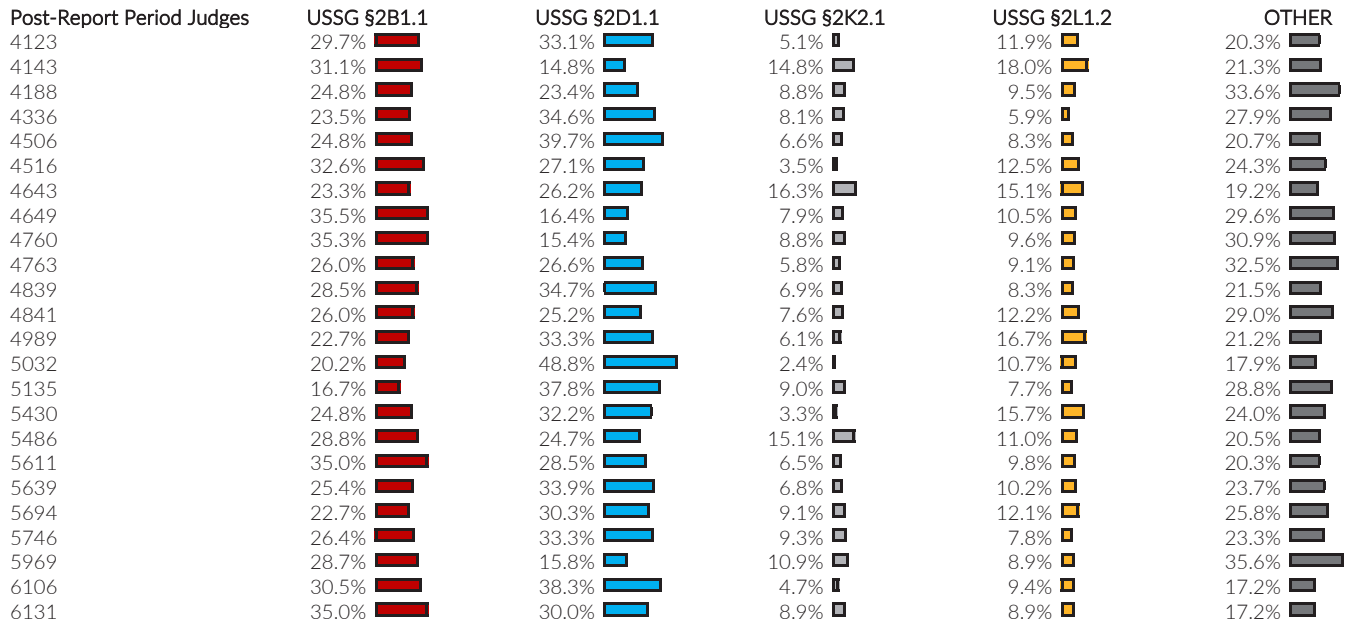
# CHICAGO-BASED FEDERAL JUDGES

## NORTHERN DISTRICT OF ILLINOIS





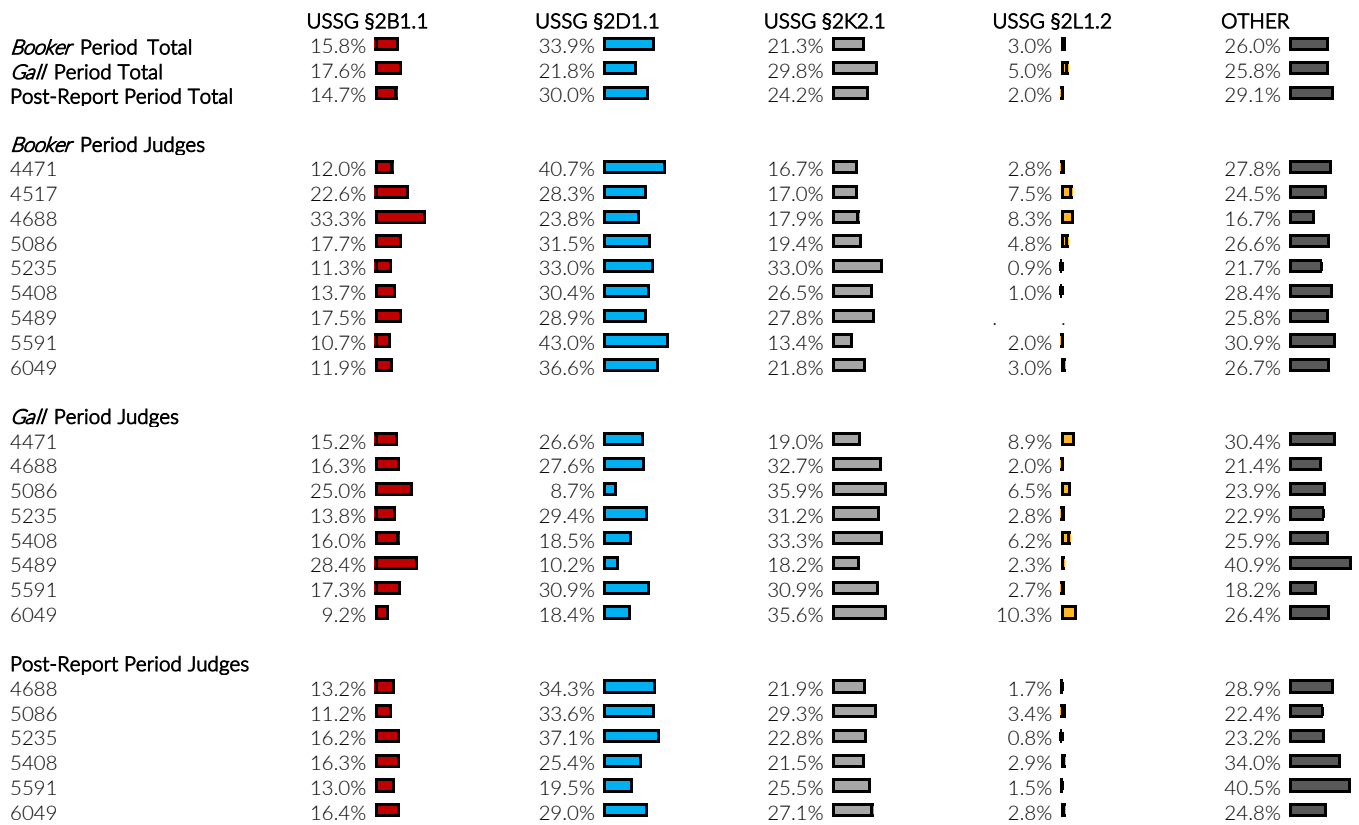
## CHICAGO-BASED FEDERAL JUDGES *continued*



## Judge's Caseload by Guideline

# CLEVELAND-BASED FEDERAL JUDGES

## NORTHERN DISTRICT OF OHIO

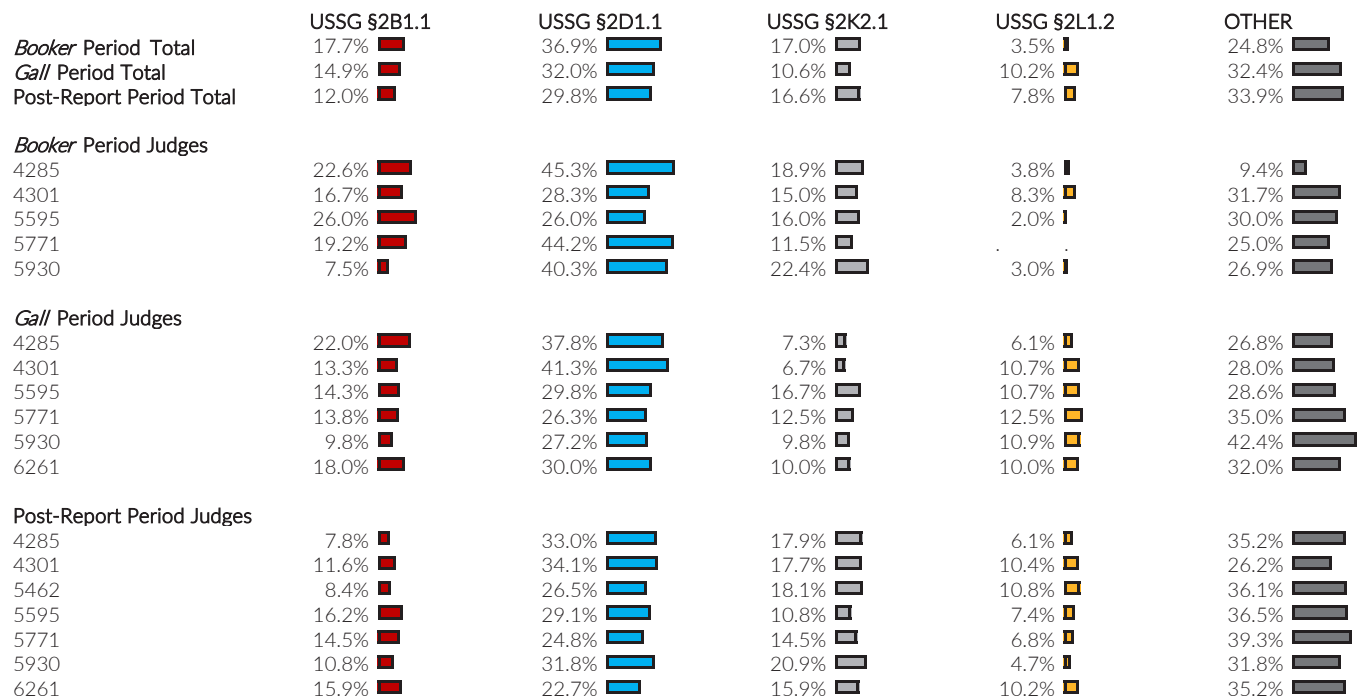




## Judge's Caseload by Guideline

# COLUMBUS-BASED FEDERAL JUDGES

## SOUTHERN DISTRICT OF OHIO

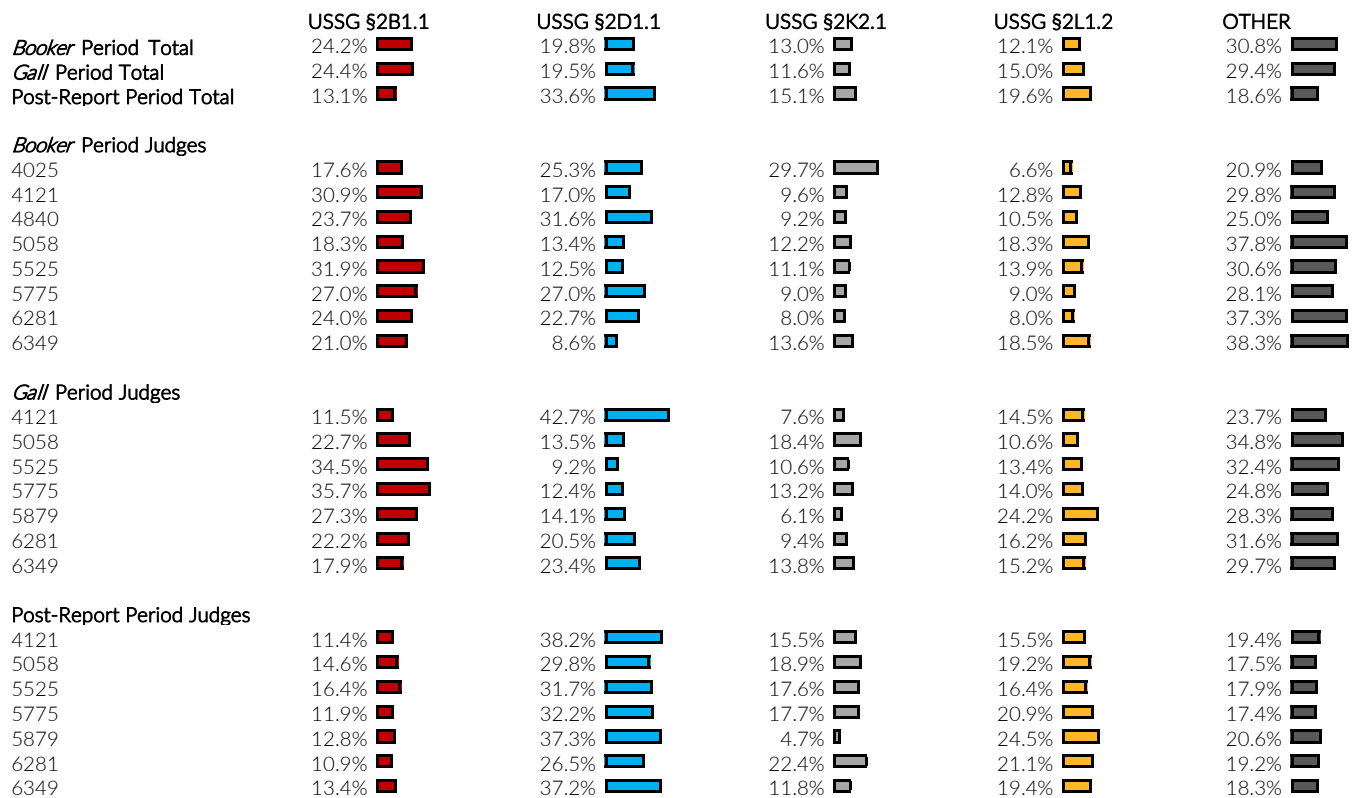




## Judge's Caseload by Guideline

# DALLAS-BASED FEDERAL JUDGES

## NORTHERN DISTRICT OF TEXAS

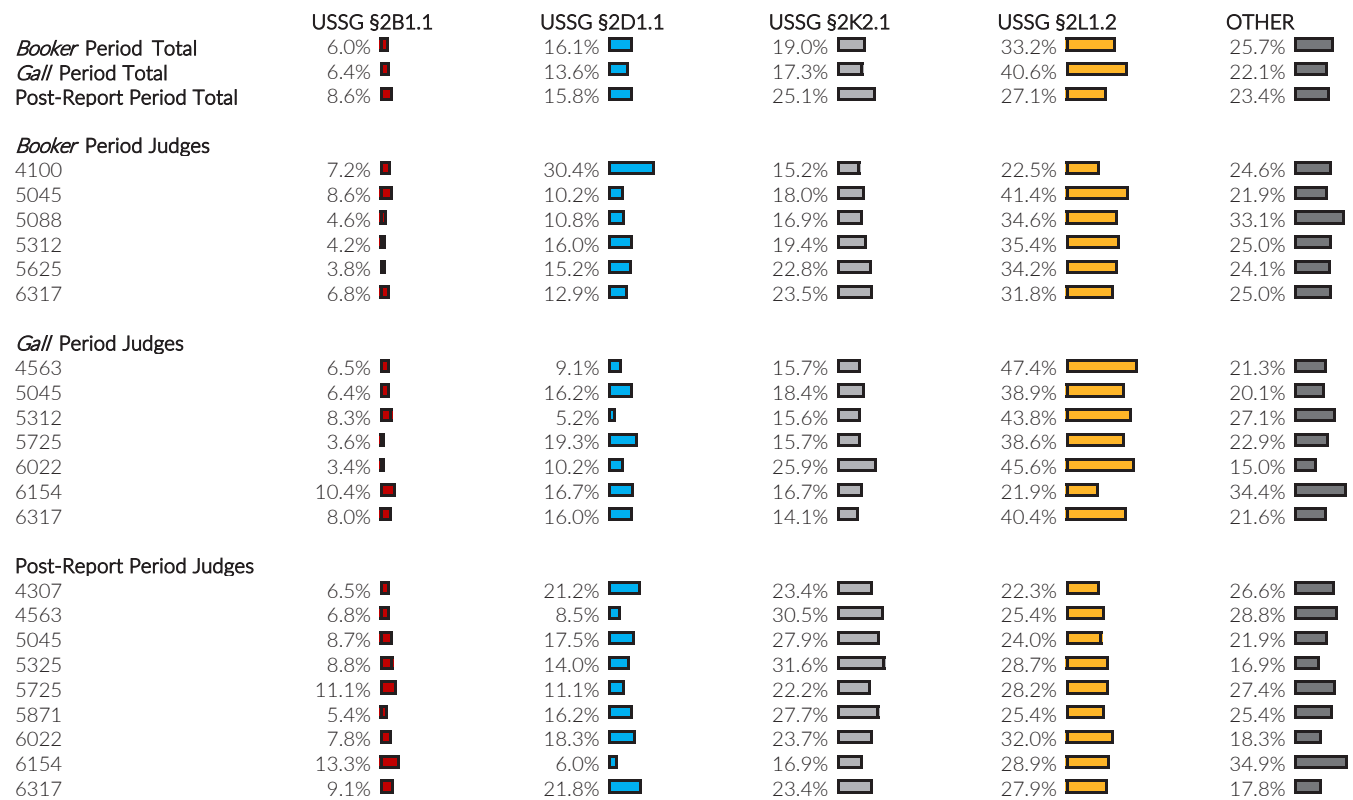




## Judge's Caseload by Guideline

# DENVER-BASED FEDERAL JUDGES

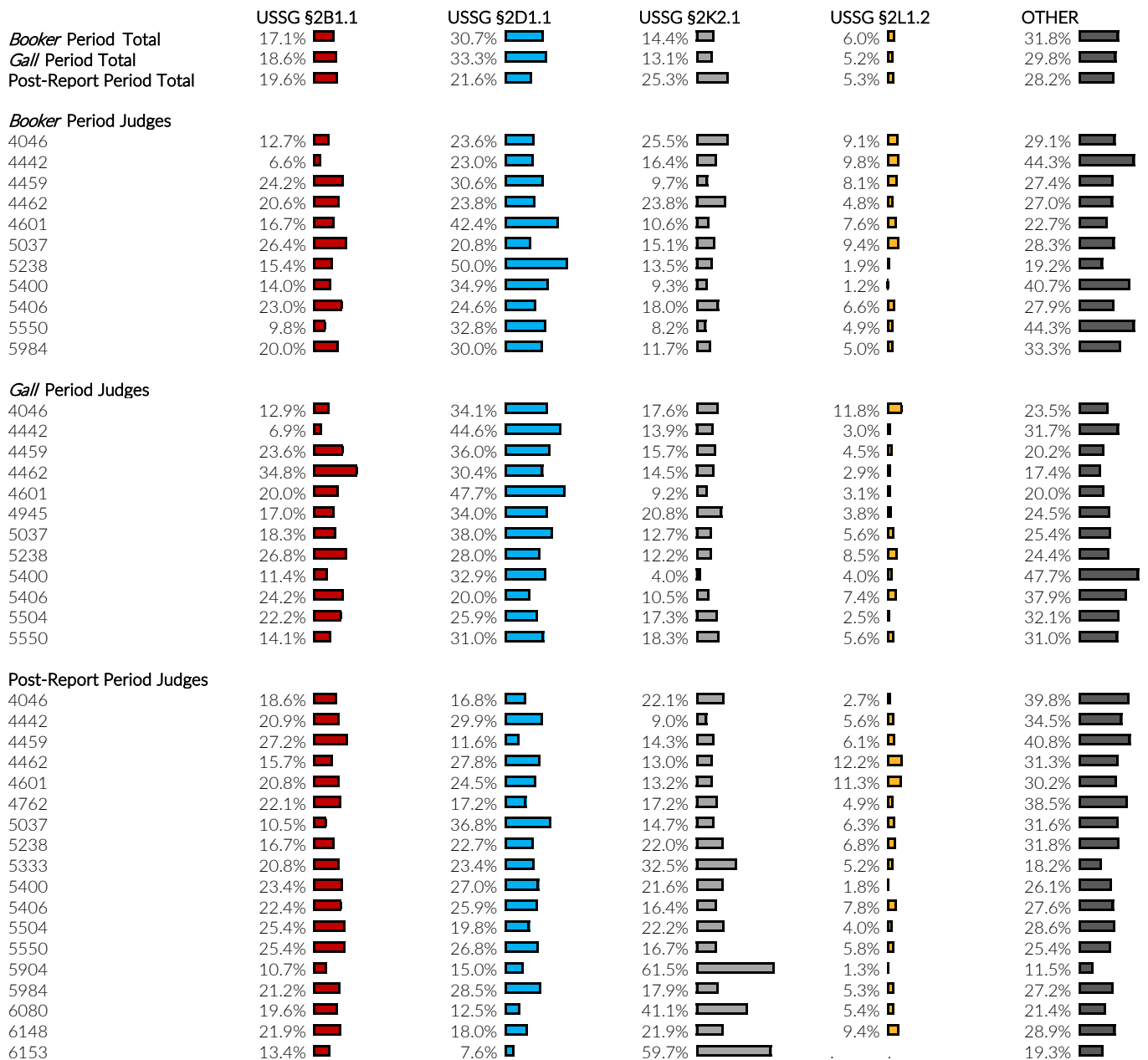
## DISTRICT OF COLORADO



## Judge's Caseload by Guideline

# DETROIT-BASED FEDERAL JUDGES

## EASTERN DISTRICT OF MICHIGAN

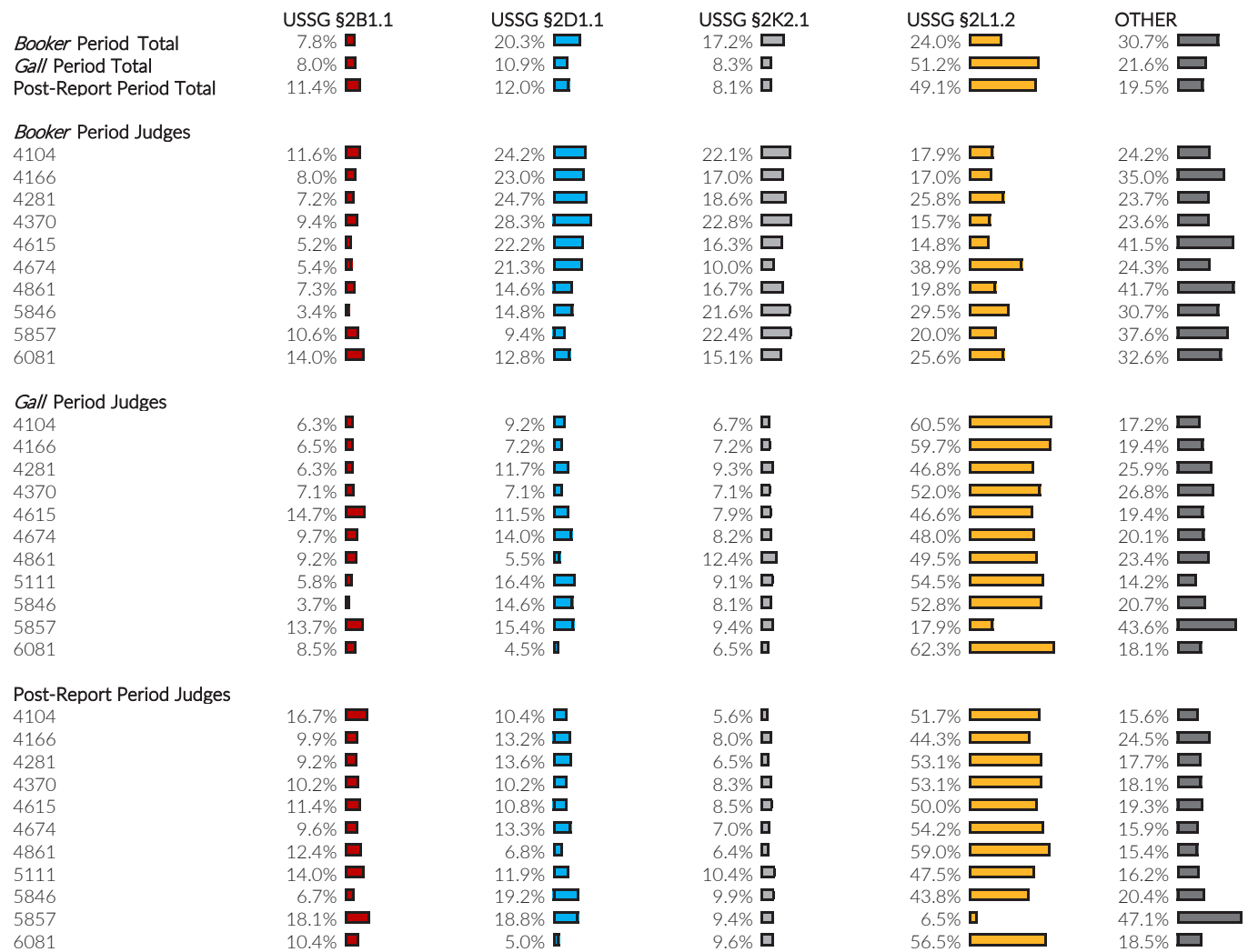




## Judge's Caseload by Guideline

# HOUSTON-BASED FEDERAL JUDGES

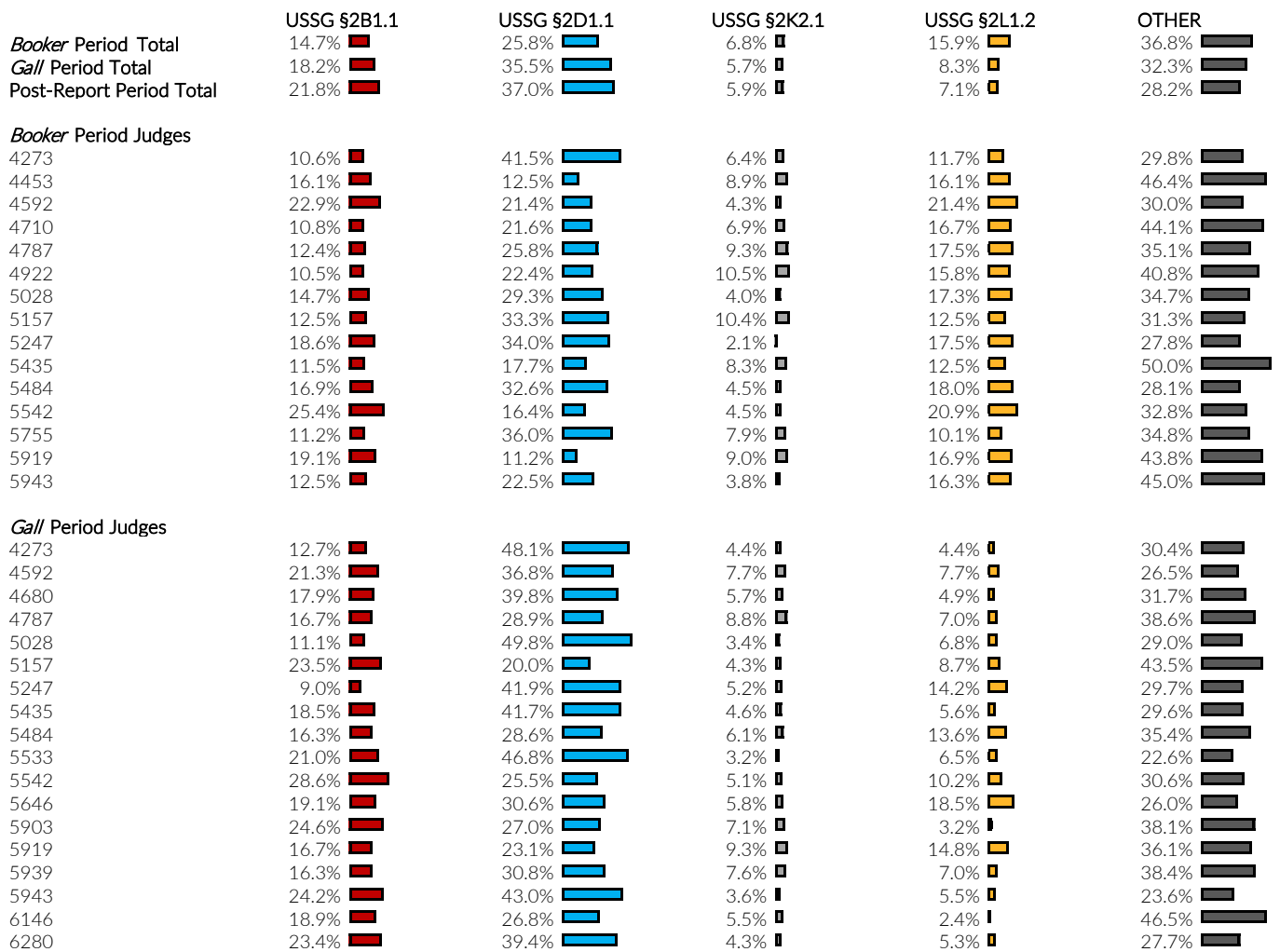
## SOUTHERN DISTRICT OF TEXAS



## Judge's Caseload by Guideline

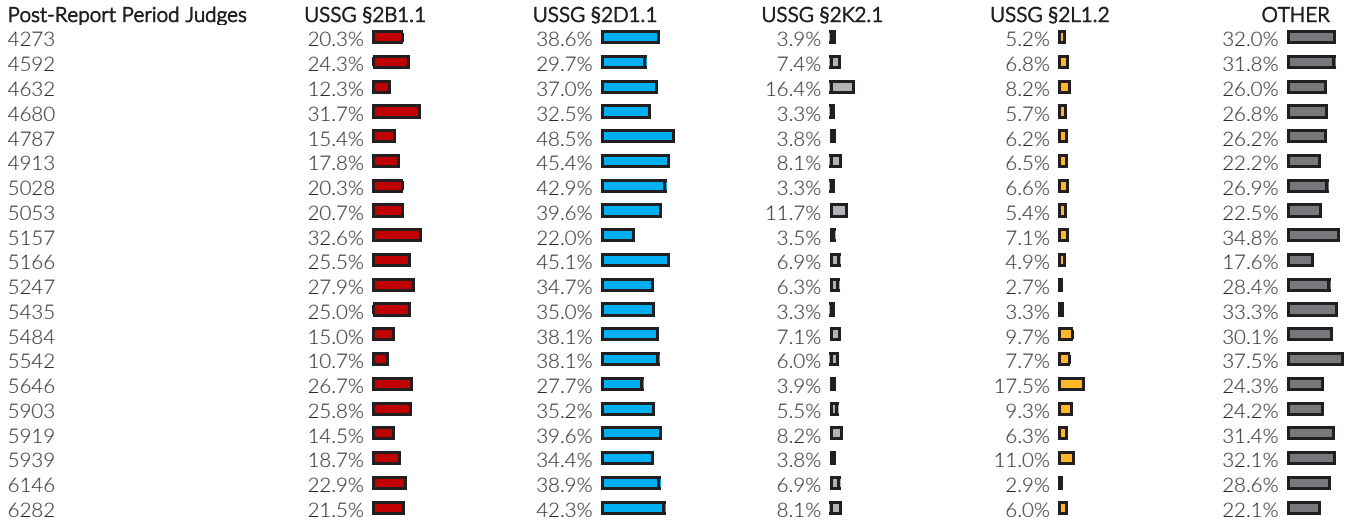
# LOS ANGELES-BASED FEDERAL JUDGES

## CENTRAL DISTRICT OF CALIFORNIA





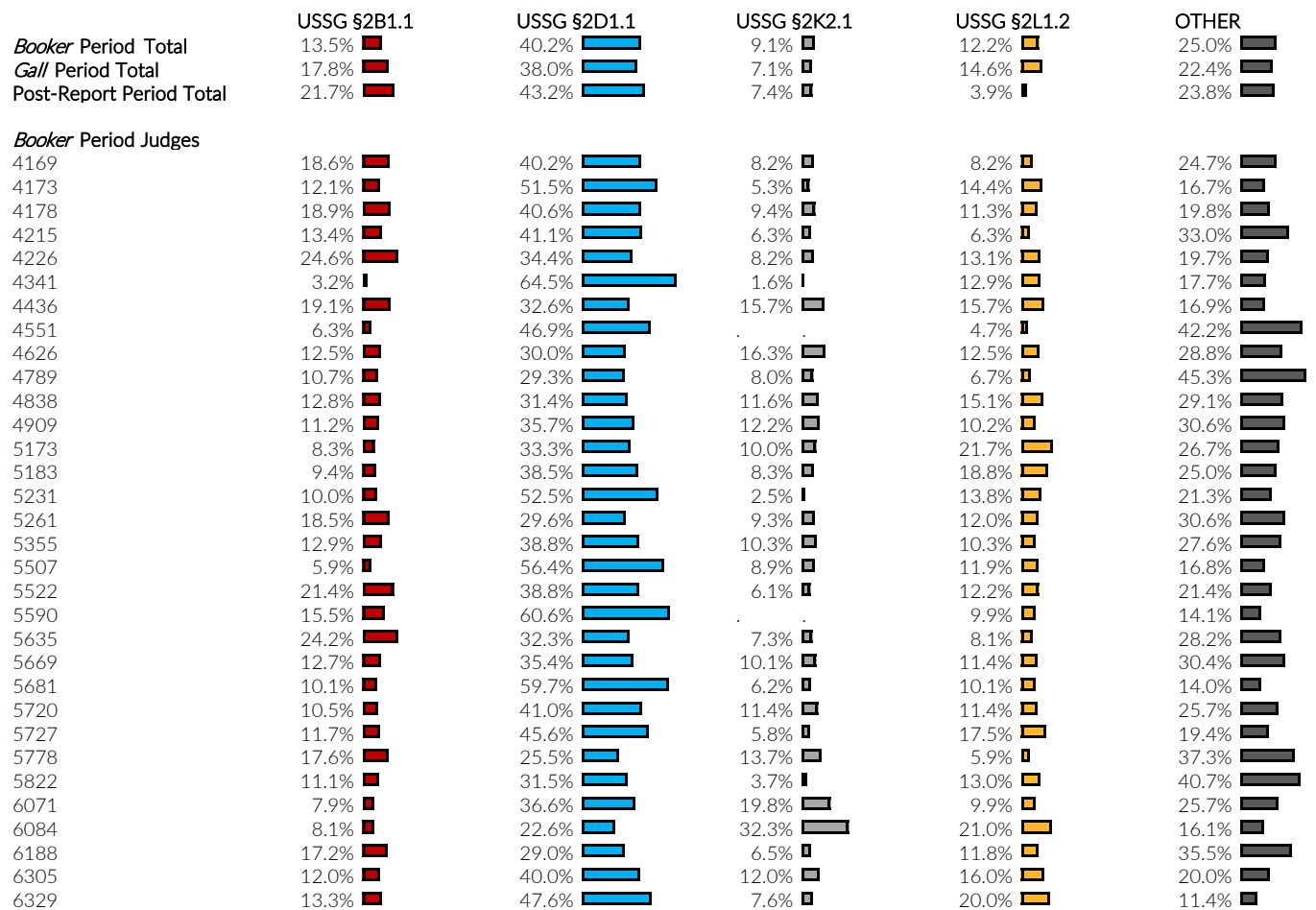
## LOS ANGELES-BASED FEDERAL JUDGES *continued*



## Judge's Caseload by Guideline

# MANHATTAN-BASED FEDERAL JUDGES

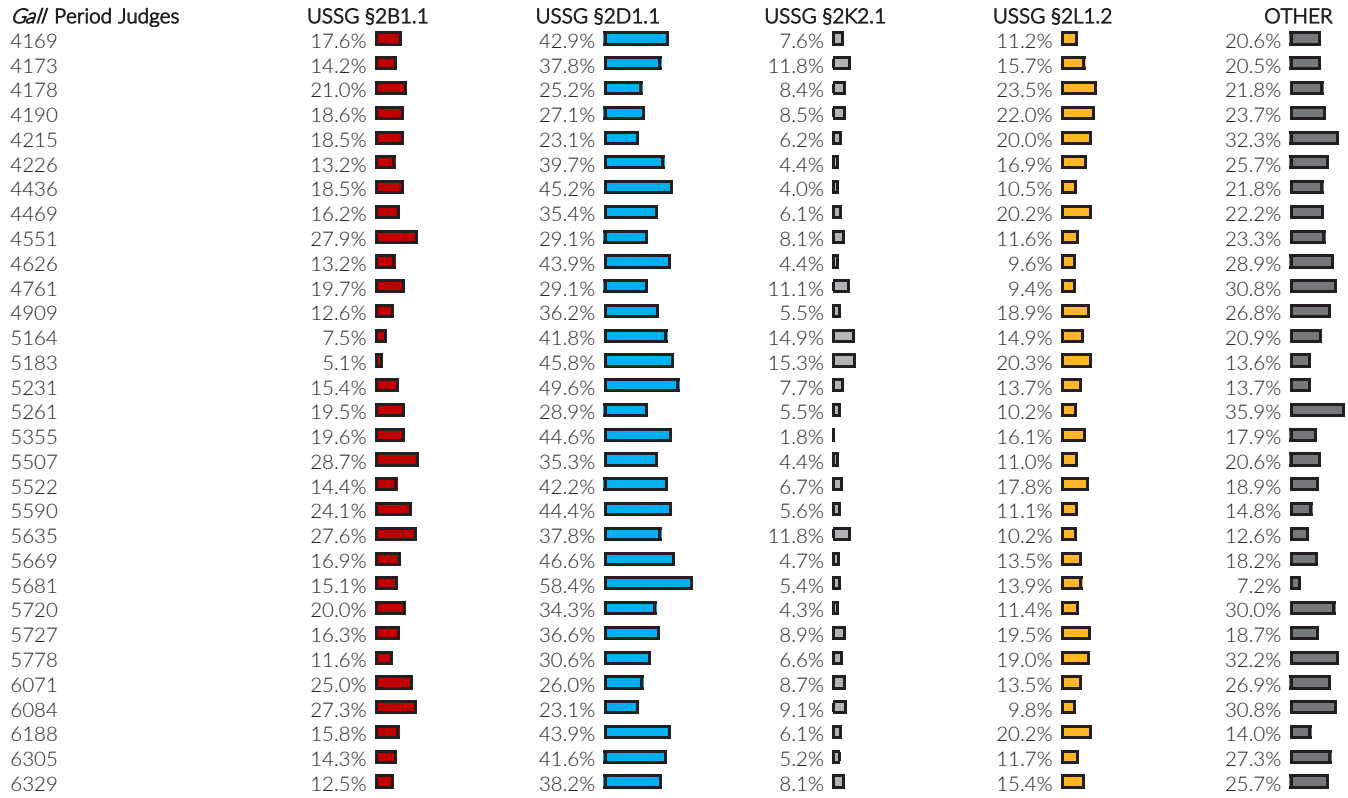
## SOUTHERN DISTRICT OF NEW YORK







## MANHATTAN-BASED FEDERAL JUDGES *continued*



## MANHATTAN-BASED FEDERAL JUDGES *continued*

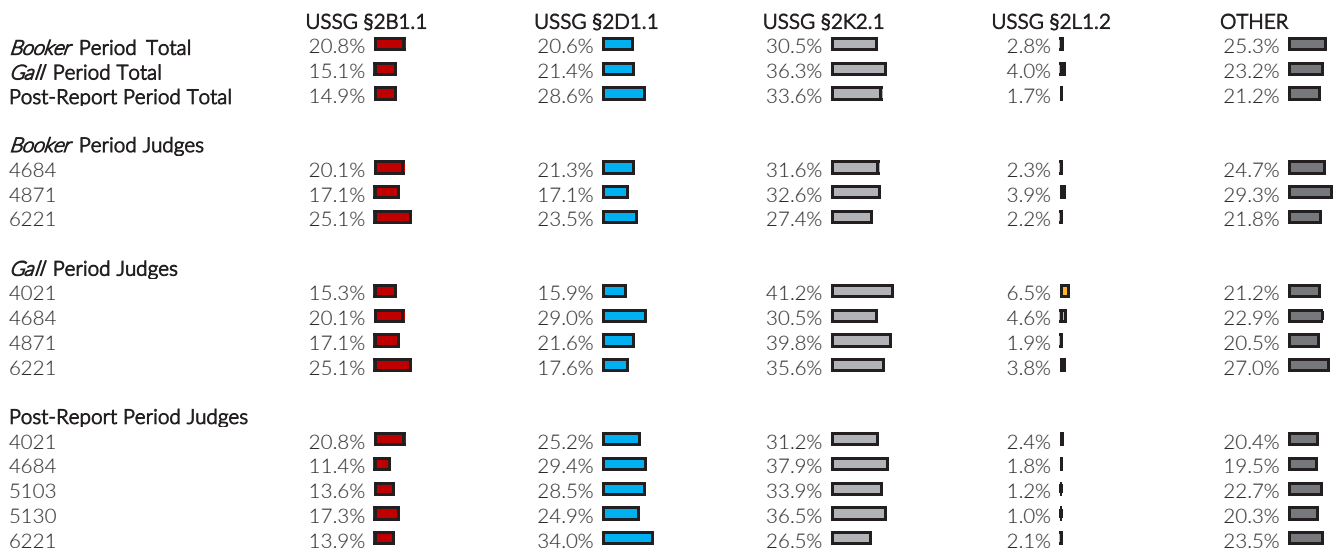
Post-Report Period Judges	USSG §2B1.1	USSG §2D1.1	USSG §2K2.1	USSG §2L1.2	OTHER
4169	13.9%	51.0%	8.8%	3.1%	23.2%
4173	36.5%	28.4%	2.7%	2.7%	29.7%
4178	22.2%	38.1%	6.3%	7.9%	25.4%
4190	17.4%	38.4%	8.7%	2.3%	33.1%
4215	39.7%	27.8%	6.6%	7.3%	18.5%
4226	15.2%	44.4%	11.7%	4.1%	24.6%
4424	6.7%	57.8%	15.6%	3.3%	16.7%
4469	25.9%	34.8%	12.7%	5.7%	20.9%
4626	12.0%	54.4%	3.2%	4.8%	25.6%
4699	24.7%	48.1%	11.7%	2.6%	13.0%
4761	23.5%	41.4%	8.6%	4.3%	22.2%
4866	10.9%	54.5%	7.9%	5.0%	21.8%
4885	19.1%	52.8%	10.1%	2.2%	15.7%
4909	18.0%	50.6%	10.1%	4.5%	16.9%
4969	27.9%	31.1%	1.6%	7.4%	32.0%
5164	41.4%	28.8%	6.3%	4.5%	18.9%
5212	16.2%	30.6%	8.7%	2.9%	41.6%
5228	14.7%	44.1%	7.4%	1.5%	32.4%
5231	26.4%	38.8%	10.7%	5.0%	19.0%
5261	19.4%	55.8%	2.4%	1.8%	20.6%
5273	33.0%	32.1%	8.5%	.	26.4%
5355	36.6%	36.1%	4.4%	6.6%	16.4%
5507	6.2%	62.3%	8.0%	1.2%	22.2%
5522	13.5%	54.6%	7.6%	2.7%	21.6%
5590	23.0%	40.5%	6.8%	4.1%	25.7%
5635	13.8%	62.5%	1.3%	1.3%	21.1%
5669	25.9%	36.2%	3.4%	5.2%	29.3%
5681	25.6%	38.1%	6.0%	3.0%	27.4%
5727	27.0%	33.3%	10.6%	5.0%	24.1%
5778	26.8%	37.8%	9.8%	3.7%	22.0%
5896	23.2%	41.1%	14.3%	.	21.4%
5971	24.8%	43.6%	6.8%	0.8%	24.1%
6071	19.1%	40.9%	7.8%	5.2%	27.0%
6188	21.7%	42.0%	7.0%	8.9%	20.4%
6208	23.0%	33.9%	4.4%	3.8%	35.0%
6241	20.4%	48.7%	8.6%	4.6%	17.8%
6305	23.9%	39.8%	8.8%	3.5%	23.9%
6329	16.5%	62.4%	4.6%	2.8%	13.8%



## Judge's Caseload by Guideline

# MEMPHIS-BASED FEDERAL JUDGES

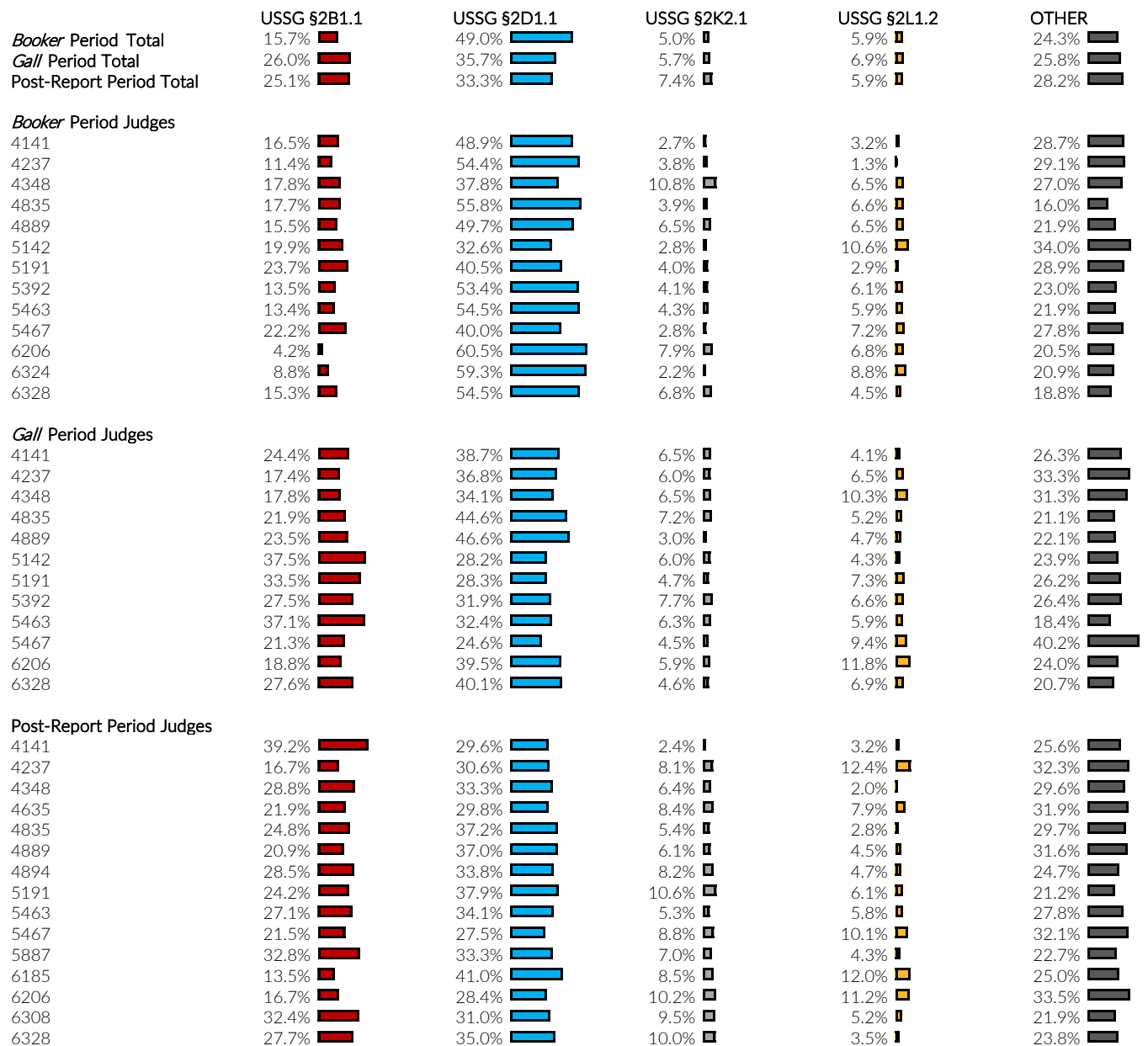
## WESTERN DISTRICT OF TENNESSEE



## Judge's Caseload by Guideline

# MIAMI-BASED FEDERAL JUDGES

## SOUTHERN DISTRICT OF FLORIDA

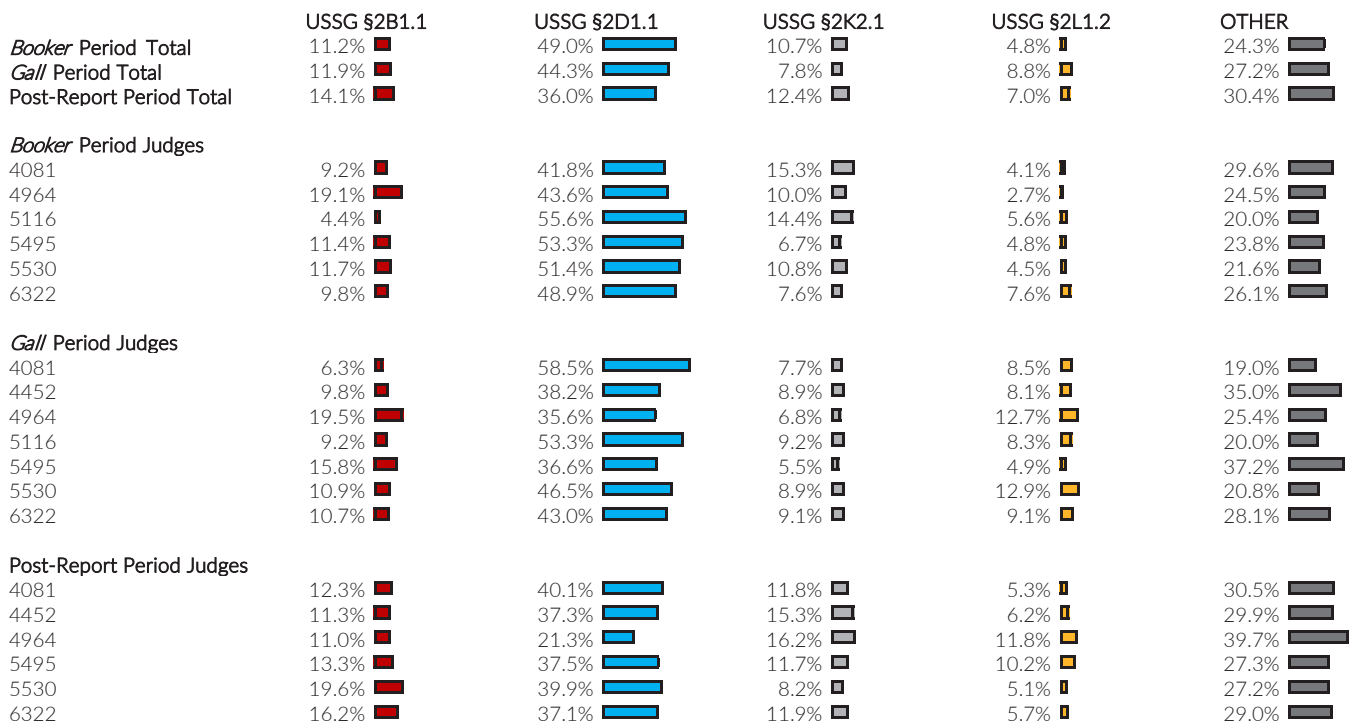




## Judge's Caseload by Guideline

# MINNEAPOLIS-BASED FEDERAL JUDGES

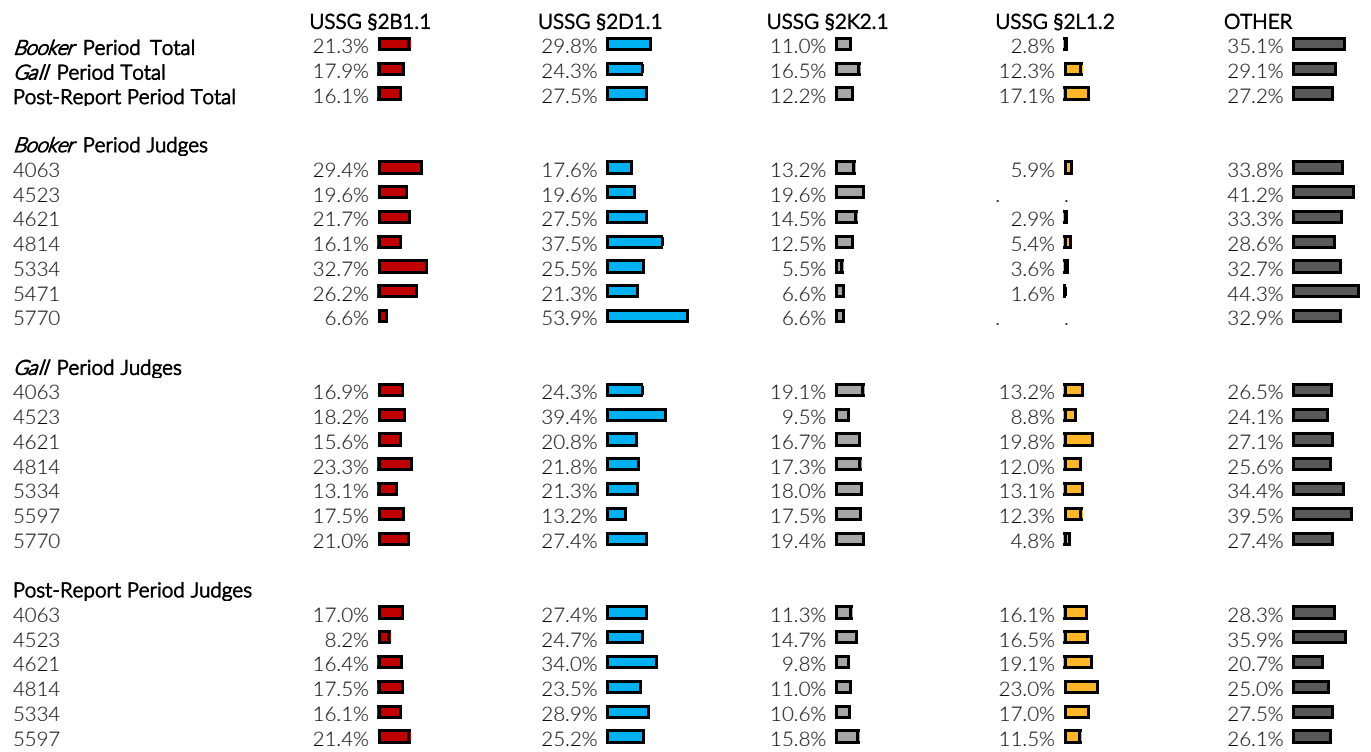
## DISTRICT OF MINNESOTA



# Judge's Caseload by Guideline

## OKLAHOMA CITY-BASED FEDERAL JUDGES

### WESTERN DISTRICT OF OKLAHOMA

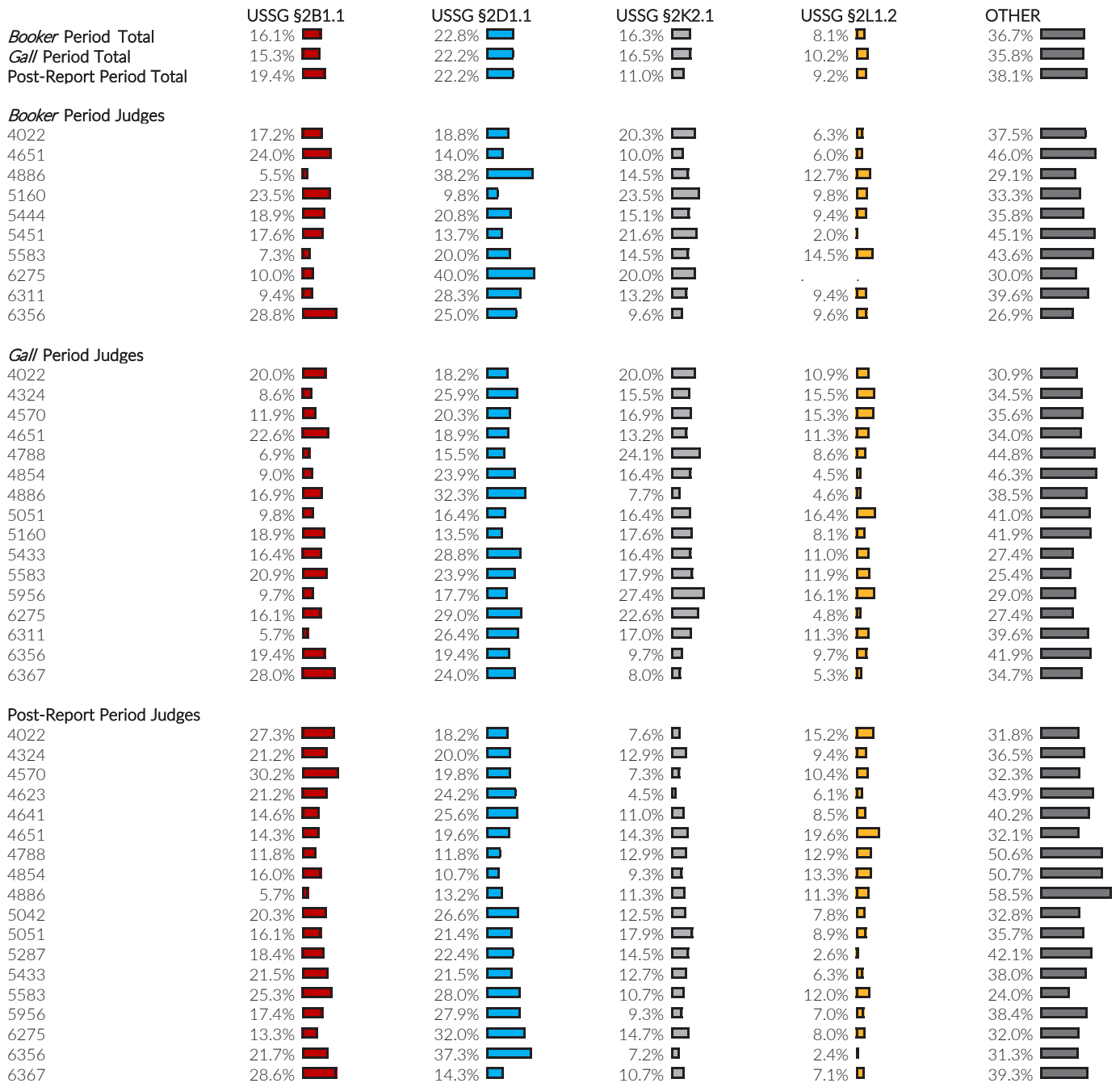




## Judge's Caseload by Guideline

# PHILADELPHIA-BASED FEDERAL JUDGES

## EASTERN DISTRICT OF PENNSYLVANIA

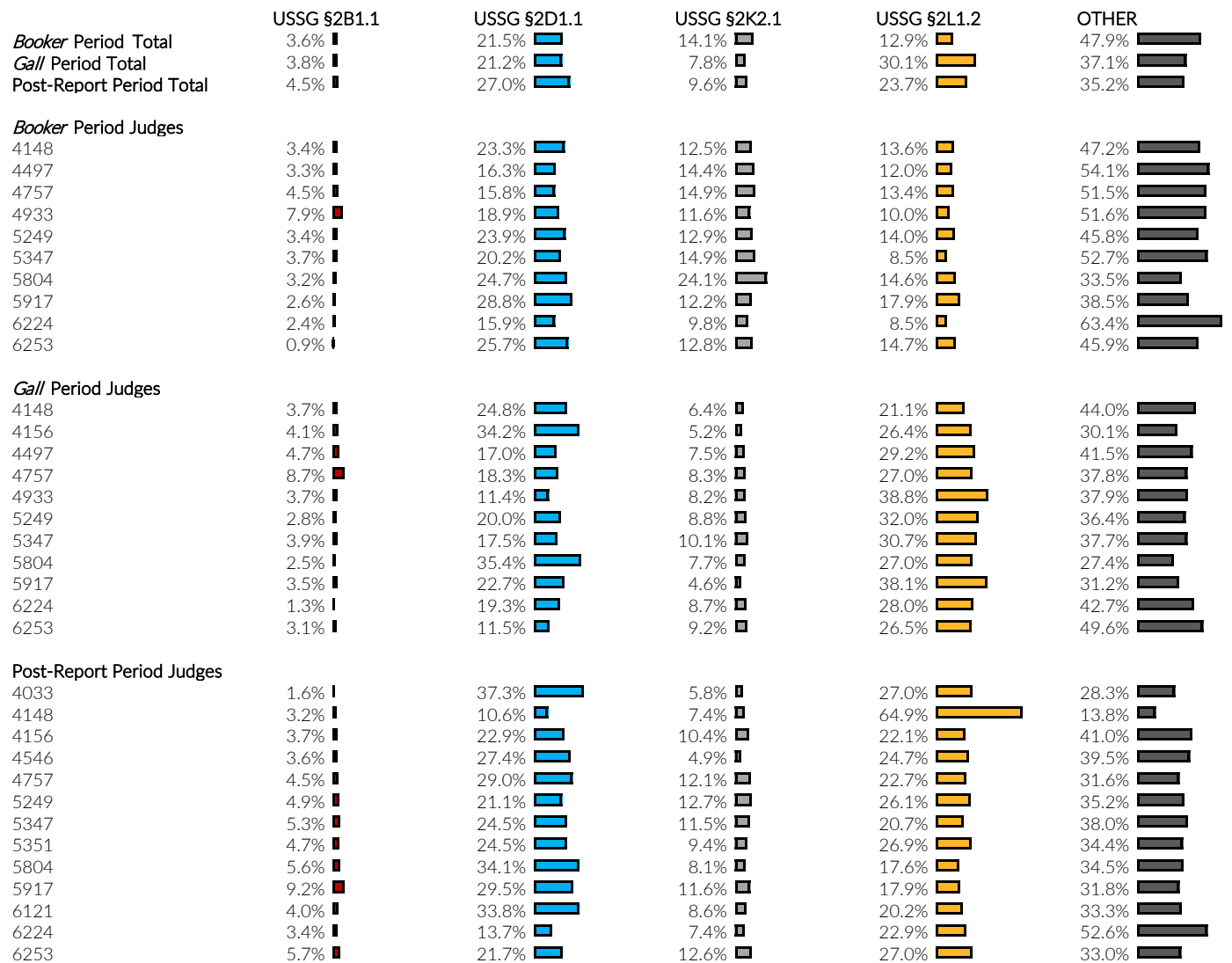




## Judge's Caseload by Guideline

# PHOENIX-BASED FEDERAL JUDGES

## DISTRICT OF ARIZONA

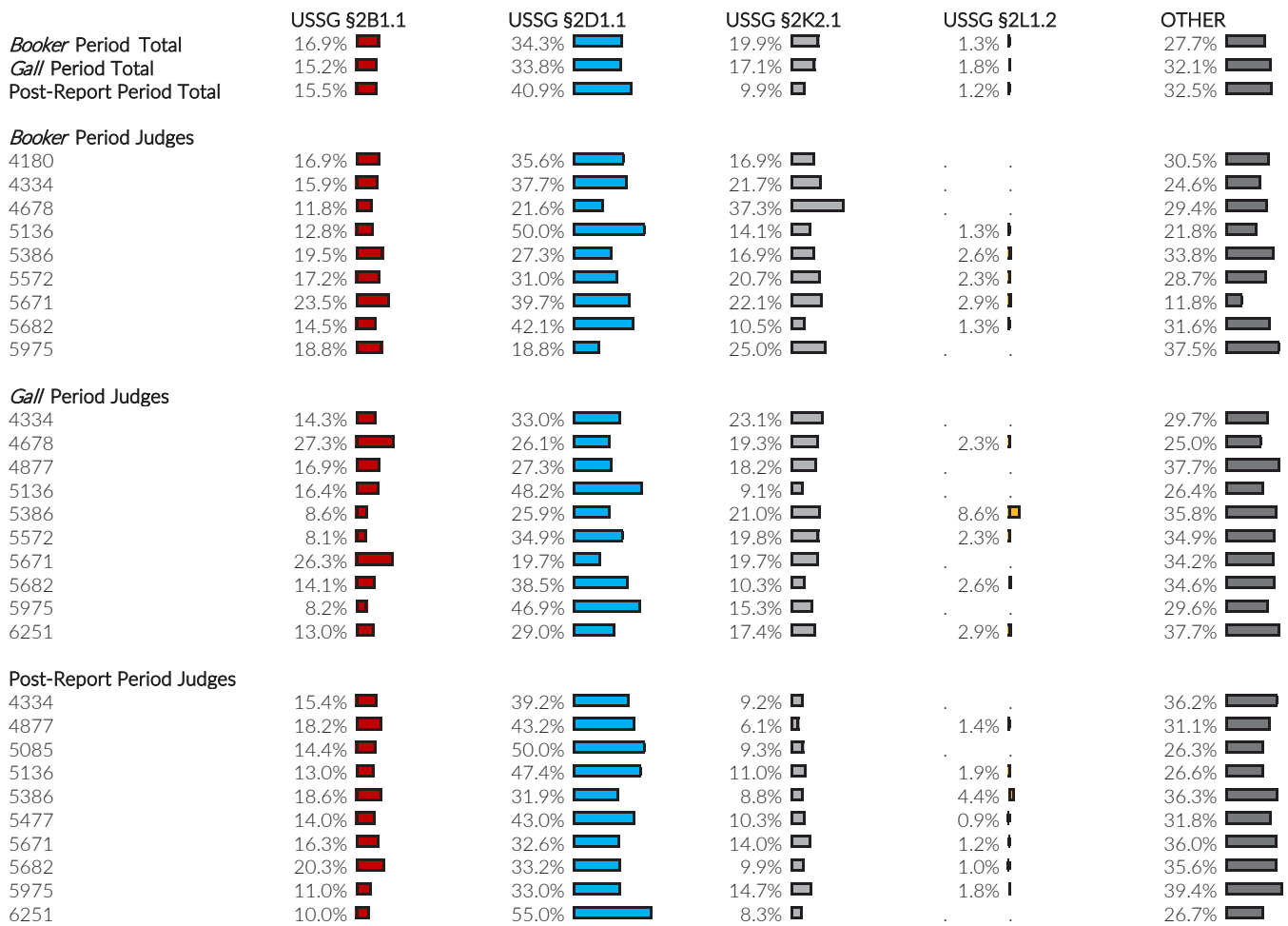




## Judge's Caseload by Guideline

# PITTSBURGH-BASED FEDERAL JUDGES

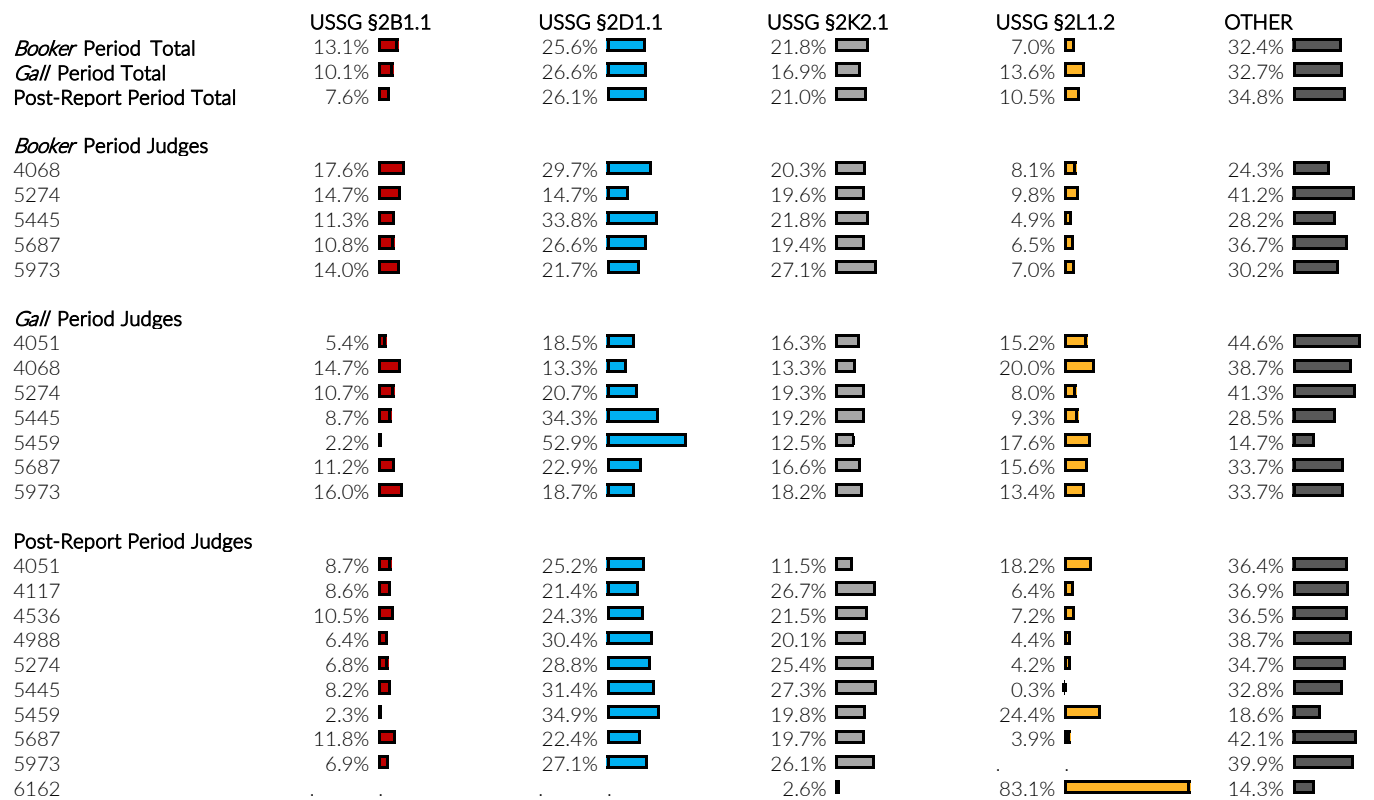
## WESTERN DISTRICT OF PENNSYLVANIA



## Judge's Caseload by Guideline

# PORTLAND-BASED FEDERAL JUDGES

## DISTRICT OF OREGON

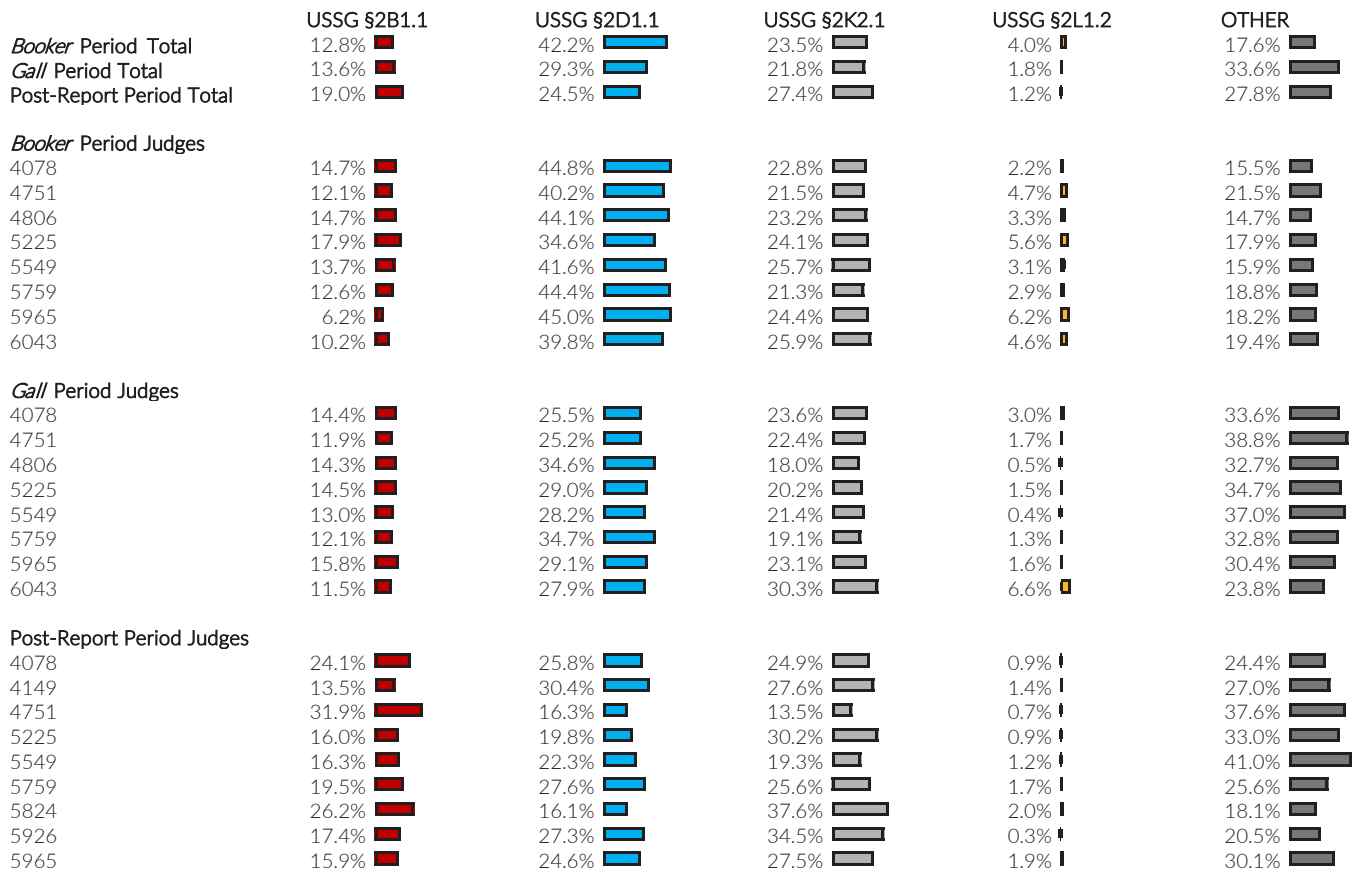




## Judge's Caseload by Guideline

# SAINT LOUIS-BASED FEDERAL JUDGES

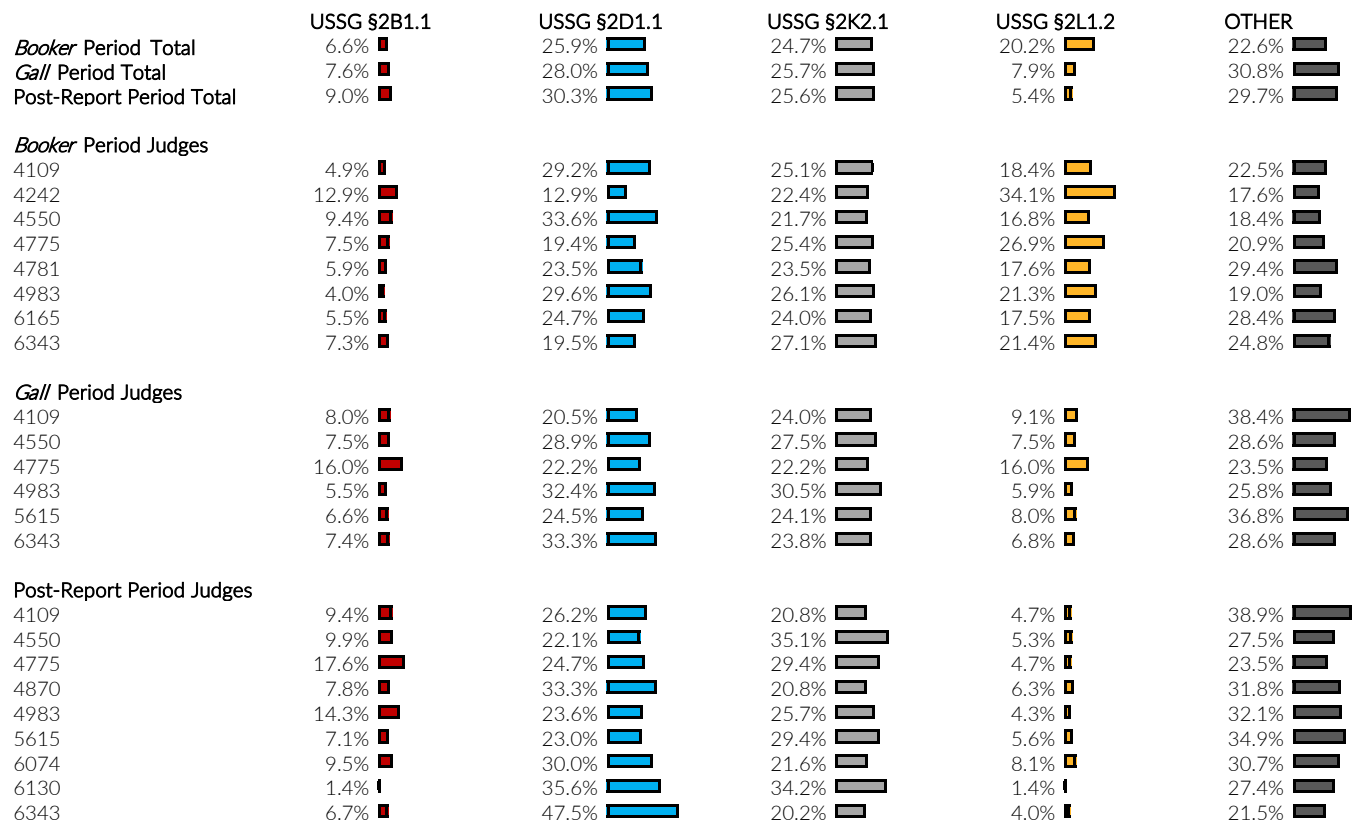
## EASTERN DISTRICT OF MISSOURI



## Judge's Caseload by Guideline

# SALT LAKE CITY-BASED FEDERAL JUDGES

## DISTRICT OF UTAH

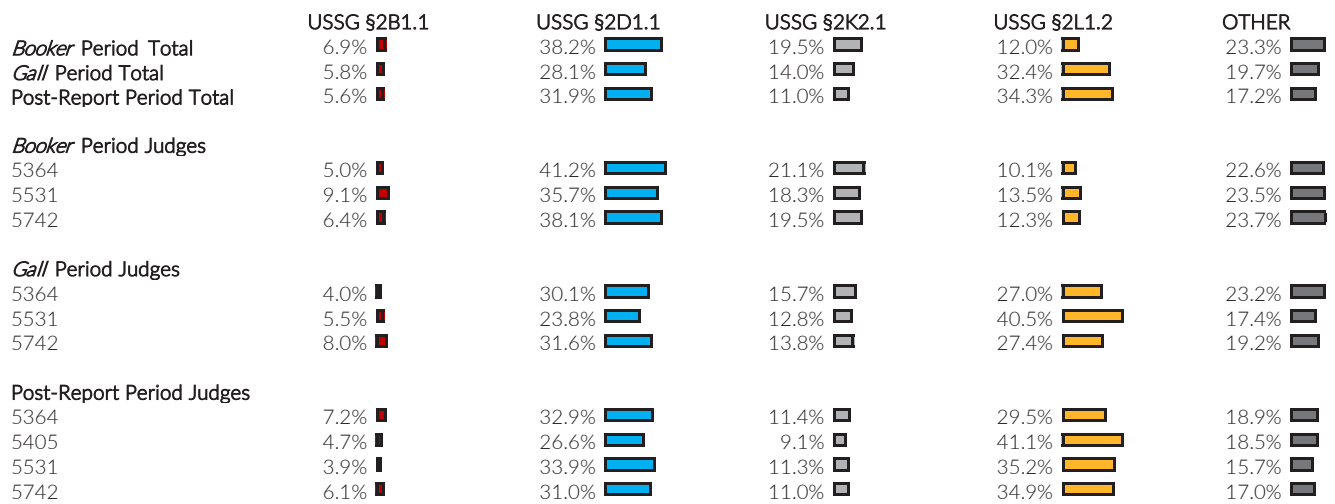




## Judge's Caseload by Guideline

# SAN ANTONIO-BASED FEDERAL JUDGES

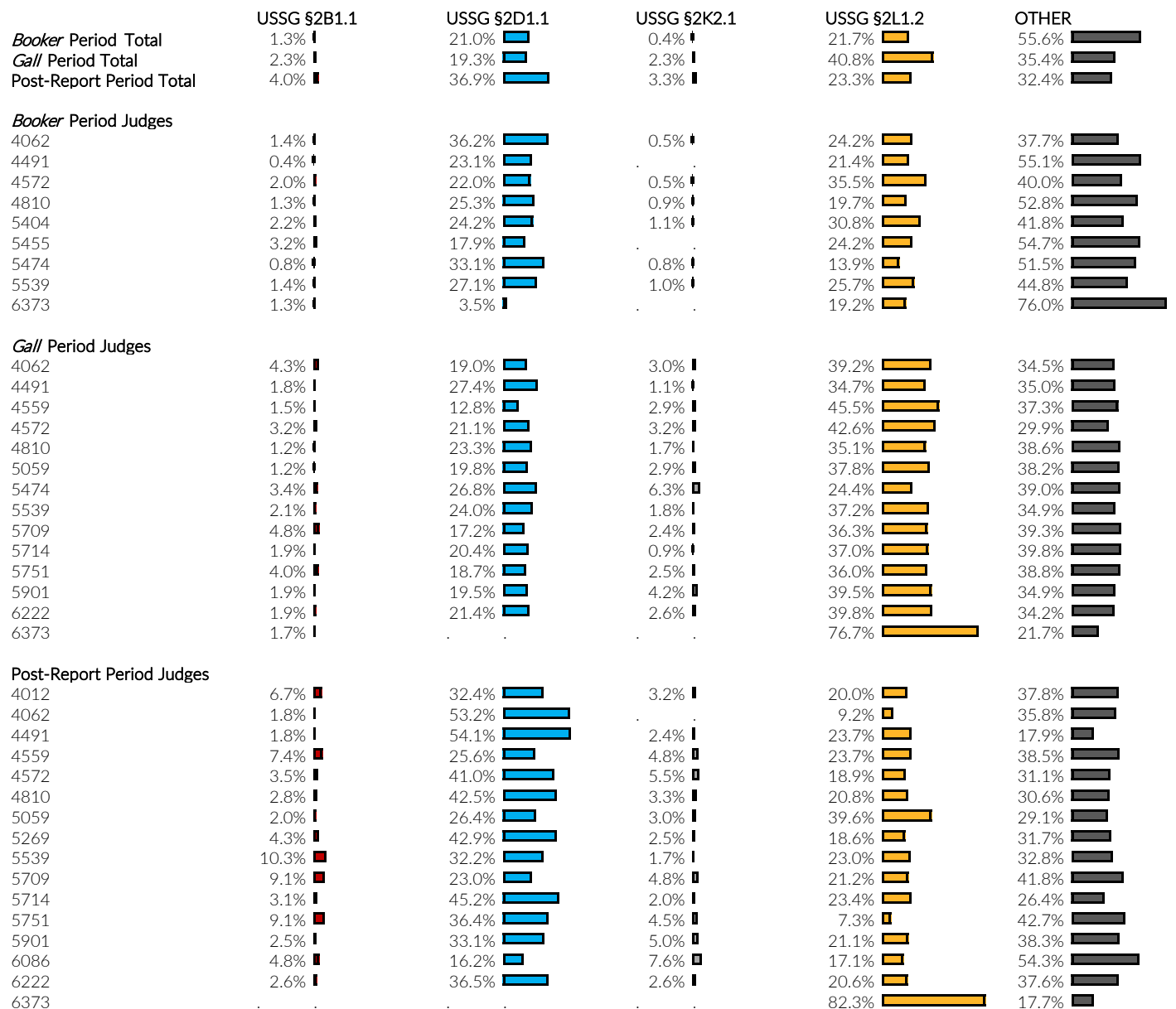
## WESTERN DISTRICT OF TEXAS



## Judge's Caseload by Guideline

# SAN DIEGO-BASED FEDERAL JUDGES

## SOUTHERN DISTRICT OF CALIFORNIA

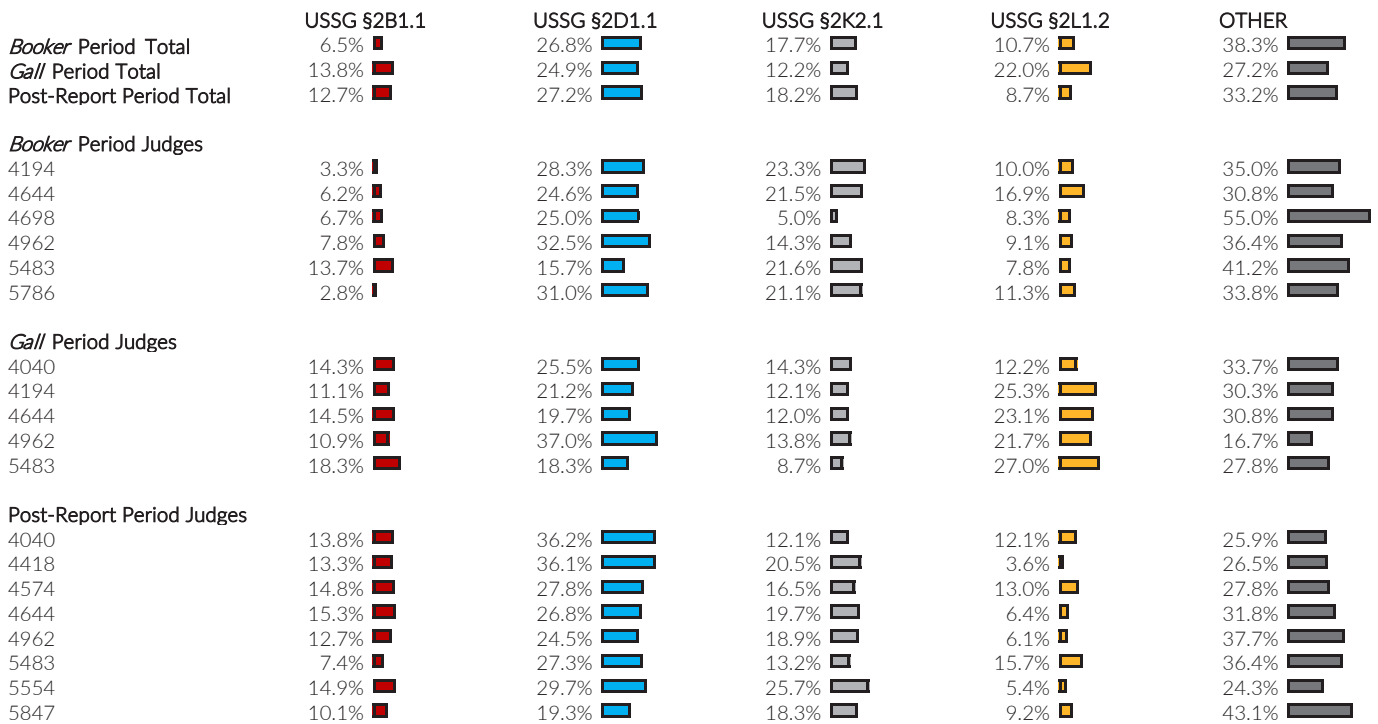




## Judge's Caseload by Guideline

# SAN FRANCISCO-BASED FEDERAL JUDGES

## NORTHERN DISTRICT OF CALIFORNIA

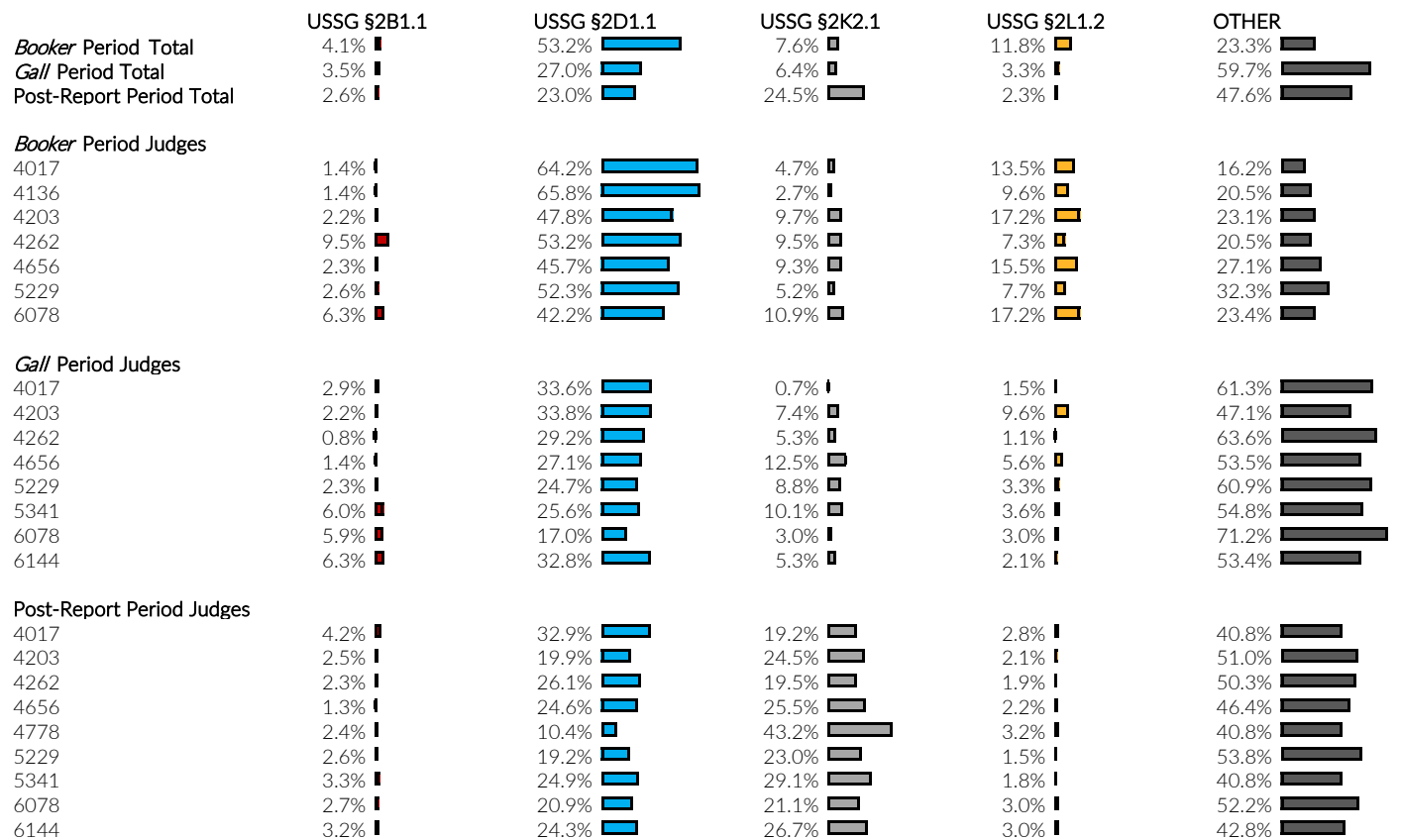




## Judge's Caseload by Guideline

# SAN JUAN-BASED FEDERAL JUDGES

## DISTRICT OF PUERTO RICO

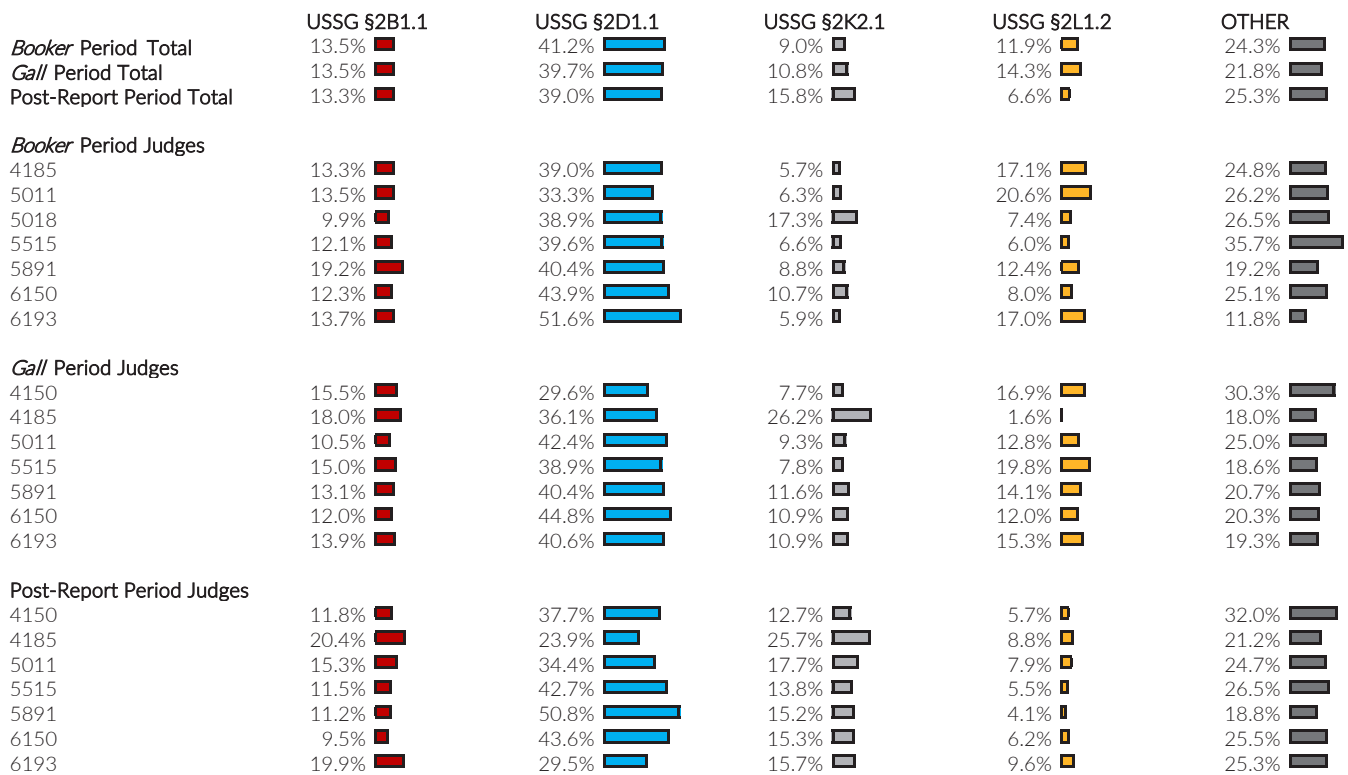




## Judge's Caseload by Guideline

# SEATTLE-BASED FEDERAL JUDGES

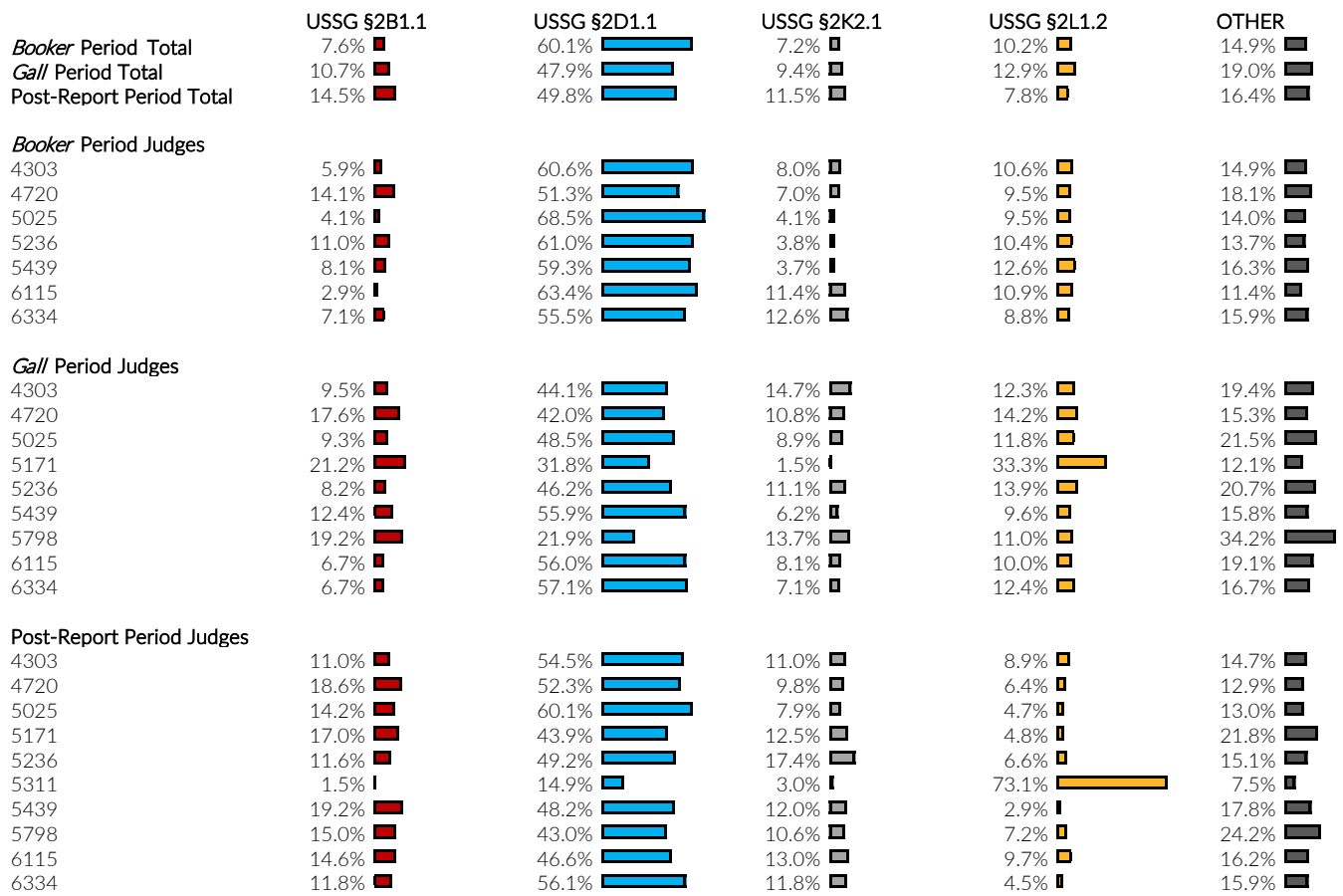
## WESTERN DISTRICT OF WASHINGTON



## Judge's Caseload by Guideline

# TAMPA-BASED FEDERAL JUDGES

## MIDDLE DISTRICT OF FLORIDA



**There were certain cities where judges in the city did not have similar caseload compositions or where a city's caseload composition changed significantly from one period to the next.**



## APPENDIX D

# Weighting Analyses



As discussed earlier, the Commission chose to measure differences in judges' sentencing practices by comparing their average percent differences from the guideline minimums in their cases rather than comparing their average sentence lengths. As explained, the extent of differences among judges regarding sentence length is much more sensitive to variations in caseload composition than the extent of differences in average percent difference. Appendix C shows that, for a majority of the 30 cities, most judges' caseload compositions in each city were generally similar compared to the other judges in their same city. Appendix C also shows that most cities had generally similar overall caseload compositions across the periods. There were certain cities, however, where most judges in the city did not have similar caseload compositions (e.g., Chicago), or where a city's caseload composition changed significantly from one period to the next (e.g., Houston, from the *Booker* to *Gall* Periods).

In order to test the sensitivity of differences in caseload composition on judges' average percent differences—both among a city's judges during a given time period and also across time (in terms of a city's overall caseload)—the Commission conducted weighting analyses.<sup>58</sup>

### Differences in Caseload Among a City's Judges in a Given Time Period

The first weighting test assigned all judges in a city in a given time period the same weighted caseload composition by using the city's overall caseload composition for each judge. The analysis then applied each judge's actual average percent differences for each of the four primary guidelines (§§2B1.1, 2D1.1, 2K2.1 and 2L1.2) and for all other guidelines (combined into a fifth category) to the judges' weighted caseloads. Each judge's overall average percent difference based on his





Figure 11. Weighted Analysis for All 30 Cities Combined

	<i>Booker</i> Period	<i>Gall</i> Period	Post-Report Period
Actual Spread	18.2	23.7	27.6
Weighted Spread	18.0	23.1	27.7
Actual Standard Deviation	5.8	7.7	8.3
Weighted Standard Deviation	5.8	7.5	8.4

or her weighted caseload composition was substituted for that judge’s overall average percent difference based on his or her actual caseload composition. Total spreads and standard deviations based on the judges’ weighted average percent differences for each city in each period were calculated and then compared to the the actual total spreads and standard deviations for each of the three time periods.

An example of this weighting analysis is seen in the actual and weighted total spreads and standard deviations for Chicago during the Post-Report Period. Chicago was a city with judges whose caseload compositions during that period were not generally equivalent, as shown in Appendix C (p. 71). The Commission’s weighting analysis showed that those differences did not substantially contribute to the total spread and standard deviation in Chicago in that period. The actual total spread and standard deviation were 49.5 and 10.6, while the weighted total spread and standard deviation were 47.4 and 10.6.

The Commission conducted this same weighting analysis for all 30 cities in all three periods. As shown in Figure 11 above, the actual and the weighted average total spreads for those 30 cities and the actual and weighted average standard deviations for the 27 cities with at least five judges in each period (the minimum number of judges required for a standard deviation analysis) were very similar.

This weighting analysis demonstrates that any differences in caseload composition among judges in the 30 cities during all three periods had very little effect on the two key measures of differences in sentencing practices.

### Differences in Caseload Over Time Periods in a City

The Commission used a similar weighting analysis to determine whether changes in the total spread and standard deviation were significantly affected by changes in caseload composition across the three periods in some of the 30 cities.

This evident weighting test carried forward each judge’s respective caseload composition from a prior period to the subsequent period in a particular city (e.g., each judge’s caseload composition in the *Booker* Period was carried forward to the *Gall* Period). Each judge’s actual average percent differences for the four primary guidelines (§§2B1.1, 2D1.1, 2K2.1 and 2L1.2) and for all other guidelines (combined into a fifth category) from the subsequent period were then applied to that judge’s caseload composition imported from the prior period. The judges’ overall average percent differences for their weighted caseloads were calculated, and the city’s weighted total spread and weighted standard deviation for the subsequent period

Figure 12. *Booker* to *Gall* Period Comparison for All 30 Cities Combined

	<i>Booker</i> Period (Actual)	<i>Gall</i> Period (Actual)	<i>Gall</i> Period (Weighted)
<b>Total Spread</b>	17.9	21.7	22.0
<b>Standard Deviation</b>	6.2	7.6	7.8

were then determined using the weighted average percent differences for each judge.<sup>59</sup>

An example of this weighting analysis is seen in the actual and weighted total spreads and standard deviations for Houston in the *Booker* Period and the *Gall* Period. As shown in Appendix C (p. 78), among the 30 cities, Houston had one of the most notable changes in caseload composition from the *Booker* Period to the *Gall* Period. This change was the result of a prosecutorial charging policy that substantially increased the percentage of illegal reentry prosecutions, which on average have one of the highest within-range rates of all major guideline types.<sup>60</sup> Despite the substantial changes in caseload composition from one period to the next,<sup>61</sup> the actual and weighted total spreads and standard deviations in the *Gall* Period both showed noticeable increases from the *Booker* Period. The total spread and standard deviation in the *Booker* Period were 23.3 and 7.9. The *actual* total spread and standard deviation in the *Gall* Period were 36.5 and 13.2, compared to *weighted* total spreads of 28.4 and 10.5.

The Commission conducted this weighting analysis for all 30 cities for both period changes (*Booker* to *Gall*, and *Gall* to Post-Report). As shown in Figure 12 above, when comparing the changes from the *Booker* Period to the *Gall* Period, the average actual total spread for all 30 cities in the subsequent period was very similar to the average weighted total spread for all 30 cities in the subsequent period. Similarly, the average actual standard deviation for the 27 cities with at least five judges in each period (for which the standard deviations are reported) was very similar to the average weighted standard deviation.

As shown in Figure 13 below, regarding the next period change—from the *Gall* Period to the Post-Report Period—the average actual and weighted total spreads and standard deviations also were very similar. Therefore, any differences in caseload composition from one period to the next in the 30 cities had very little effect on the two measures of differences in sentencing practices.

Figure 13. *Gall* to Post-Report Period Comparison for All 30 Cities Combined

	<i>Gall</i> Period (Actual)	Post-Report Period (Actual)	Post-Report Period (Weighted)
<b>Total Spread</b>	20.9	25.3	25.8
<b>Standard Deviation</b>	7.1	8.5	8.6

**Two important concepts in statistics—outliers and standard deviation—are relevant to the Commission’s 30-city study.**





## APPENDIX E

# Statistical Outliers and Standard Deviation Analysis



This appendix discusses two important concepts in statistics—outliers and standard deviation—that are relevant to the Commission’s 30-city study.

### Statistical Outliers

When data is analyzed, a researcher should identify whether any point in the dataset is a statistical outlier—an “[o]bservation [in the dataset] that is far removed from the bulk of the data.”<sup>62</sup> Outliers “may indicate faulty measurements and they may exert undue influence on summary statistics, such as the mean ....”<sup>63</sup> Although the Commission has no concerns that any datapoints in the 30-city dataset are products of faulty measurements of any judge’s sentencing practices, the Commission nonetheless has identified judges who qualify as outliers using the most common test for such identification—the 1.5 x Interquartile Range (IQR) test.<sup>64</sup>

Using that test, the Commission identified 39 statistical outliers out of a total 909 different judicial sentencing practices in the 30 cities over the three periods.<sup>65</sup> During the *Booker* Period, there were 11 outliers; during the *Gall* Period, there were ten outliers; and during the Post-Report period, there were 18 outliers.<sup>66</sup> Tampa was the only city to have more than one outlier judge during multiple periods (*Gall* and Post-Report).

In order to show the effect of those outlier judges on both the total spread and standard deviation measures, the Commission has re-calculated those two measures excluding the outlier judges. The results—both with and without the outlier judges in the analysis—are set forth below, using a modification of the graphical presentation discussed earlier in this report. The total spread and standard deviation after excluding the outliers are reported in parentheses following the total spread and standard deviation before excluding



the outliers. Outlier judges appear above or below a red line on the graph. For instance, for Chicago the two outlier judges—one in the *Booker* Period and one in the Post-Report Period—are identified either above or below red lines superimposed on the graphs to the right.

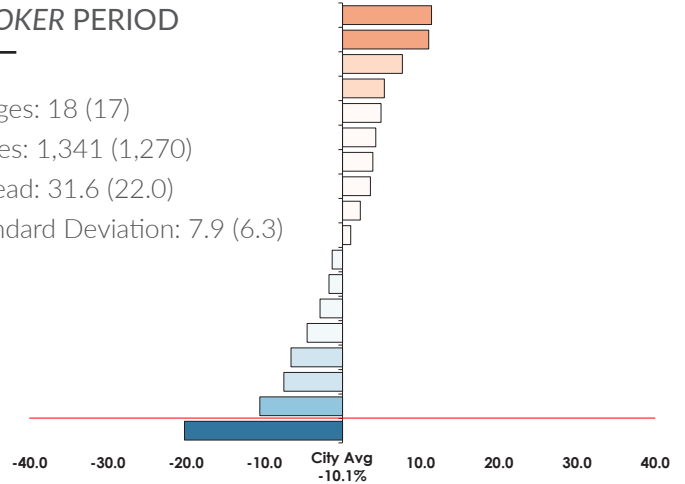
Graphical representations of the cities with at least one outlier judge in at least one period are set forth below. Note that, when removal of an outlier judge resulted in a city having less than five judges in one or more of the three periods, the standard deviation for that city is not reported. As discussed below, reporting the standard deviation for cities with less than five judges in any period is not a meaningful measure of dispersion. Only the total spread will be reported for those cities with less than five judges in a period after excluding outliers.

The Commission has identified the statistical outliers in order to allow the reader to compare the graphical presentations of sentencing differences among judges for each city that has outlier judges—with and without the outlier judges. Nevertheless, it must be remembered that outlier judges imposed real sentences on real defendants and their sentencing practices contributed to the extent of differences in sentencing practices among judges in their cities. The Commission's exclusion of outlier judges from the alternative analyses in this appendix is not intended to suggest otherwise.

Figure 14. Chicago-Based Outlier Federal Judges

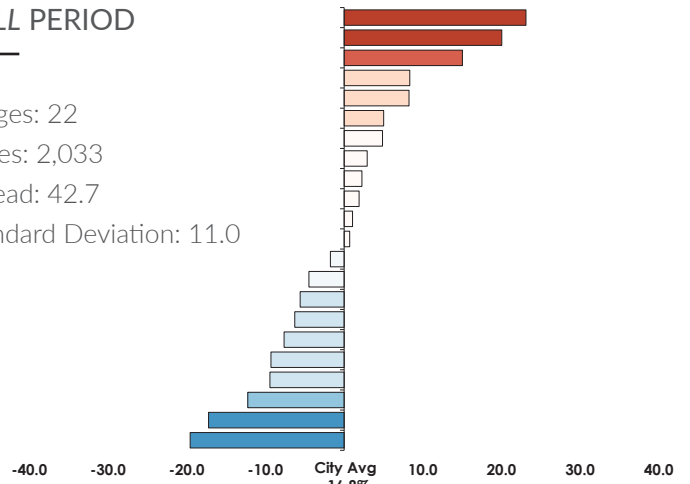
**BOOKER PERIOD**

Judges: 18 (17)  
Cases: 1,341 (1,270)  
Spread: 31.6 (22.0)  
Standard Deviation: 7.9 (6.3)



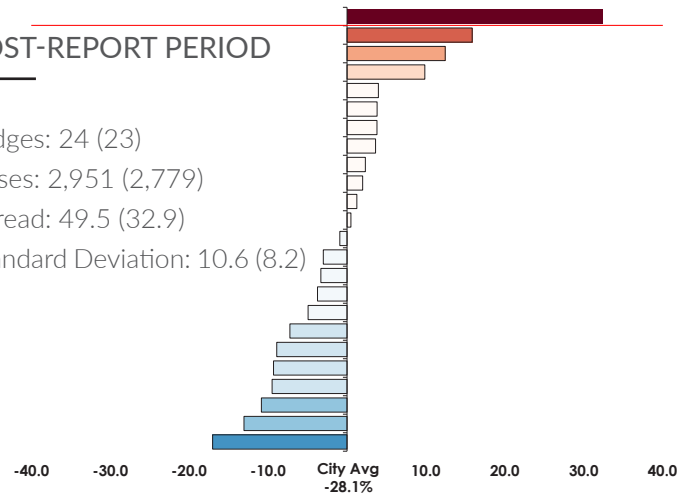
**GALL PERIOD**

Judges: 22  
Cases: 2,033  
Spread: 42.7  
Standard Deviation: 11.0



**POST-REPORT PERIOD**

Judges: 24 (23)  
Cases: 2,951 (2,779)  
Spread: 49.5 (32.9)  
Standard Deviation: 10.6 (8.2)



## Standard Deviation

In addition to reporting the total spread—*i.e.*, the absolute percentage difference between the two judges furthest away the city average, positively and negatively—the Commission also has reported the standard deviation for the 27 cities with at least five judges in all three periods. Standard deviation is the primary measure of dispersion or variability of datapoints compared to the mean<sup>67</sup>—in the case of the 30 cities dataset, the dispersion of the judges' average percent differences from the guideline minimums in relation to the city's average percent difference. The standard deviation is thus a valid measure of the extent of sentencing differences among all the judges in a city in a given time period. The standard deviation “can be appropriately understood as the typical distance of a randomly selected [datapoint] from the mean of the distribution.”<sup>68</sup>

The standard deviation for each time period in each city with at least five judges<sup>69</sup> was calculated as follows. First, the variance—the statistical term, not the term referring to sentences outside of the guideline range after *Booker*—was calculated by summing the squared deviation from the mean for each judge (*i.e.*, the squared difference between each judge's average percent difference and the city's average percent difference). The total sum was divided by the number of judges in the city minus one, which yielded the statistical variance. The standard deviation was then calculated by taking the square root of that variance.<sup>70</sup>



## OUTLIERS

# ATLANTA-BASED FEDERAL JUDGES

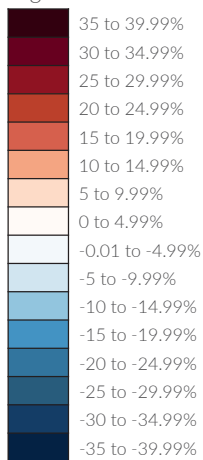
## NORTHERN DISTRICT OF GEORGIA

In order to show the effect of statistical outliers on both the total spread and standard deviation measures, the Commission re-calculated those measures excluding outlier judges.

In Atlanta, there were two statistical outliers over the three periods. Outlier judges appear above or below a red line on the graphs.

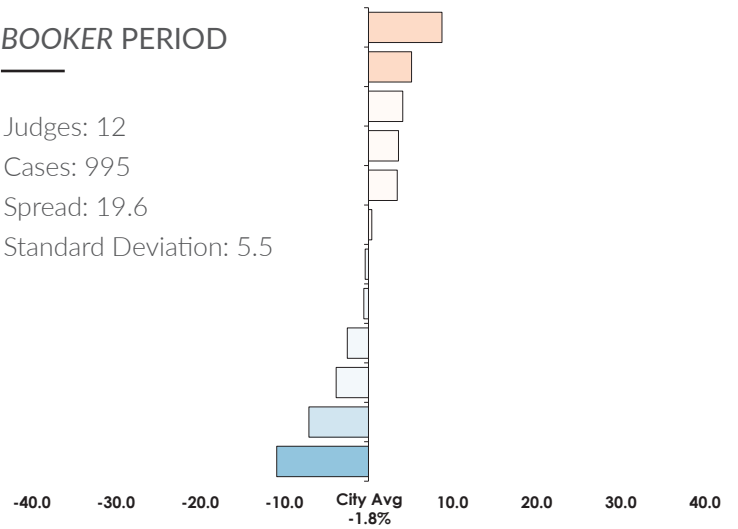
The total spread and standard deviation after excluding the outliers are reported in parentheses following the total spread and standard deviation before excluding the outliers.

### Legend



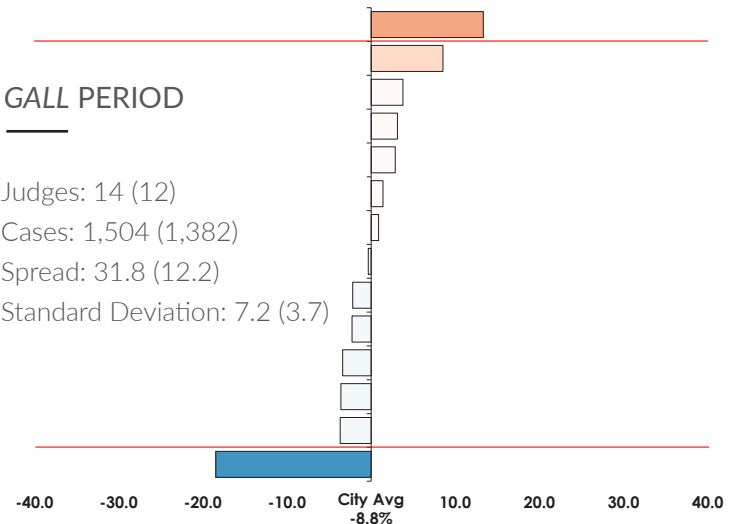
### BOOKER PERIOD

Judges: 12  
Cases: 995  
Spread: 19.6  
Standard Deviation: 5.5



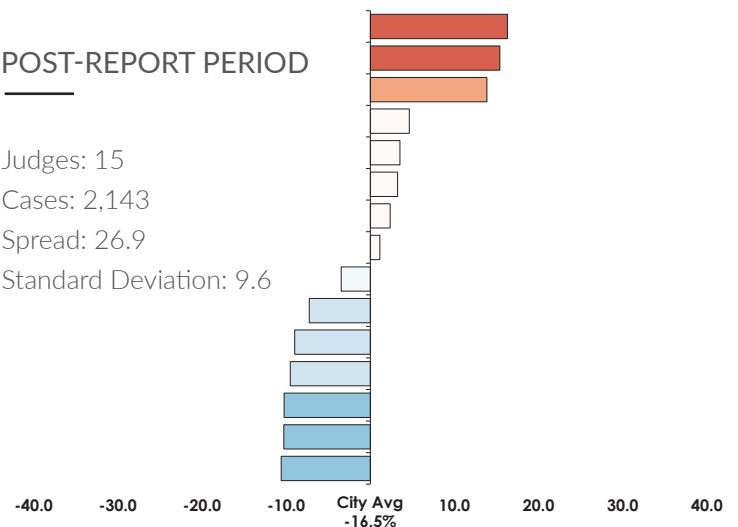
### GALL PERIOD

Judges: 14 (12)  
Cases: 1,504 (1,382)  
Spread: 31.8 (12.2)  
Standard Deviation: 7.2 (3.7)



### POST-REPORT PERIOD

Judges: 15  
Cases: 2,143  
Spread: 26.9  
Standard Deviation: 9.6



## OUTLIERS

# CHICAGO-BASED FEDERAL JUDGES

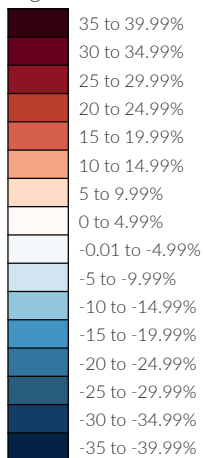
## NORTHERN DISTRICT OF ILLINOIS

In order to show the effect of statistical outliers on both the total spread and standard deviation measures, the Commission re-calculated those measures excluding outlier judges.

In Chicago, there were two statistical outliers over the three periods. Outlier judges appear above or below a red line on the graphs.

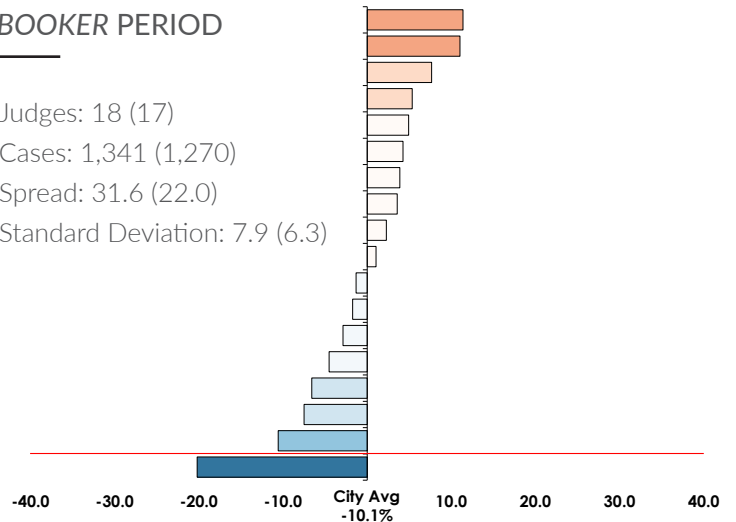
The total spread and standard deviation after excluding the outliers are reported in parentheses following the total spread and standard deviation before excluding the outliers.

### Legend



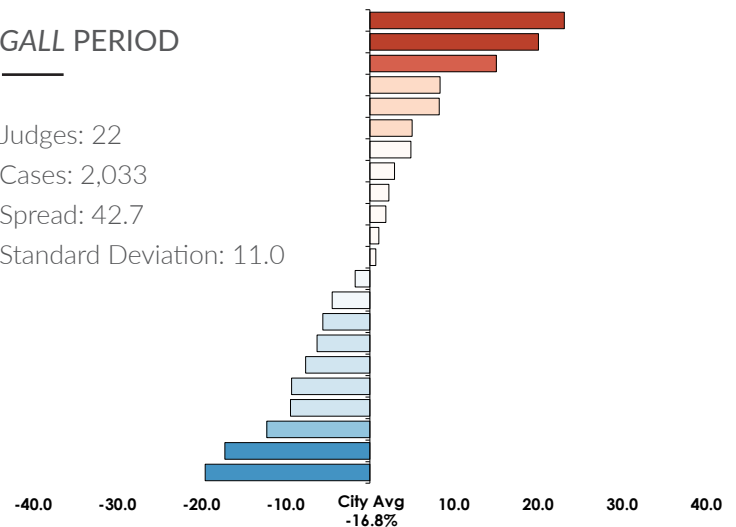
### BOOKER PERIOD

Judges: 18 (17)  
 Cases: 1,341 (1,270)  
 Spread: 31.6 (22.0)  
 Standard Deviation: 7.9 (6.3)



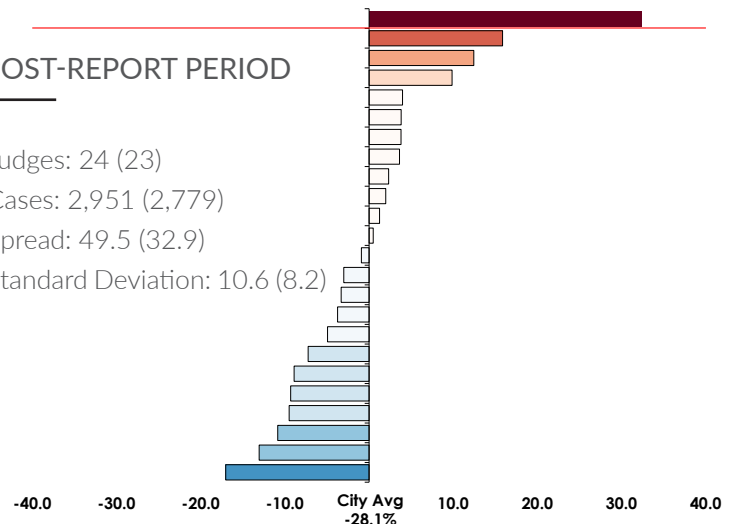
### GALL PERIOD

Judges: 22  
 Cases: 2,033  
 Spread: 42.7  
 Standard Deviation: 11.0



### POST-REPORT PERIOD

Judges: 24 (23)  
 Cases: 2,951 (2,779)  
 Spread: 49.5 (32.9)  
 Standard Deviation: 10.6 (8.2)





## OUTLIERS

# CLEVELAND-BASED FEDERAL JUDGES

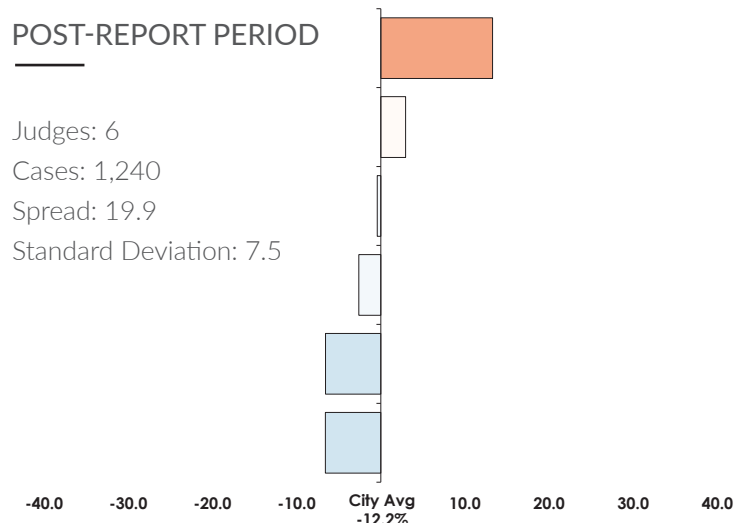
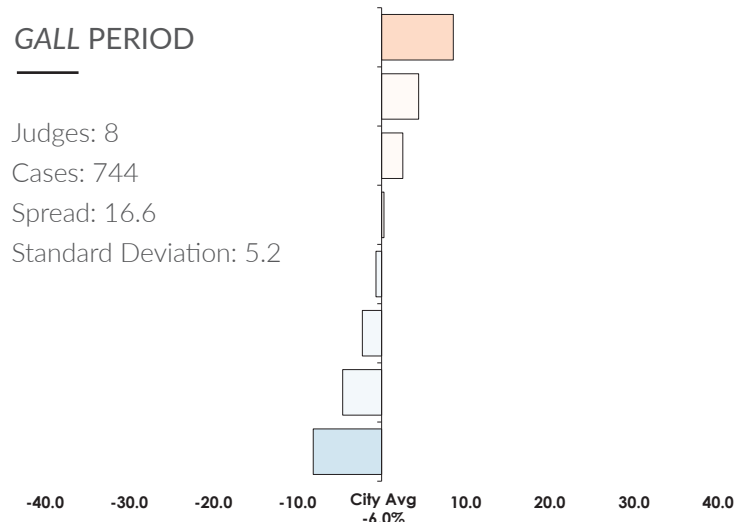
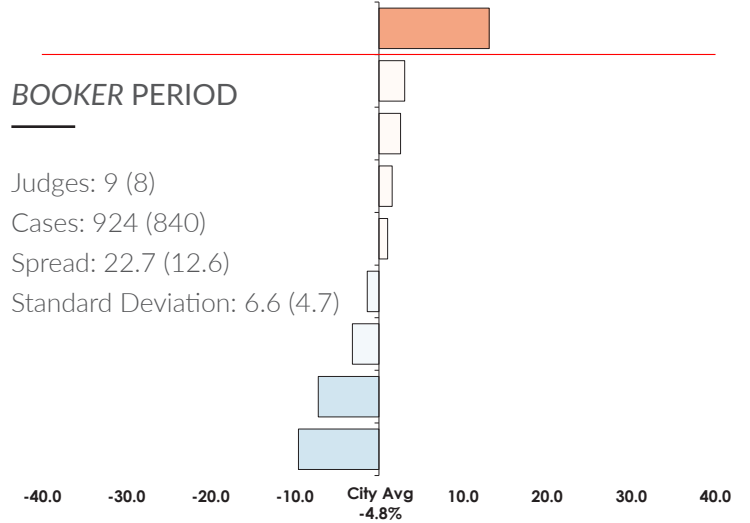
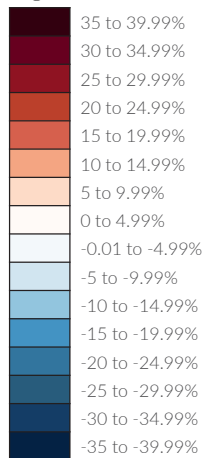
## NORTHERN DISTRICT OF OHIO

In order to show the effect of statistical outliers on both the total spread and standard deviation measures, the Commission re-calculated those measures excluding outlier judges.

In Cleveland, there was one statistical outlier over the three periods. Outlier judges appear above or below a red line on the graphs.

The total spread and standard deviation after excluding the outliers are reported in parentheses following the total spread and standard deviation before excluding the outliers.

### Legend



## OUTLIERS

# COLUMBUS-BASED FEDERAL JUDGES

### SOUTHERN DISTRICT OF OHIO

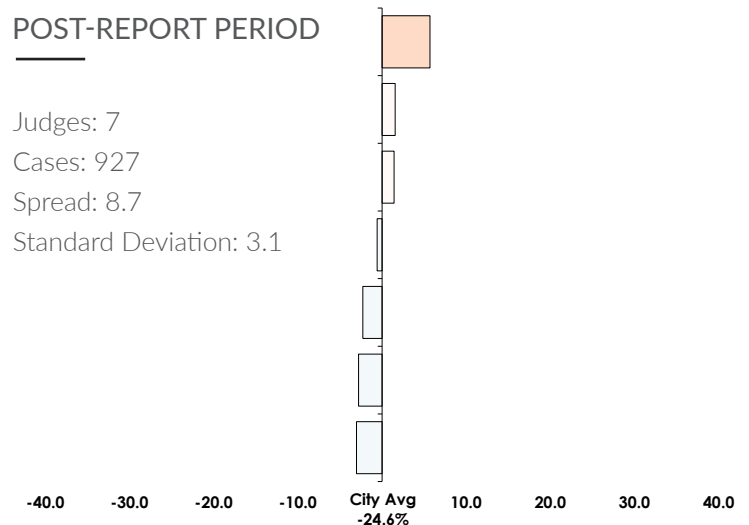
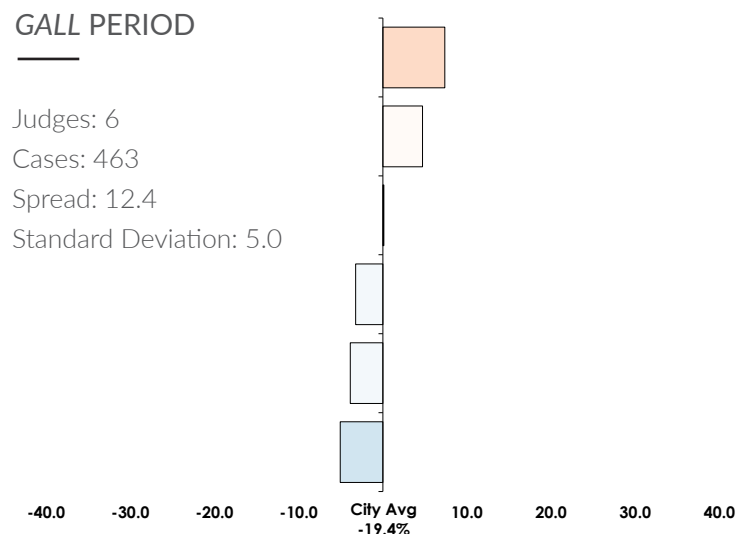
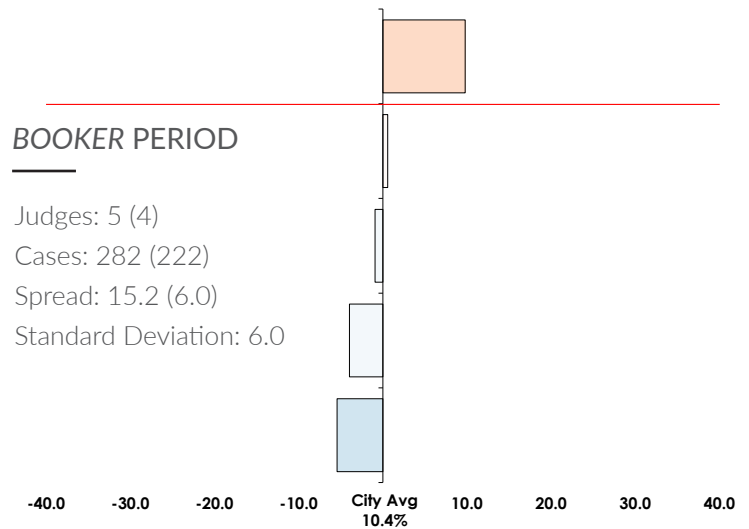
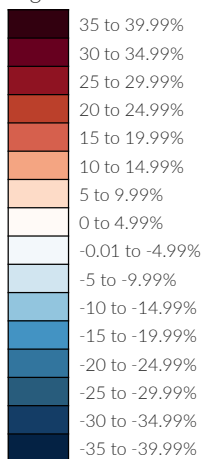
In order to show the effect of statistical outliers on the total spread, the Commission re-calculated that measure excluding outlier judges.

Because Columbus has less than five judges in at least one period after excluding outliers, the Commission has not reported the standard deviation after excluding outliers for this city.

In Columbus, there was one statistical outlier over the three periods. Outlier judges appear above or below a red line on the graphs.

The total spread after excluding the outliers is reported in parentheses following the total spread before excluding the outliers.

Legend





## OUTLIERS

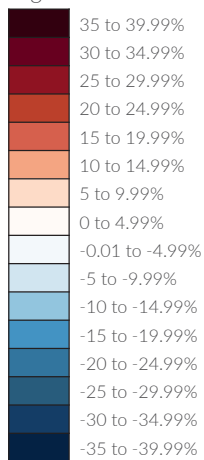
# DALLAS-BASED FEDERAL JUDGES NORTHERN DISTRICT OF TEXAS

In order to show the effect of statistical outliers on both the total spread and standard deviation measures, the Commission re-calculated those measures excluding outlier judges.

In Dallas, there were three statistical outliers over the three periods. Outlier judges appear above or below a red line on the graphs.

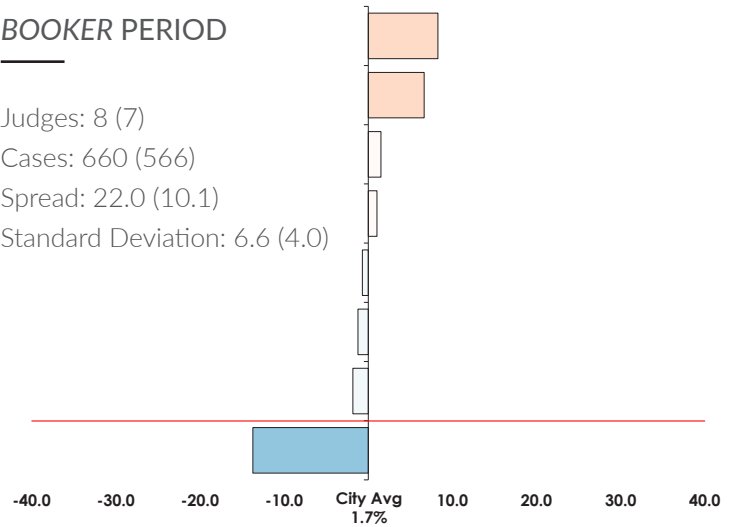
The total spread and standard deviation after excluding the outliers are reported in parentheses following the total spread and standard deviation before excluding the outliers.

### Legend



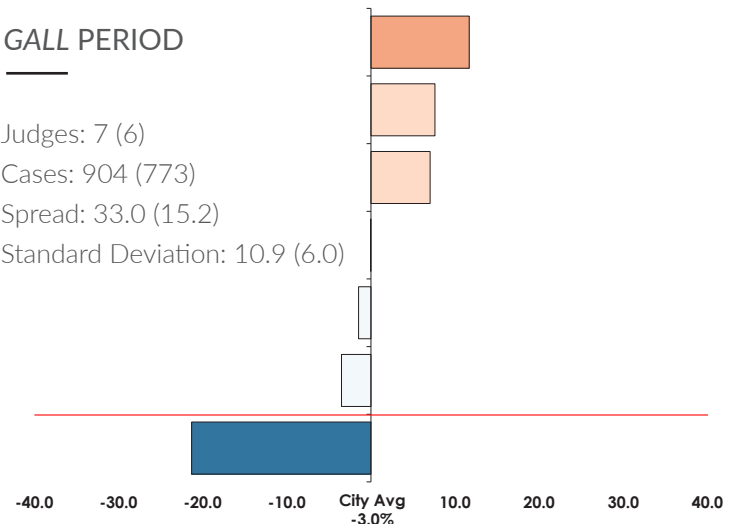
### BOOKER PERIOD

Judges: 8 (7)  
Cases: 660 (566)  
Spread: 22.0 (10.1)  
Standard Deviation: 6.6 (4.0)



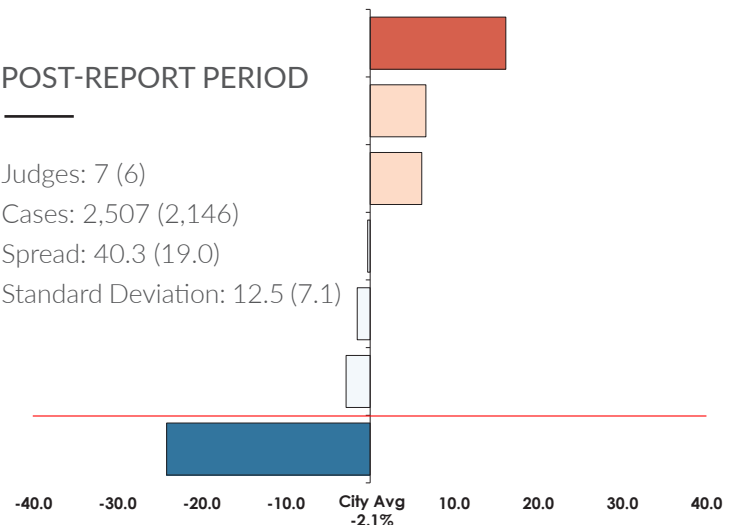
### GALL PERIOD

Judges: 7 (6)  
Cases: 904 (773)  
Spread: 33.0 (15.2)  
Standard Deviation: 10.9 (6.0)



### POST-REPORT PERIOD

Judges: 7 (6)  
Cases: 2,507 (2,146)  
Spread: 40.3 (19.0)  
Standard Deviation: 12.5 (7.1)





## OUTLIERS

# DETROIT-BASED FEDERAL JUDGES

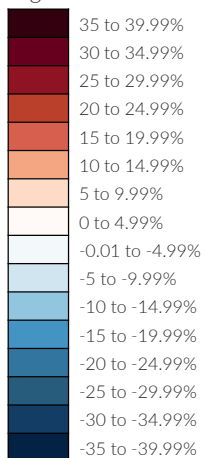
## EASTERN DISTRICT OF MICHIGAN

In order to show the effect of statistical outliers on both the total spread and standard deviation measures, the Commission re-calculated those measures excluding outlier judges.

In Detroit, there were three statistical outliers over the three periods. Outlier judges appear above or below a red line on the graphs.

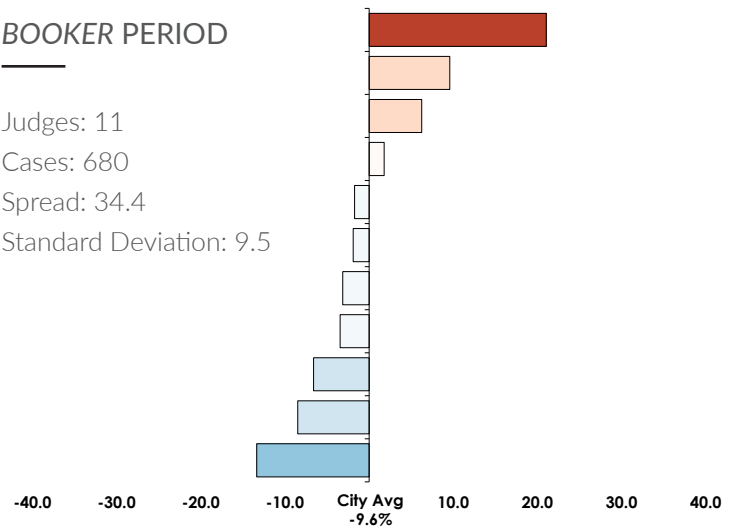
The total spread and standard deviation after excluding the outliers are reported in parentheses following the total spread and standard deviation before excluding the outliers.

### Legend



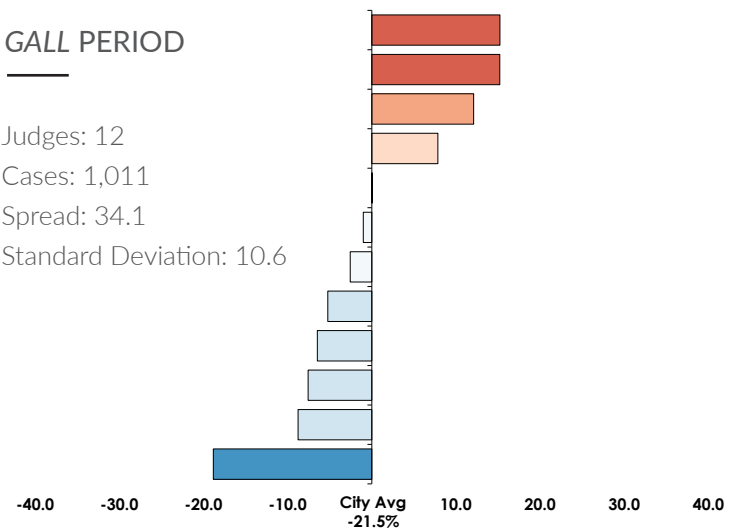
### BOOKER PERIOD

Judges: 11  
Cases: 680  
Spread: 34.4  
Standard Deviation: 9.5



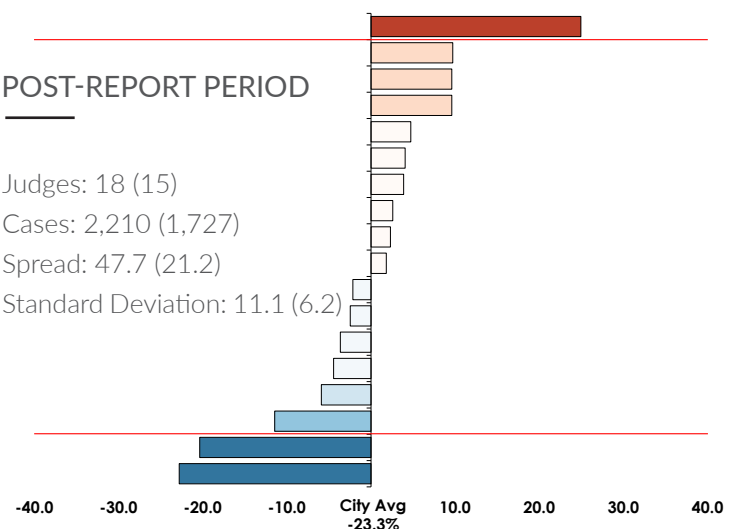
### GALL PERIOD

Judges: 12  
Cases: 1,011  
Spread: 34.1  
Standard Deviation: 10.6



### POST-REPORT PERIOD

Judges: 18 (15)  
Cases: 2,210 (1,727)  
Spread: 47.7 (21.2)  
Standard Deviation: 11.1 (6.2)





## OUTLIERS

# LOS ANGELES-BASED FEDERAL JUDGES

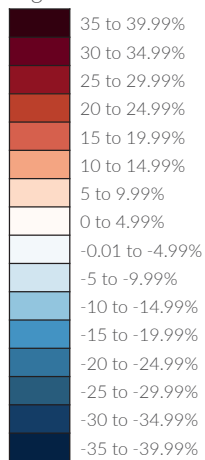
## CENTRAL DISTRICT OF CALIFORNIA

In order to show the effect of statistical outliers on both the total spread and standard deviation measures, the Commission re-calculated those measures excluding outlier judges.

In Los Angeles, there were two statistical outliers over the three periods. Outlier judges appear above or below a red line on the graphs.

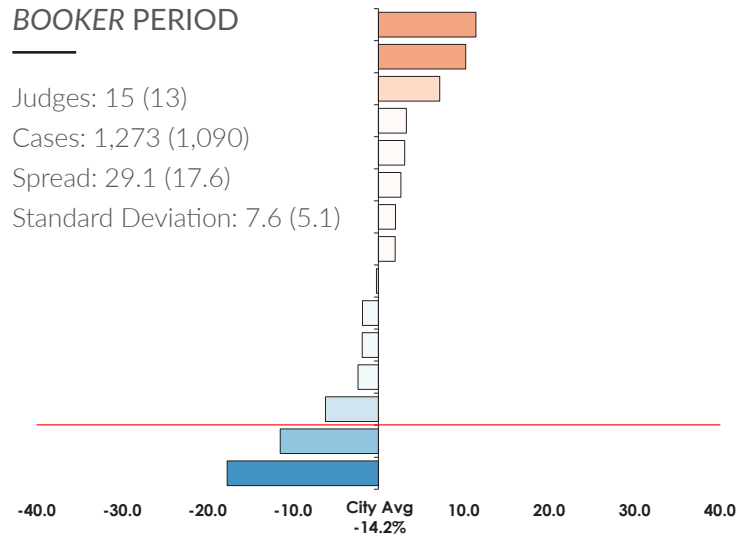
The total spread and standard deviation after excluding the outliers are reported in parentheses following the total spread and standard deviation before excluding the outliers.

### Legend



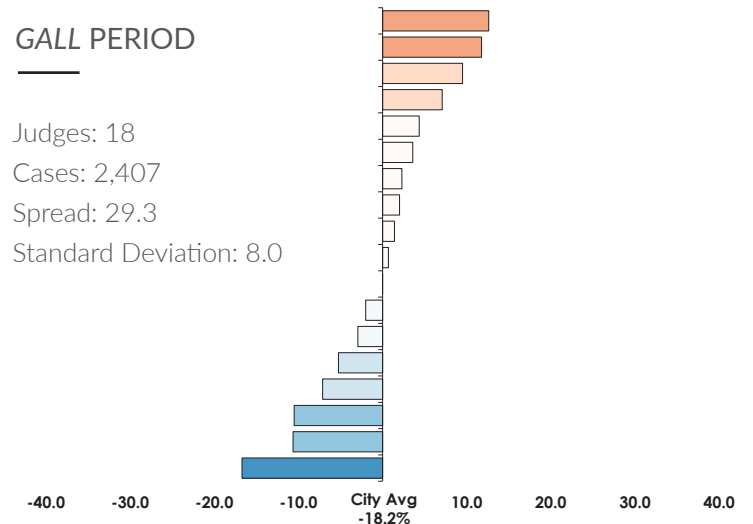
### BOOKER PERIOD

Judges: 15 (13)  
Cases: 1,273 (1,090)  
Spread: 29.1 (17.6)  
Standard Deviation: 7.6 (5.1)



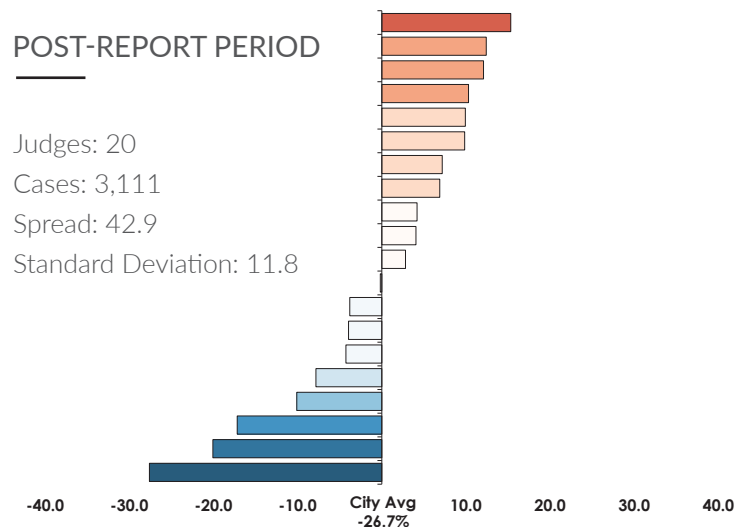
### GALL PERIOD

Judges: 18  
Cases: 2,407  
Spread: 29.3  
Standard Deviation: 8.0



### POST-REPORT PERIOD

Judges: 20  
Cases: 3,111  
Spread: 42.9  
Standard Deviation: 11.8



## OUTLIERS

# MANHATTAN-BASED FEDERAL JUDGES

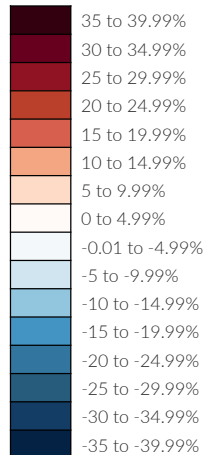
## SOUTHERN DISTRICT OF NEW YORK

In order to show the effect of statistical outliers on both the total spread and standard deviation measures, the Commission re-calculated those measures excluding outlier judges.

In Manhattan, there was one statistical outlier over the three periods. Outlier judges appear above or below a red line on the graphs.

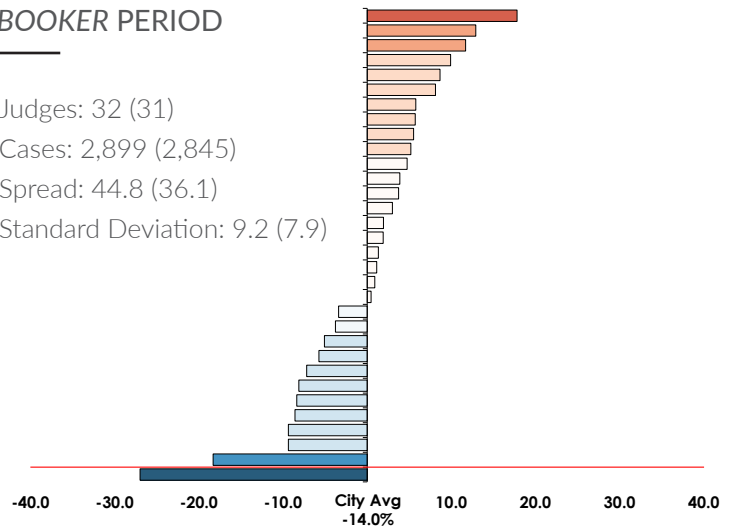
The total spread and standard deviation after excluding the outliers are reported in parentheses following the total spread and standard deviation before excluding the outliers.

### Legend



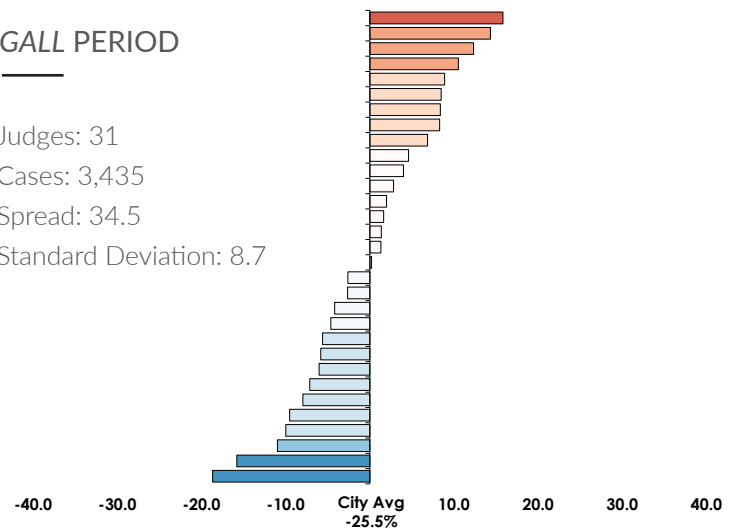
### BOOKER PERIOD

Judges: 32 (31)  
 Cases: 2,899 (2,845)  
 Spread: 44.8 (36.1)  
 Standard Deviation: 9.2 (7.9)



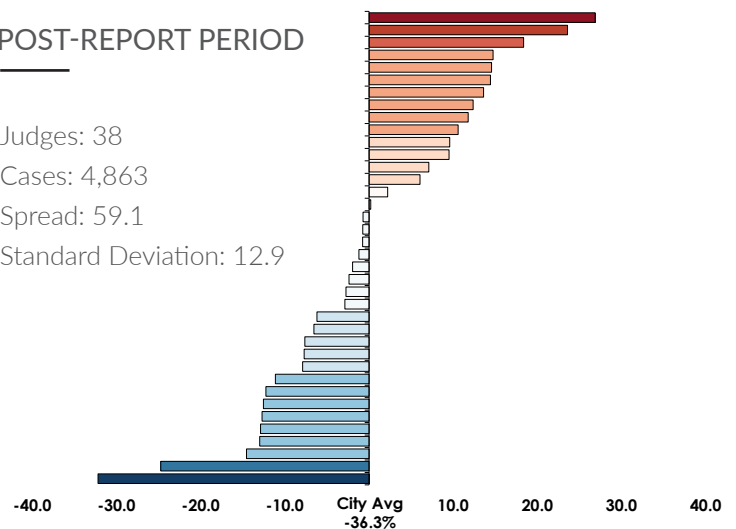
### GALL PERIOD

Judges: 31  
 Cases: 3,435  
 Spread: 34.5  
 Standard Deviation: 8.7



### POST-REPORT PERIOD

Judges: 38  
 Cases: 4,863  
 Spread: 59.1  
 Standard Deviation: 12.9





## OUTLIERS

# MEMPHIS-BASED FEDERAL JUDGES

## WESTERN DISTRICT OF TENNESSEE

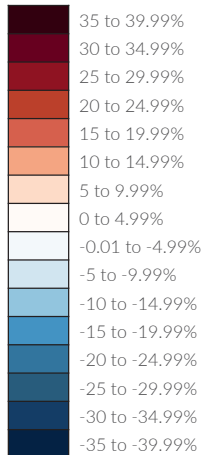
In order to show the effect of statistical outliers on the total spread, the Commission re-calculated that measure excluding outlier judges.

Because Memphis has less than five judges in at least one period after excluding outliers, the Commission has not reported the standard deviation after excluding outliers for this city.

In Memphis, there was one statistical outlier over the three periods. Outlier judges appear above or below a red line on the graphs.

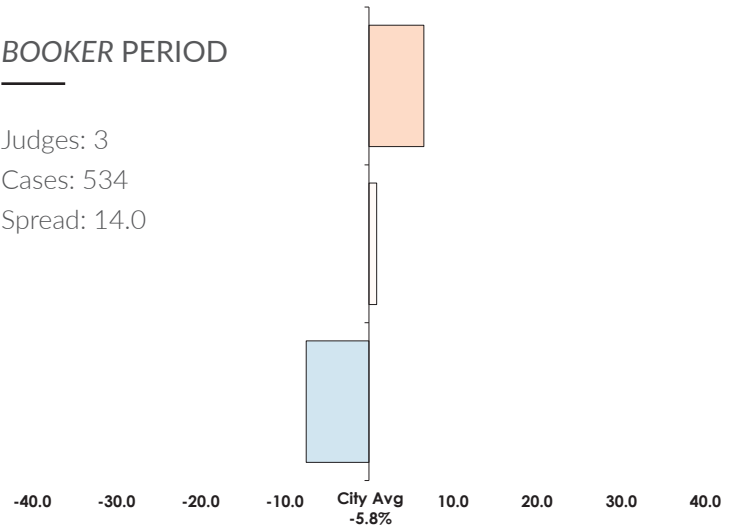
The total spread after excluding the outliers is reported in parentheses following the total spread before excluding the outliers.

### Legend



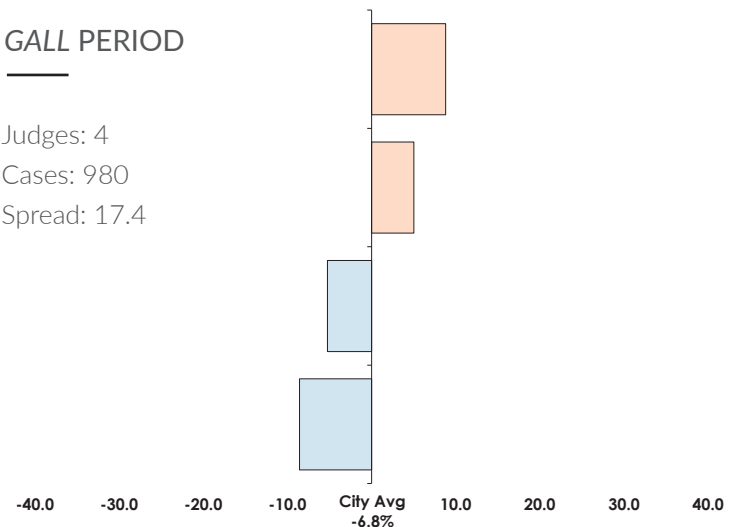
### BOOKER PERIOD

Judges: 3  
Cases: 534  
Spread: 14.0



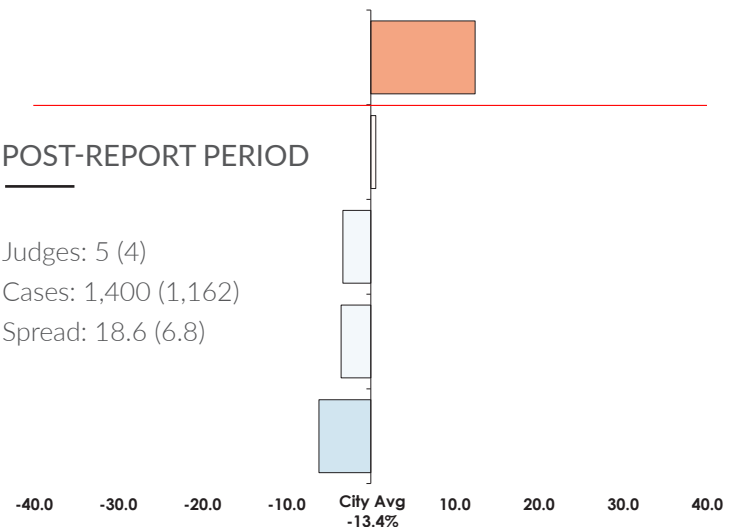
### GALL PERIOD

Judges: 4  
Cases: 980  
Spread: 17.4



### POST-REPORT PERIOD

Judges: 5 (4)  
Cases: 1,400 (1,162)  
Spread: 18.6 (6.8)



## OUTLIERS

# MIAMI-BASED FEDERAL JUDGES

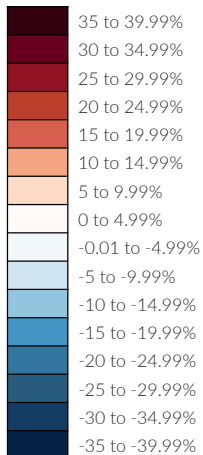
## SOUTHERN DISTRICT OF FLORIDA

In order to show the effect of statistical outliers on both the total spread and standard deviation measures, the Commission re-calculated those measures excluding outlier judges.

In Miami, there was one statistical outlier over the three periods. Outlier judges appear above or below a red line on the graphs.

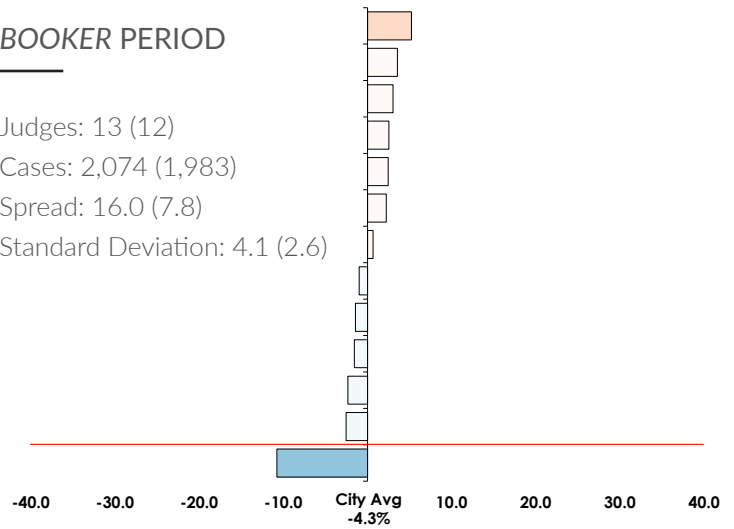
The total spread and standard deviation after excluding the outliers are reported in parentheses following the total spread and standard deviation before excluding the outliers.

### Legend



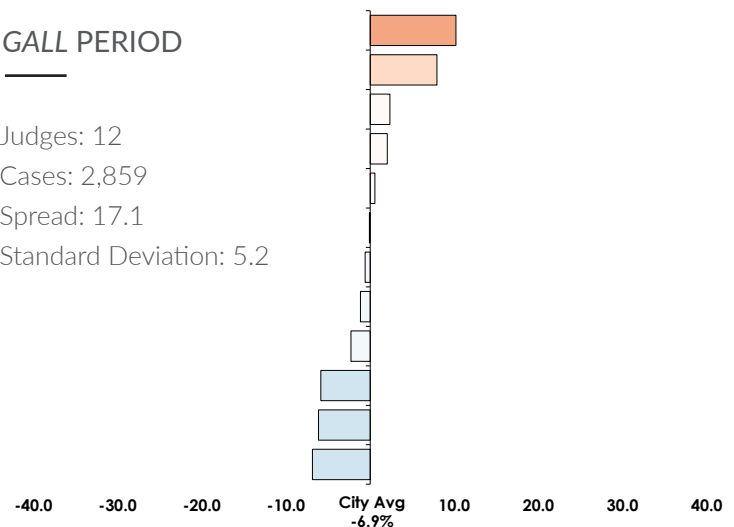
### BOOKER PERIOD

Judges: 13 (12)  
Cases: 2,074 (1,983)  
Spread: 16.0 (7.8)  
Standard Deviation: 4.1 (2.6)



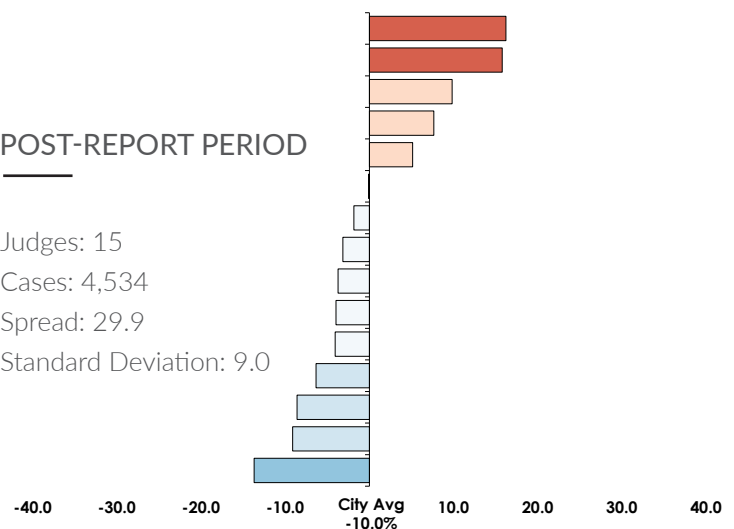
### GALL PERIOD

Judges: 12  
Cases: 2,859  
Spread: 17.1  
Standard Deviation: 5.2



### POST-REPORT PERIOD

Judges: 15  
Cases: 4,534  
Spread: 29.9  
Standard Deviation: 9.0





# OUTLIERS

## MINNEAPOLIS-BASED FEDERAL JUDGES

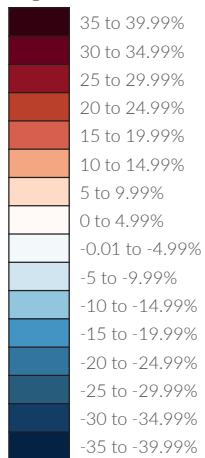
### DISTRICT OF MINNESOTA

In order to show the effect of statistical outliers on the total spread, the Commission re-calculated that measure excluding outlier judges.

In Minneapolis, there was one statistical outlier over the three periods. Outlier judges appear above or below a red line on the graphs.

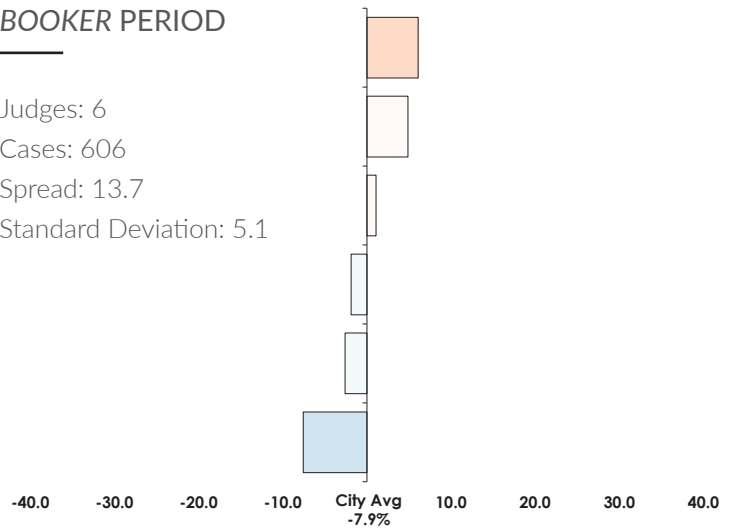
The total spread and standard deviation after excluding the outliers are reported in parentheses following the total spread and standard deviation before excluding the outliers.

#### Legend



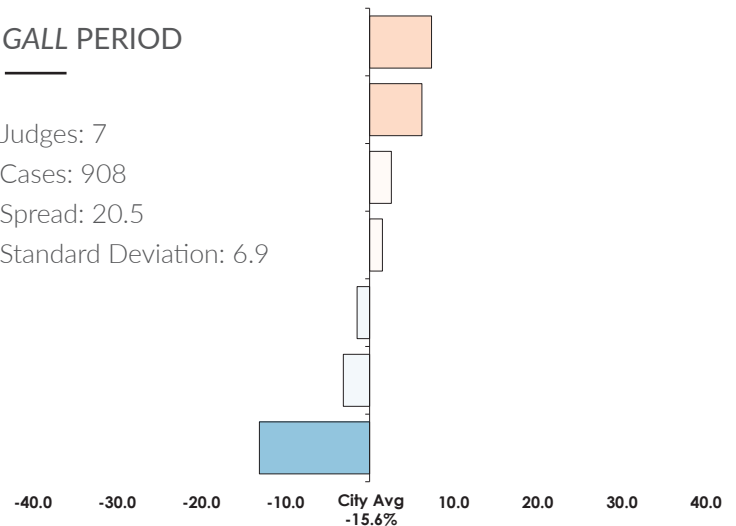
### BOOKER PERIOD

Judges: 6  
Cases: 606  
Spread: 13.7  
Standard Deviation: 5.1



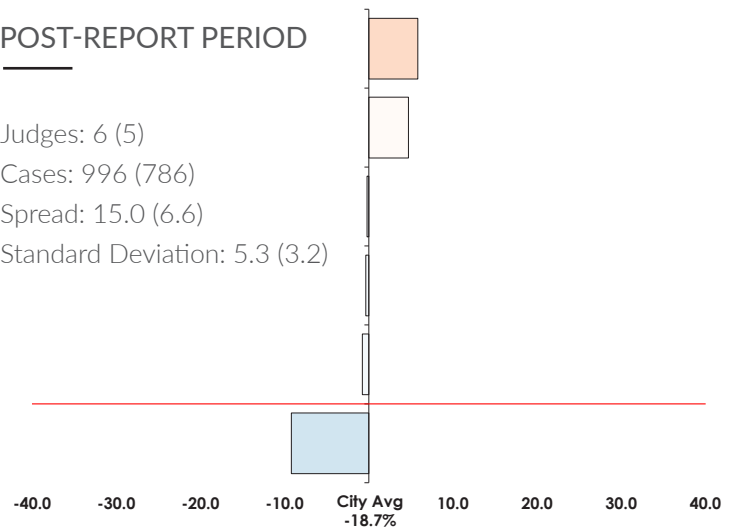
### GALL PERIOD

Judges: 7  
Cases: 908  
Spread: 20.5  
Standard Deviation: 6.9



### POST-REPORT PERIOD

Judges: 6 (5)  
Cases: 996 (786)  
Spread: 15.0 (6.6)  
Standard Deviation: 5.3 (3.2)



## OUTLIERS

# OKLAHOMA CITY-BASED FEDERAL JUDGES

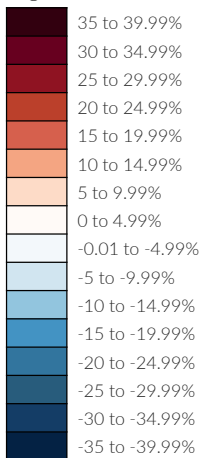
## WESTERN DISTRICT OF OKLAHOMA

In order to show the effect of statistical outliers on both the total spread and standard deviation measures, the Commission re-calculated those measures excluding outlier judges.

In Oklahoma City, there was one statistical outlier over the three periods. Outlier judges appear above or below a red line on the graphs.

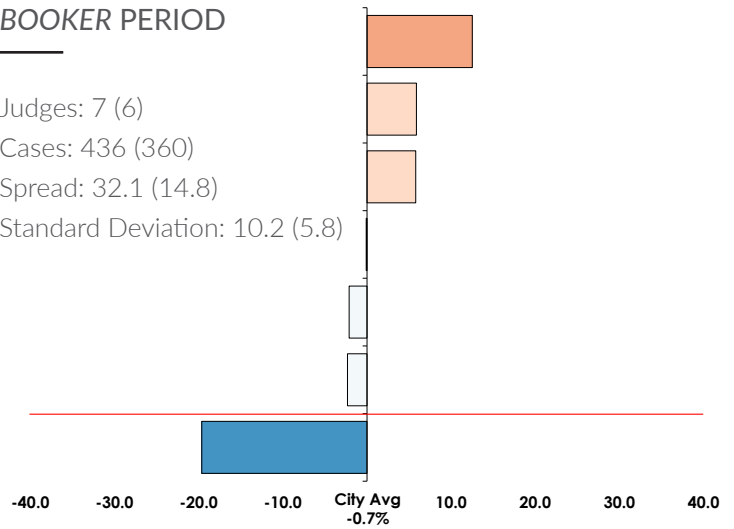
The total spread and standard deviation after excluding the outliers are reported in parentheses following the total spread and standard deviation before excluding the outliers.

### Legend



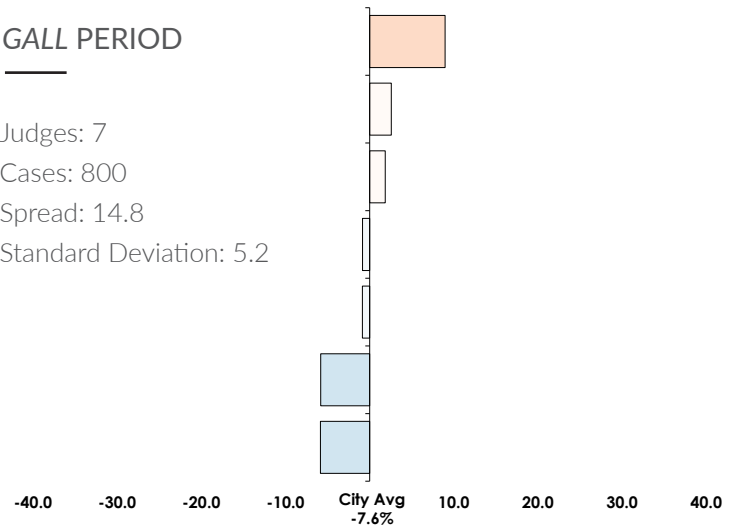
### BOOKER PERIOD

Judges: 7 (6)  
 Cases: 436 (360)  
 Spread: 32.1 (14.8)  
 Standard Deviation: 10.2 (5.8)



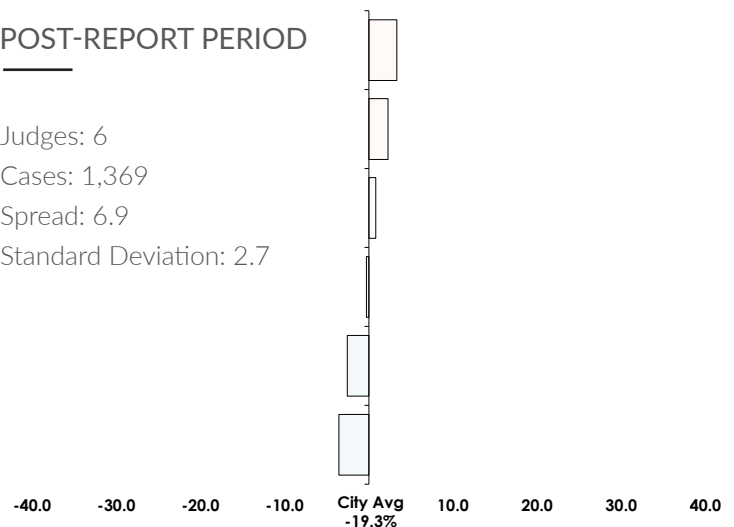
### GALL PERIOD

Judges: 7  
 Cases: 800  
 Spread: 14.8  
 Standard Deviation: 5.2



### POST-REPORT PERIOD

Judges: 6  
 Cases: 1,369  
 Spread: 6.9  
 Standard Deviation: 2.7





## OUTLIERS

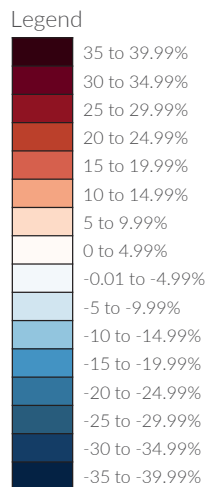
# PHILADELPHIA-BASED FEDERAL JUDGES

## EASTERN DISTRICT OF PENNSYLVANIA

In order to show the effect of statistical outliers on both the total spread and standard deviation measures, the Commission re-calculated those measures excluding outlier judges.

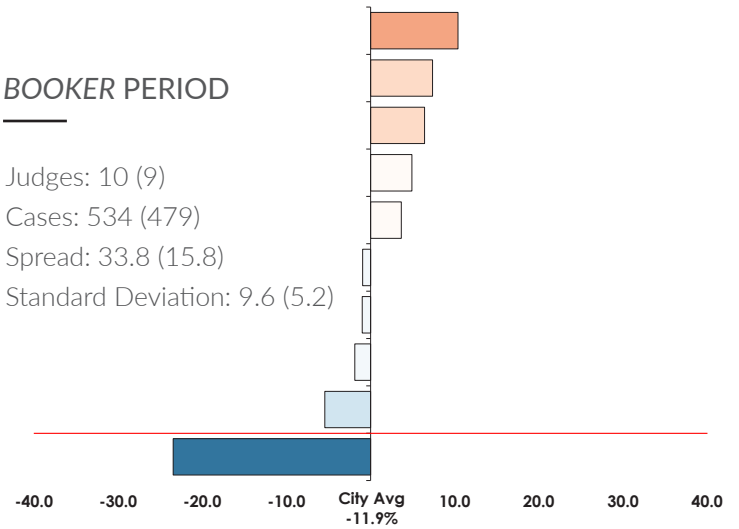
In Philadelphia, there were three statistical outliers over the three periods. Outlier judges appear above or below a red line on the graphs.

The total spread and standard deviation after excluding the outliers are reported in parentheses following the total spread and standard deviation before excluding the outliers.



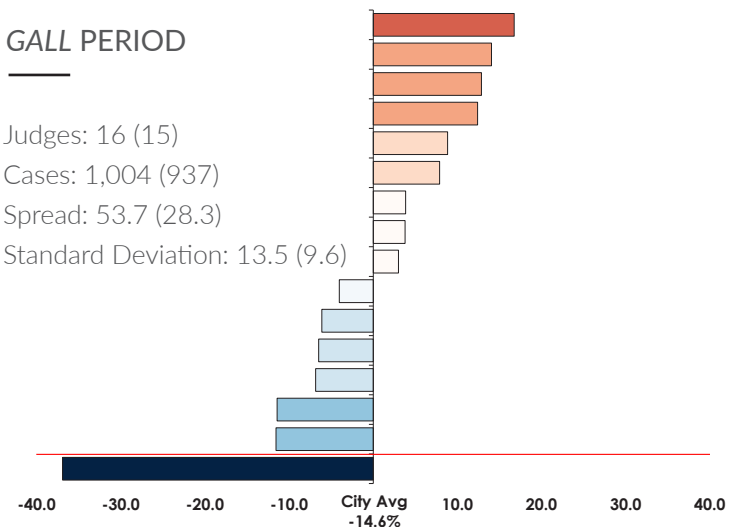
### BOOKER PERIOD

Judges: 10 (9)  
Cases: 534 (479)  
Spread: 33.8 (15.8)  
Standard Deviation: 9.6 (5.2)



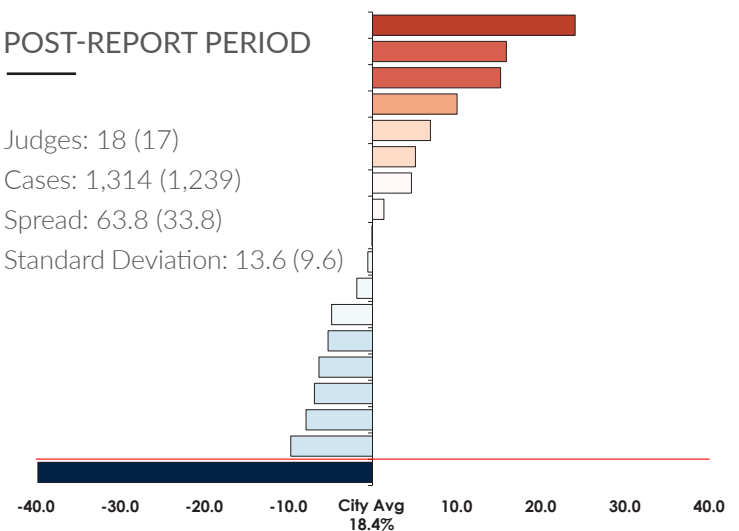
### GALL PERIOD

Judges: 16 (15)  
Cases: 1,004 (937)  
Spread: 53.7 (28.3)  
Standard Deviation: 13.5 (9.6)



### POST-REPORT PERIOD

Judges: 18 (17)  
Cases: 1,314 (1,239)  
Spread: 63.8 (33.8)  
Standard Deviation: 13.6 (9.6)





## OUTLIERS

# PHOENIX-BASED FEDERAL JUDGES

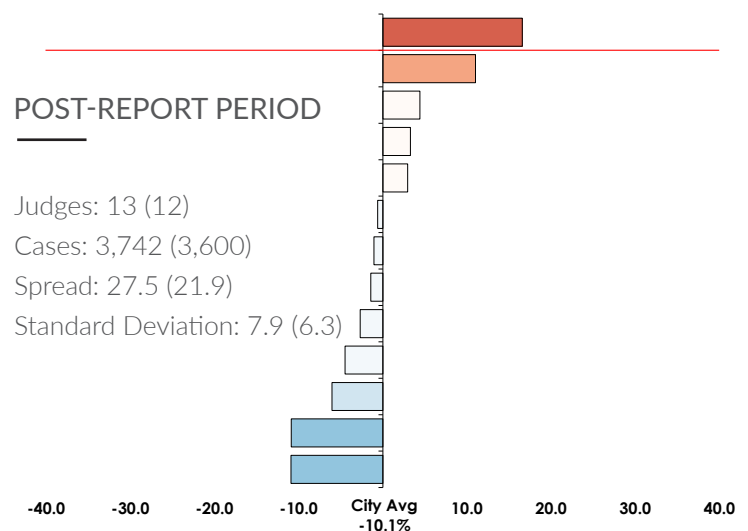
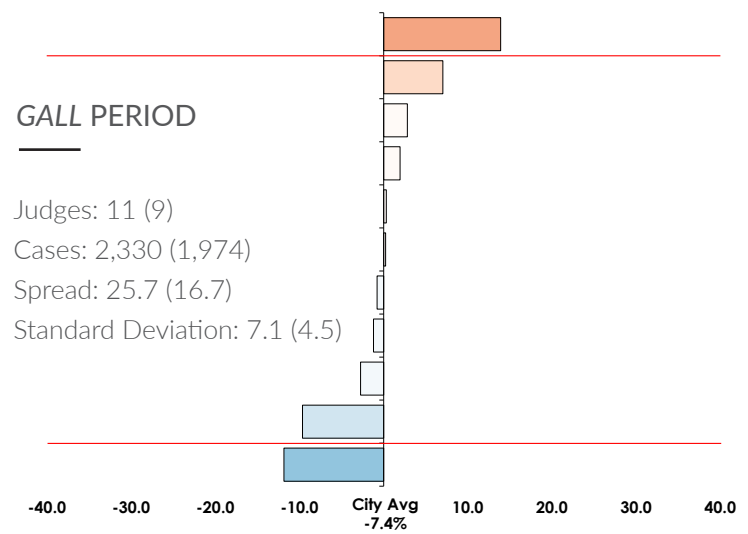
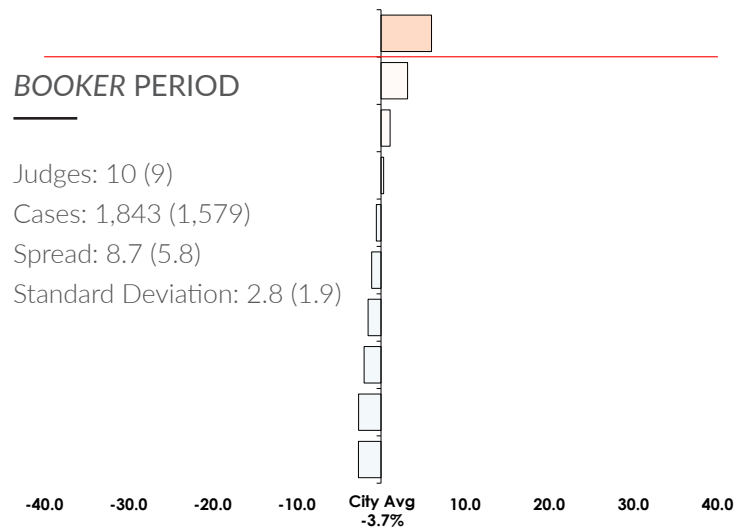
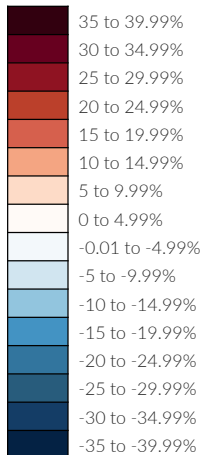
## DISTRICT OF ARIZONA

In order to show the effect of statistical outliers on both the total spread and standard deviation measures, the Commission re-calculated those measures excluding outlier judges.

In Phoenix, there were four statistical outliers over the three periods. Outlier judges appear above or below a red line on the graphs.

The total spread and standard deviation after excluding the outliers are reported in parentheses following the total spread and standard deviation before excluding the outliers.

### Legend





## OUTLIERS

# PITTSBURGH-BASED FEDERAL JUDGES

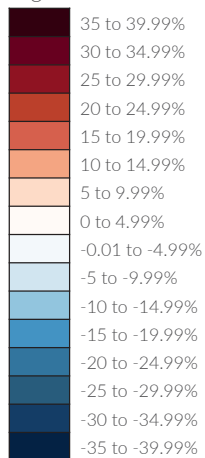
## WESTERN DISTRICT OF PENNSYLVANIA

In order to show the effect of statistical outliers on both the total spread and standard deviation measures, the Commission re-calculated those measures excluding outlier judges.

In Pittsburgh, there was one statistical outlier over the three periods. Outlier judges appear above or below a red line on the graphs.

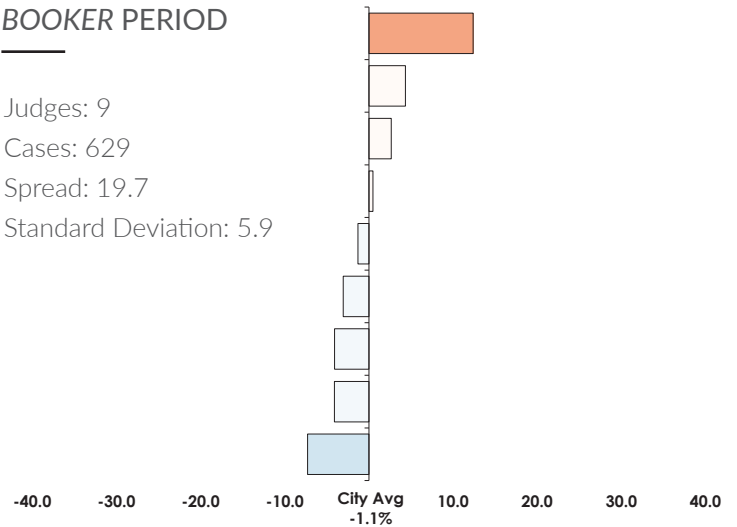
The total spread and standard deviation after excluding the outliers are reported in parentheses following the total spread and standard deviation before excluding the outliers.

### Legend



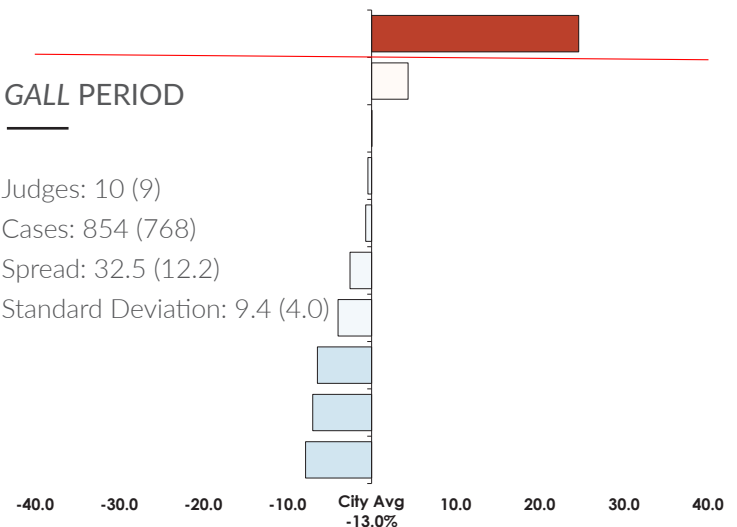
### BOOKER PERIOD

Judges: 9  
Cases: 629  
Spread: 19.7  
Standard Deviation: 5.9



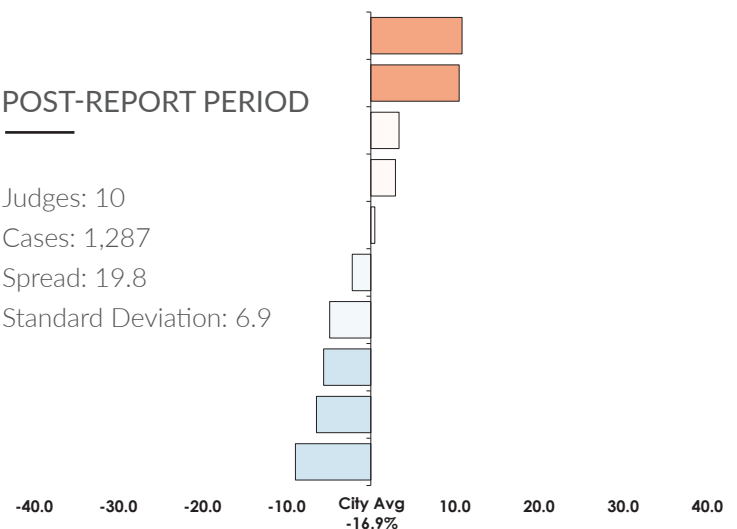
### GALL PERIOD

Judges: 10 (9)  
Cases: 854 (768)  
Spread: 32.5 (12.2)  
Standard Deviation: 9.4 (4.0)



### POST-REPORT PERIOD

Judges: 10  
Cases: 1,287  
Spread: 19.8  
Standard Deviation: 6.9



## OUTLIERS

# PORTLAND-BASED FEDERAL JUDGES

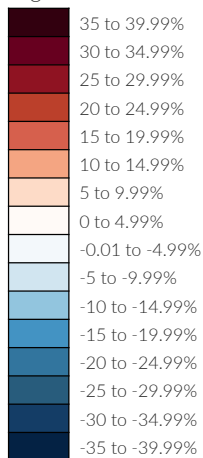
## DISTRICT OF OREGON

In order to show the effect of statistical outliers on both the total spread and standard deviation measures, the Commission re-calculated those measures excluding outlier judges.

In Portland, there was one statistical outlier over the three periods. Outlier judges appear above or below a red line on the graphs.

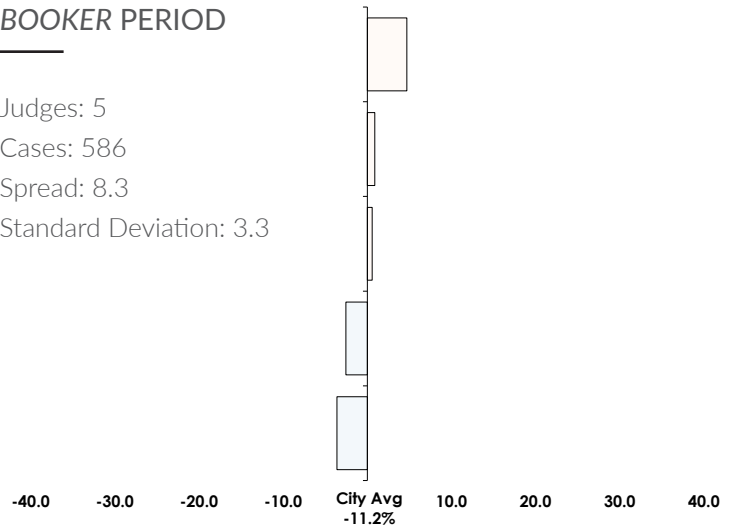
The total spread and standard deviation after excluding the outliers are reported in parentheses following the total spread and standard deviation before excluding the outliers.

### Legend



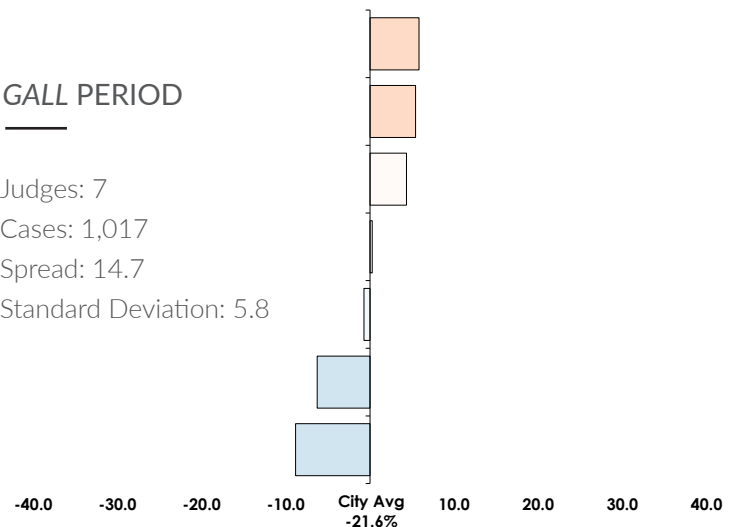
### BOOKER PERIOD

Judges: 5  
 Cases: 586  
 Spread: 8.3  
 Standard Deviation: 3.3



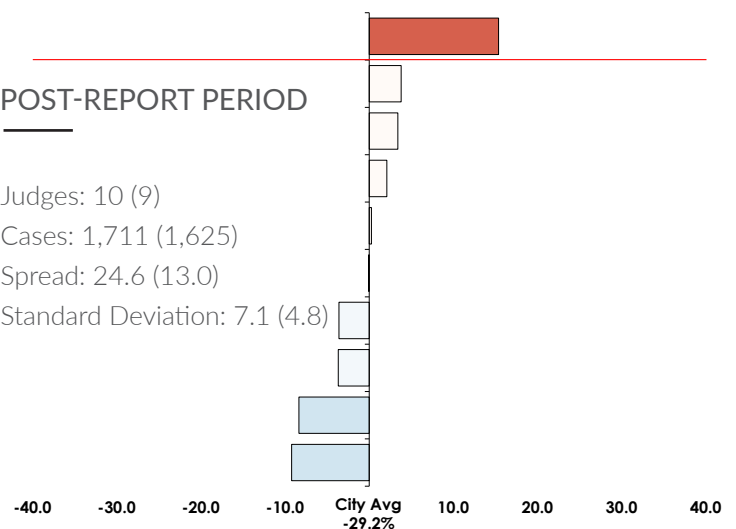
### GALL PERIOD

Judges: 7  
 Cases: 1,017  
 Spread: 14.7  
 Standard Deviation: 5.8



### POST-REPORT PERIOD

Judges: 10 (9)  
 Cases: 1,711 (1,625)  
 Spread: 24.6 (13.0)  
 Standard Deviation: 7.1 (4.8)





## OUTLIERS

# SALT LAKE CITY-BASED FEDERAL JUDGES

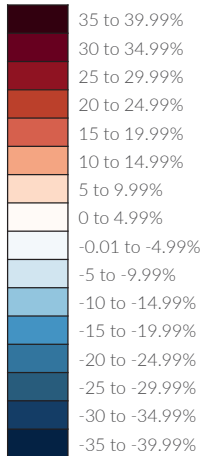
## DISTRICT OF UTAH

In order to show the effect of statistical outliers on both the total spread and standard deviation measures, the Commission re-calculated those measures excluding outlier judges.

In Salt Lake City, there were three statistical outliers over the three periods. Outlier judges appear above or below a red line on the graphs.

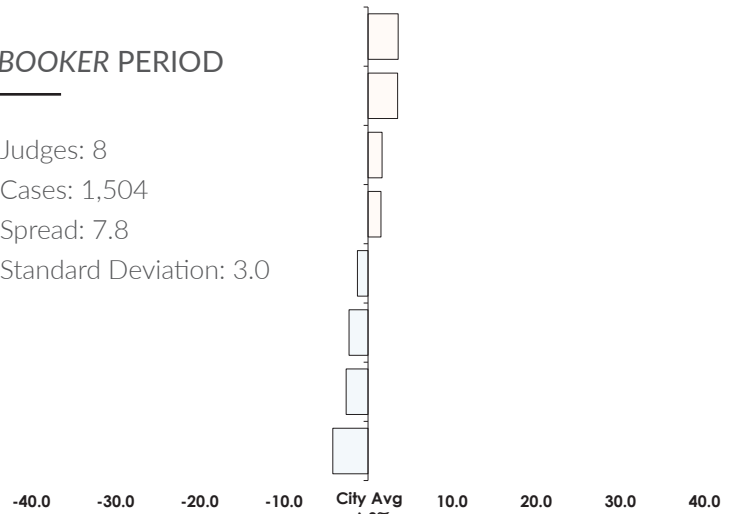
The total spread and standard deviation after excluding the outliers are reported in parentheses following the total spread and standard deviation before excluding the outliers.

### Legend



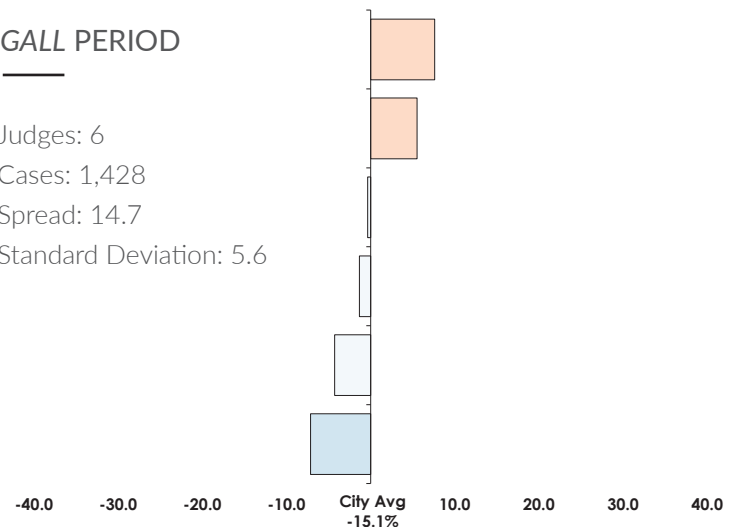
### BOOKER PERIOD

Judges: 8  
Cases: 1,504  
Spread: 7.8  
Standard Deviation: 3.0



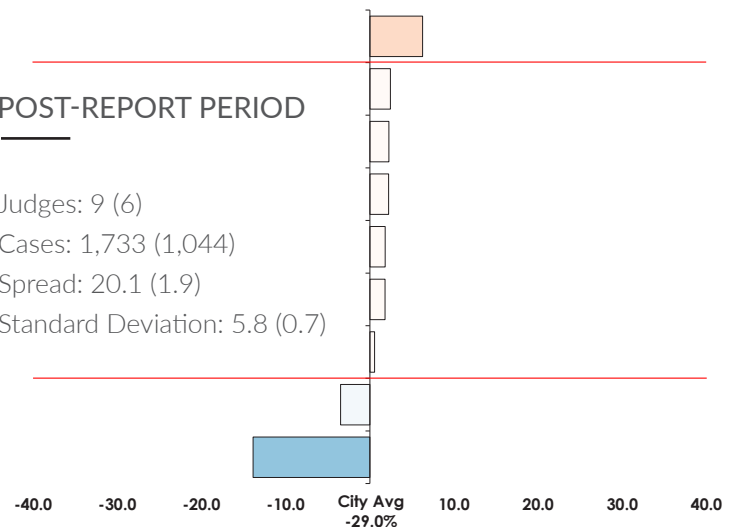
### GALL PERIOD

Judges: 6  
Cases: 1,428  
Spread: 14.7  
Standard Deviation: 5.6



### POST-REPORT PERIOD

Judges: 9 (6)  
Cases: 1,733 (1,044)  
Spread: 20.1 (1.9)  
Standard Deviation: 5.8 (0.7)



## OUTLIERS

# SAN DIEGO-BASED FEDERAL JUDGES

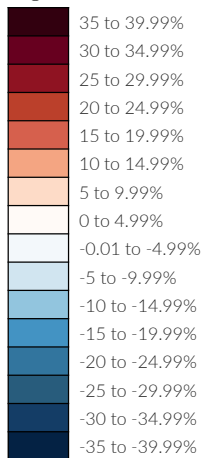
## SOUTHERN DISTRICT OF CALIFORNIA

In order to show the effect of statistical outliers on both the total spread and standard deviation measures, the Commission re-calculated those measures excluding outlier judges.

In San Diego, there was one statistical outlier over the three periods. Outlier judges appear above or below a red line on the graphs.

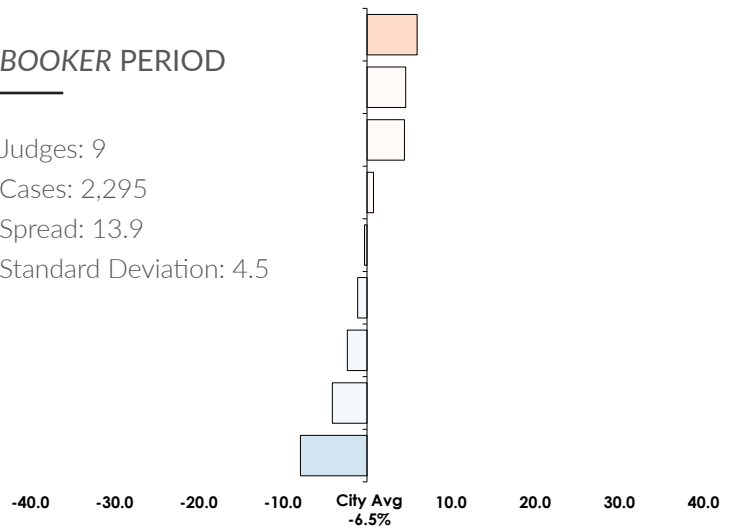
The total spread and standard deviation after excluding the outliers are reported in parentheses following the total spread and standard deviation before excluding the outliers.

### Legend



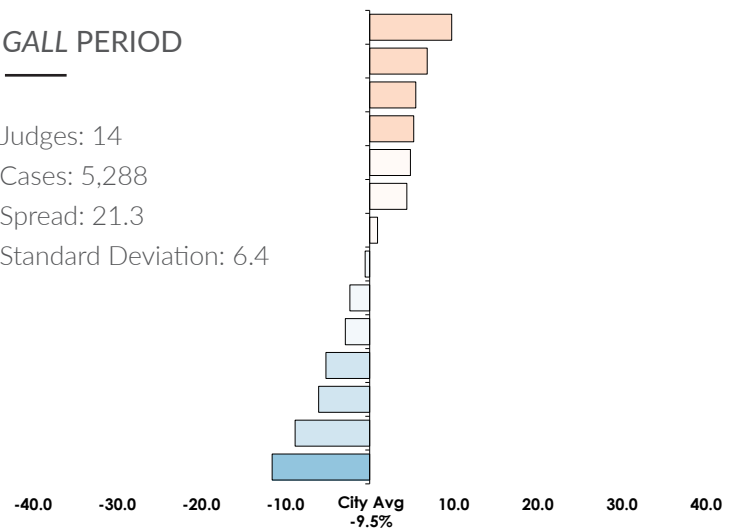
### BOOKER PERIOD

Judges: 9  
 Cases: 2,295  
 Spread: 13.9  
 Standard Deviation: 4.5



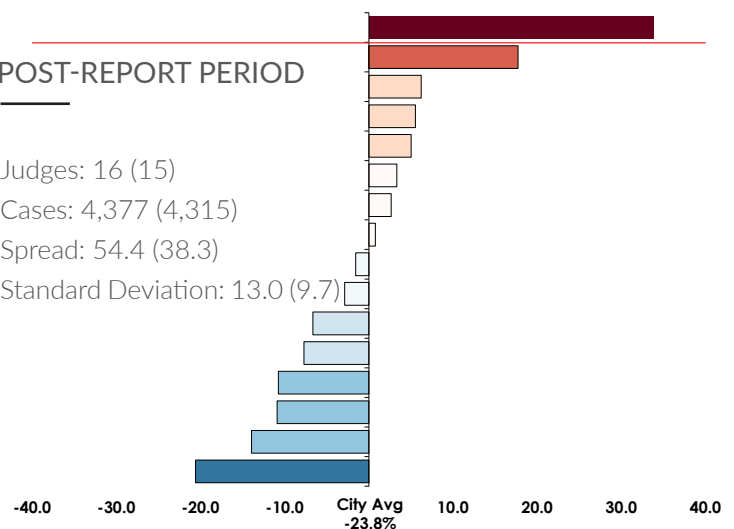
### GALL PERIOD

Judges: 14  
 Cases: 5,288  
 Spread: 21.3  
 Standard Deviation: 6.4



### POST-REPORT PERIOD

Judges: 16 (15)  
 Cases: 4,377 (4,315)  
 Spread: 54.4 (38.3)  
 Standard Deviation: 13.0 (9.7)





## OUTLIERS

# SAN JUAN-BASED FEDERAL JUDGES

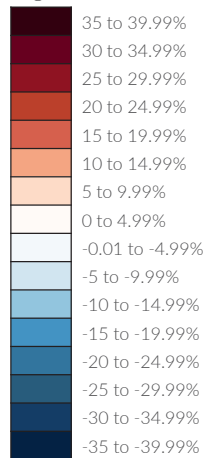
## DISTRICT OF PUERTO RICO

In order to show the effect of statistical outliers on both the total spread and standard deviation measures, the Commission re-calculated those measures excluding outlier judges.

In San Juan, there was one statistical outlier over the three periods. Outlier judges appear above or below a red line on the graphs.

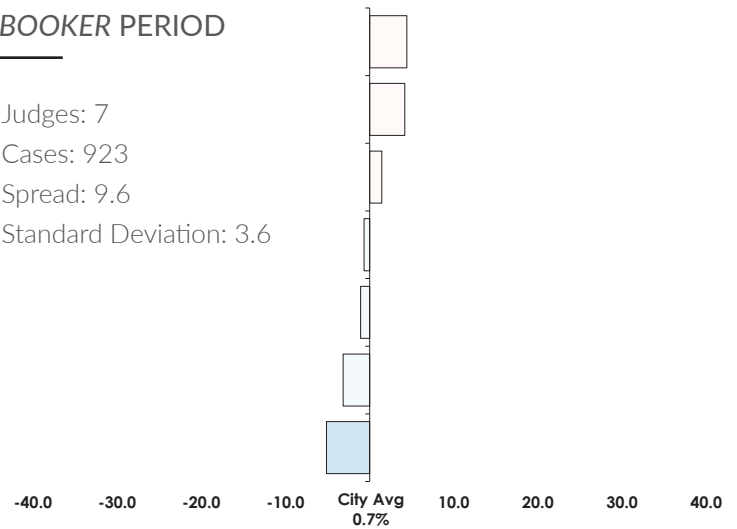
The total spread and standard deviation after excluding the outliers are reported in parentheses following the total spread and standard deviation before excluding the outliers.

### Legend



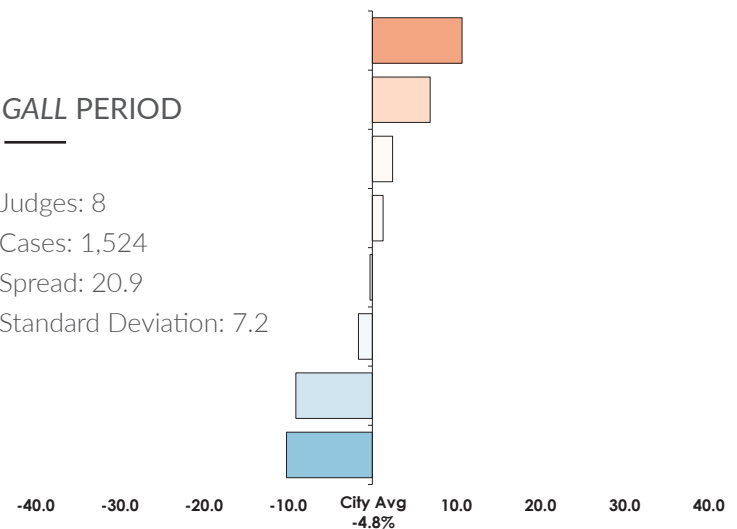
### BOOKER PERIOD

Judges: 7  
Cases: 923  
Spread: 9.6  
Standard Deviation: 3.6



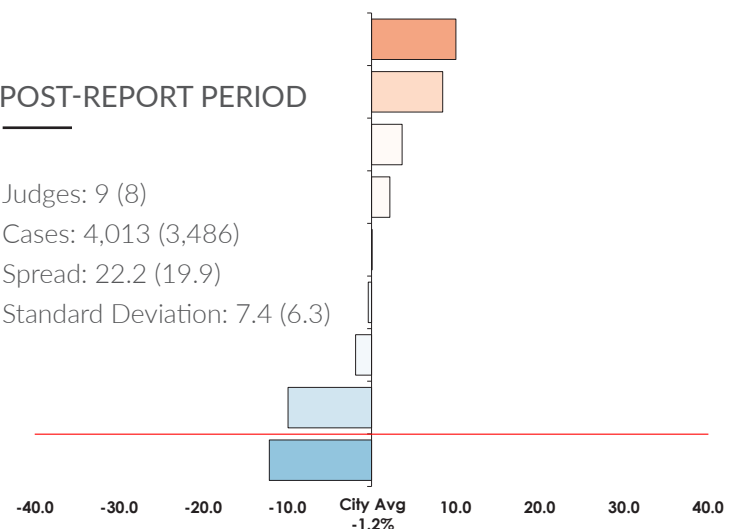
### GALL PERIOD

Judges: 8  
Cases: 1,524  
Spread: 20.9  
Standard Deviation: 7.2



### POST-REPORT PERIOD

Judges: 9 (8)  
Cases: 4,013 (3,486)  
Spread: 22.2 (19.9)  
Standard Deviation: 7.4 (6.3)



## OUTLIERS

# TAMPA-BASED FEDERAL JUDGES

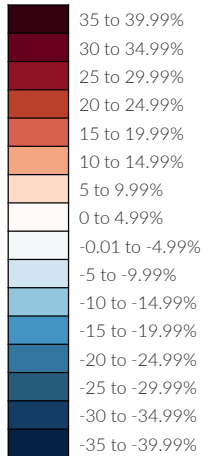
## MIDDLE DISTRICT OF FLORIDA

In order to show the effect of statistical outliers on both the total spread and standard deviation measures, the Commission re-calculated those measures excluding outlier judges.

In Tampa, there were six statistical outliers over the three periods. Outlier judges appear above or below a red line on the graphs.

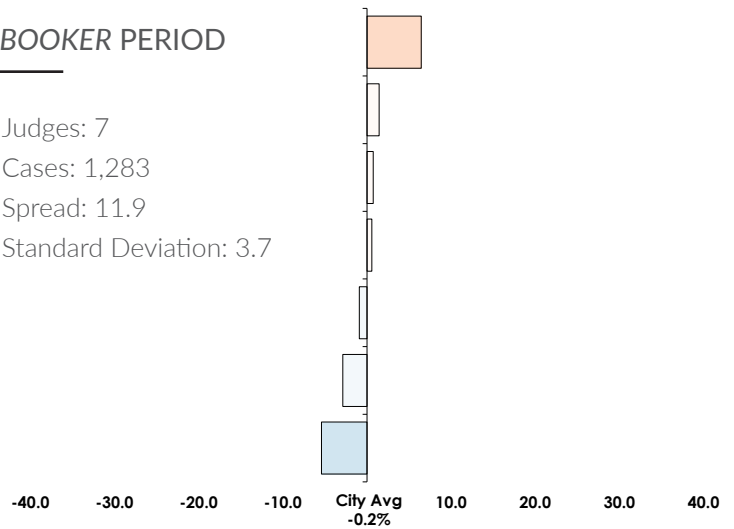
The total spread and standard deviation after excluding the outliers are reported in parentheses following the total spread and standard deviation before excluding the outliers.

### Legend



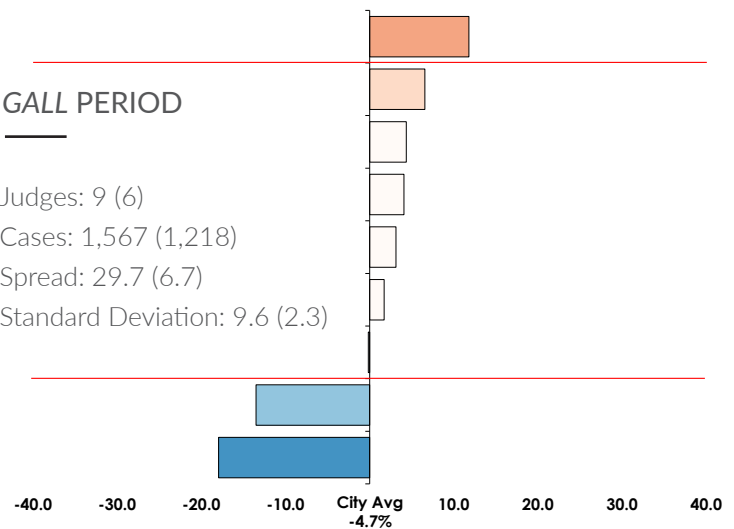
### BOOKER PERIOD

Judges: 7  
 Cases: 1,283  
 Spread: 11.9  
 Standard Deviation: 3.7



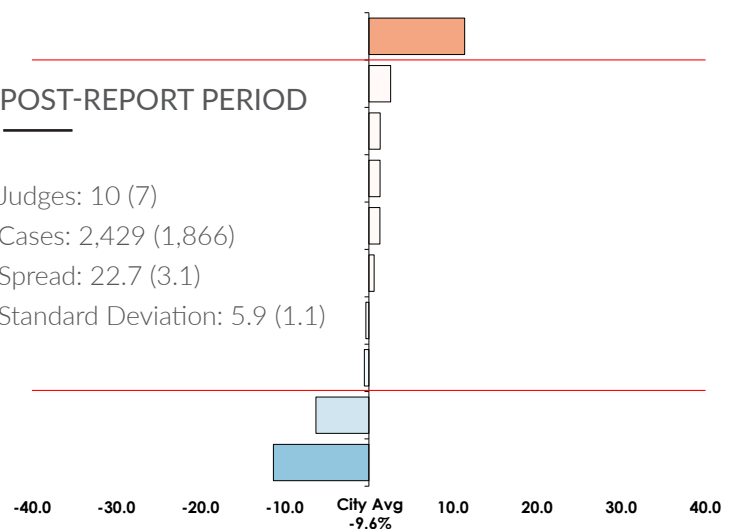
### GALL PERIOD

Judges: 9 (6)  
 Cases: 1,567 (1,218)  
 Spread: 29.7 (6.7)  
 Standard Deviation: 9.6 (2.3)



### POST-REPORT PERIOD

Judges: 10 (7)  
 Cases: 2,429 (1,866)  
 Spread: 22.7 (3.1)  
 Standard Deviation: 5.9 (1.1)





## Endnotes

- 1 543 U.S. 220 (2005).
- 2 REPORT ON THE CONTINUING IMPACT OF *UNITED STATES V. BOOKER* ON FEDERAL SENTENCING (“2012 BOOKER REPORT”).
- 3 See U.S. SENTENCING COMM’N, DEMOGRAPHIC DIFFERENCES IN SENTENCING: AN UPDATE TO THE 2012 BOOKER REPORT (November 2017).
- 4 *Id.* at 2 (analysis of data from fiscal years 2012 to 2016 found that Black males received a 19.1% higher sentence on average than White males).
- 5 See USSG §1B1.1, commen. (backg’d) (“Subsections (a), (b), and (c) [of §1B1.1] are structured to reflect the three-step process used in determining the particular sentence to be imposed. If, after step (c), the court imposes a sentence that is outside the guidelines framework, such a sentence is considered a ‘variance.’); see also *United States v. Rangel*, 697 F.3d 795, 801 (9th Cir. 2012), cert. denied, 133 S. Ct. 1294 (2013) (“A ‘departure’ is typically a change from the final sentencing range computed by examining the provisions of the Guidelines themselves. . . . A ‘variance,’ by contrast, occurs when a judge imposes a sentence above or below the otherwise properly calculated final sentencing range based on application of the other statutory factors in 18 U.S.C. § 3553(a).”).
- 6 2012 BOOKER REPORT, at 98.
- 7 See *Booker*, 543 U.S. at 248, 259 (“[W]e conclude that the constitutional jury trial requirement is not compatible with the Act as written and that some severance and excision are necessary. . . . The remainder of the Act function[s] independently.”) (citation and internal quotation marks omitted).
- 8 *Mistretta v. United States*, 488 U.S. 361, 366 (1989); see also William W. Wilkins, Phyllis J. Newton, and John R. Steer, *The Sentencing Reform Act of 1984: A Bold Approach to the Unwarranted Sentencing Disparity Problem*, 2 CRIM. L. FORUM 355 (1991). Senator Kennedy, the leading sponsor of the SRA, referred to Congress’s concern over sentencing disparities as being “the major impetus for sentencing reform.” Edward M. Kennedy, *Toward a New System of Criminal Sentencing: Law with Order*, 16 AMER. CRIM. L. REV. 353, 357 (1979).
- 9 REPORT OF THE COMMITTEE OF THE JUDICIARY, UNITED STATES SENATE, S. REP. NO. 98-225, 98th Cong. (1st Sess.), at 41-42 (Sept. 14, 1983) (discussing sentencing disparities studies considered by Congress in enacting the SRA); see also MARVIN E. FRANKEL, *CRIMINAL SENTENCES: LAW WITHOUT ORDER* 6-7 (1973) (criticizing the “wild array of sentencing judgments [in federal court] without any semblance of the consistency demanded by our ideal of equal justice” and observing that the type and length of federal sentences for similar situated offenders “depend[ed] on the judge” drawn by the defendants).
- 10 18 U.S.C. § 3553(a)(1)(6); 28 U.S.C. §§ 991(b)(1)(B), 994(f).
- 11 28 U.S.C. §§ 991(b)(1)(B), 994(f).
- 12 *Booker*, 543 U.S. at 263; see also *id.* at 264 (“The system remaining . . . , while lacking the mandatory features that Congress enacted, retains other features that help to further these objectives [including avoiding unwarranted sentencing disparities].”).
- 13 See 2012 BOOKER REPORT, at 98-104.
- 14 518 U.S. 996 (1996).
- 15 542 U.S. 296 (June 24, 2004).
- 16 543 U.S. 200 (June 10, 2005).
- 17 *Gall v. United States*, 552 U.S. 28 (December 10, 2007); *Kimbrough v. United States*, 552 U.S. 85 (December 10, 2007).
- 18 2012 BOOKER REPORT, at 98.
- 19 *Id.* at 104.



- 20 *Id.* at 100. The extent of reduction varied broadly during each period and did not appear to have been affected by legislation or Supreme Court decisions. *Id.*
- 21 *Id.* at 98.
- 22 *Id.*
- 23 See, e.g., U.S. SENTENCING COMM'N, 2017 SOURCEBOOK OF FEDERAL SENTENCING STATISTICS S-53 (2018) (non-government sponsored below range cases constituted 20.1% of caseload in Fiscal Year 2017); 2010 SOURCEBOOK OF FEDERAL SENTENCING STATISTICS 50 (2011) (non-government sponsored below range cases constituted 17.8% of caseload in Fiscal Year 2010); 2006 SOURCEBOOK OF FEDERAL SENTENCING STATISTICS 52 (2007)(non-government sponsored below range cases constituted 12.0% of caseload in Fiscal Year 2006).
- 24 The “post-report period” discussed in the Commission’s 2017 report on demographic differences spanned fiscal years 2012 through 2016. See U.S. SENTENCING COMM'N, DEMOGRAPHIC DIFFERENCES IN SENTENCING: AN UPDATE TO THE 2012 BOOKER REPORT 6 (2017). The updated data analyses described in this report do not include the Koon and PROTECT Act periods that were part of the 2012 and 2017 data analyses.
- 25 Even if a judge had at least 50 cases in a given period, he or she may not have been included in the analysis of one or both of the other periods studied depending the size of the judge’s caseloads in those periods.
- 26 Random assignment is the general rule in the federal system. See, e.g., S.D.N.Y., Rules for the Division of Business Among District Judges (2017), Rule 6, <http://www.nysd.uscourts.gov/rules/rules.pdf> (“In a criminal case, after an indictment has been returned by the Grand Jury or a notice has been filed by the United States Attorney’s Office of an intention to file an information upon the defendant’s waiver of indictment, the magistrate judge on duty will randomly draw from the criminal wheel, in open court, the name of a judge to whom the case should be assigned for all purposes.”); N.D. Ill. Local Rules (2017), Rule 1 (stating that, as a general matter, “the assignment of cases shall be by lot”), <https://www.ilnd.uscourts.gov/PrintContent.aspx?rid=44>; see generally REPORT OF THE PROCEEDING OF THE JUDICIAL CONFERENCE OF THE UNITED STATES 13 (2000) (noting that “all [federal] courts . . . employ random case assignment procedures”). Depending in the district, there are certain exceptions to this general rule, such as a single judge’s being assigned several “related” cases (e.g., a large-scale drug-trafficking or fraud prosecution of multiple defendants, using separate indictments) or senior judges’ being permitted to opt out of certain types of criminal cases. See, e.g., D. Minn., Order for Assignment of Cases, <http://www.mnd.uscourts.gov/cmecf/Order-for-Assignment-of-Cases.pdf> (2017).
- 27 See, e.g., Crystal S. Yang, *Have Interjudge Sentencing Disparities Increased in an Advisory Guidelines Reime? Evidence From Booker*, 89 N.Y.U. L. REV. 1268, 1297 (2014); Ryan W. Scott, *Inter-Judge Sentencing Disparity After Booker: A First Look*, 63 STAN. L. REV. 1, 24 (2010).
- 28 Visiting district judges (with one exception, noted below), circuit judges sitting by designation as district judges, and all magistrate judges were excluded from the analyses. Senior district judges who opted to hear criminal cases were included in the analyses, assuming they met the minimum 50-case requirement discussed above. A single visiting judge was included in the analysis because he served as a full-time visiting judge in a city for several years and met the 50-case minimum for one period.
- 29 See National Geographic Society, *United States Regions*, <https://www.nationalgeographic.org/maps/united-states-regions/>.
- 30 Only the D.C. Circuit was not represented in the analysis. The sole district in the D.C. Circuit is the District for the District of Columbia, whose criminal caseload was too small to allow an analysis of its judges (based on the Commission’s minimum 50-case per judge requirement).
- 31 Some of the larger cities by population were excluded in order to assure better geographic representation by other cities—e.g., larger cities like Fort Worth and San Jose were excluded because other cities in the same immediate geographic area had more judges and larger caseloads (i.e., Dallas and San Francisco), while less populous cities like Saint Louis and Denver were included to assure representation from all regions in the country. The cities were selected for inclusion in the Commission’s study before the results of the analyses of their judges’ sentencing practices were conducted.
- 32 Although Alexandria is not itself a major city, the federal district courthouse in Alexandria serves the entire metropolitan area of Northern Virginia, which is a densely populated area. See *About Northern Virginia*, <http://www.novachamber.org/about-northern-virginia.html> (noting that the counties of Northern Virginia, near Washington D.C., together have a population of over 2 million people).



33 Rather than looking at all federal judges in greater New York City, the analysis is limited to federal judges in Manhattan. Consideration of all federal judges in the larger city would require two different federal districts—the Eastern and Southern Districts of New York—to be considered together.

34 See, e.g., U.S. SENTENCING COMM’N, SOURCEBOOK OF FEDERAL SENTENCING STATISTICS S-53 (2017) (Table N) (49.1% of all cases had within range sentences, and 2.9% of cases had above range sentences).

35 See USSG §§5G1.1(b) (“Where the statutorily authorized minimum sentence is greater than the maximum of the applicable guideline range, the statutorily required minimum sentence shall be the guideline sentence.”) & 5G1.1(c)(2) (“[T]he sentence may be imposed at any point within the applicable guideline range, provided that the sentence . . . is not less than any statutorily required minimum sentence.”). For example, if a defendant’s guideline range before application of a 120-month statutory mandatory minimum sentence was 78-97 months—resulting in a guideline range of 120-120 months under USSG § 5G1.1(b)—that case was excluded because the court had no sentencing discretion to impose a sentence less than 120 months.

The Commission also excluded all cases with sentences imposed under the Armed Career Criminal Act (18 U.S.C. § 924(e)) even if those cases did not involve a mandatory minimum trump. Section 924(e) requires a 180-month mandatory minimum sentence, which is above the otherwise applicable guideline minimums for many armed career criminals and only 8 months below the guideline minimums for the most serious offenders sentenced under §4B1.4 (after full credit for acceptance of responsibility under USSC § 3E1.1). See USSG §4B1.4 (Armed Career Criminal) & Ch. 5, Pt. A (Sentencing Table) (guideline range, after a 3-level reduction for acceptance of responsibility, for defendants with highest offense level and highest Criminal History Category, i.e., offense level 31 and CHC VI, is 188-235 months). For these reasons, judges’ discretion to sentence below the statutory minimum is so circumscribed that the Commission has excluded all section 924(e) cases from the current study’s analysis.

36 See 18 U.S.C. § 3553(e); USSG §5K1.1 & 5K3.1; see also U.S. Sentencing Commission Staff Working Group, *Federal Sentencing Practices: Sentence Reductions Based on Defendants’ Substantial Assistance to the Government*, 11 FED. SENT’G RPTR. 18, 23, (1998) (noting that substantial assistance motions “were almost always granted” once filed by the prosecution); L. Felipe Restrepo, *To Be Or Not To Be A Cooperating Defendant*, CRIM. JUSTICE 25 (Winter 1993) (“Practically speaking, judges rarely deny the [substantial assistance] motion outright ....”).

37 Until the Supreme Court decided *Dean v. United States*, 137 S. Ct. 1170 (April 3, 2017), it was unclear whether district courts in such cases had the authority to vary below the guideline range for another count of conviction (e.g., robbery, sentenced under USSG §2B3.1) to account for a perceived excessive total penalty level resulting from a consecutive statutory mandatory minimum sentence such as that required by section 924(c). Before *Dean*, some judges varied on that ground (see, e.g., *United States v. Roberson*, 573 F. Supp.2d 1040 (N.D. Ill. 2008) (varying from the guideline minimum of 46 months for a bank robbery conviction to 1 month in order to account for a 84-month consecutive sentence under § 924(c)), while others believed that they had no such authority to vary on that ground. The percent difference from the guideline minimum in cases where courts did vary on that ground was usually very substantial. Because the extent of a below range sentence was often extremely large when a judge varied—and thereby could skew those judges’ average percent differences from the guideline minimums compared to the average percent difference of judges who did not believe they could vary on that ground—all cases with a count of conviction under 18 U.S.C. §§ 924(c) or 1028A or other statutes requiring a consecutive mandatory sentence of imprisonment were excluded from the Commission’s analysis. In addition, the Commission excluded cases with a single count of conviction under such a statute because a court lacked authority to depart or vary downwardly in such cases.

38 Since 2010, when the Commission amended the Sentencing Table to expand Zone B by one offense level, a case with a guideline minimum of less than 10 months necessarily has fallen in Zone A or Zone B of the Sentencing Table. Before 2010, cases with guideline minimums of 8 or 9 months fell within Zone C. In order to ensure consistency in the Commission’s analysis of cases from fiscal year 2005 through fiscal year 2017, the Commission has excluded all cases with guideline minimums less than 10 months for that entire time period rather than exclude cases based on their zone designation. The Commission excluded such cases for two reasons. First, because all cases in Zone A have guideline minimums of 0 months, judges cannot depart or vary below the minimum and, in addition, there is no mathematical way to calculate the percent difference from the guideline minimum when a court imposes a sentence above the minimum in such cases. Second, because all of ranges with guideline minimums below 10 months are narrow and their minimums are low (e.g., 0-6 months, 6-12 months), sentences imposed above or below the guideline minimums have a much greater positive or negative percent difference than typical sentences above or below the guideline minimums in Zones C and D. The latter ranges have higher and broader ranges of months (e.g., 12-18 months, 46-57 months, and 121-151 months). Including cases with guideline minimums below 10 months would thus skew the average percent difference analysis.

39 The Commission excluded 10,753 cases because of incomplete sentencing information in those cases. Such cases were excluded because they did not allow the Commission to make determinations such as the guideline minimum in a case or whether a statutory mandatory minimum penalty applied.

40 Of the 291,763 cases, 3.7% were excluded for insufficient documentation. In addition, 15.7% had their guideline minimums trumped by a statutory mandatory minimum or were subject to a mandatory minimum sentence under the Armed Career Criminal Act; 26.1% had a substantial assistance or fast-track departure; 5.6% had at least one mandatory consecutive statutory minimum sentence under a statute such as section 924(c); 0.6% had a guideline minimum of life imprisonment or involved an upward departure and variance to life imprisonment; and 15.5% had guideline minimums of less than 10 months. Some cases fell within more than one of these groups, which explains why the total amount of all these cases combined exceeds the total percentage of excluded cases mentioned above.

41 After both the exclusions of the five categories of cases and the additional exclusions of cases handled by judges who did not meet the 50-case minimum and cases with incomplete information, the national caseload resembles the 30-city caseload during the same 13-year time period. After the same exclusions, the same percentage of all cases, 49.2% (478,833 of 972,648 cases), remained. The percentage of excluded cases (nationally) was as follows: 19.1% had their guideline minimums trumped by a statutory mandatory minimum or were subject to a mandatory minimum sentence under the Armed Career Criminal Act; 21.1% had a substantial assistance or fast-track departure; 4.2% had at least one mandatory consecutive statutory minimum sentence under a statute such as section 924(c); 0.5% had a guideline minimum of life imprisonment or involved an upward departure and variance to life imprisonment; and 21.8% of cases had guideline minimums of less than 10 months. The analysis also excluded 6.1% of cases nationally because of incomplete sentencing information in the documentation submitted to the Commission.

42 See Yang, *supra* note 27, at 1324-25.

43 In over 90% of the 19,460 cases subject to mandatory minimum penalties (17,755, or 91.2%), defendants were subject to either 60- or 120-month mandatory minimum sentences. The remaining 8.7% of cases had a wide variety of statutes requiring mandatory minimum sentences ranging from 1 month to 300 months. Of the cases with 60-month mandatory minimum sentences, the average guideline minimum was 118 months and the average sentence imposed was 97 months (37 months above the statutory mandatory minimum). Of the cases with 120-month mandatory minimum sentences, the average guideline minimum was 198 months and the average sentence imposed was 171 months (51 months above the mandatory minimum).

44 See Gall, 552 U.S. at 49, 50 n.6; see also Rosales-Mireles v. United States, 138 S. Ct. 1897, 1903-04, 1908 (2018); Molina-Martinez v. United States, 136 S. Ct. 1338, 1349 (2016); Peugh v. United States, 569 U.S. 530, 535, 542, 545 (2013). The three-step Booker process is discussed at USSG §1B1.1, comment. (backg'd).

45 Of the cases in which judges imposed sentences outside of the guideline ranges, judges departed or varied downwardly in 95.4% of cases and departed or varied upwardly in 4.6% of cases (a nearly 21:1 ratio between downward and upward departures and variances).

46 See, e.g., Scott, *supra* note 27, at 31-34 (comparing average sentences of judges in Boston after Booker); Paul J. Hofer et al., *The Effect of the Federal Sentencing Guidelines on Inter-Judge Sentencing Disparity*, 90 J. CRIM. L. & CRIMINOLOGY 239, 286-96 (1999) (comparing average sentences for judges in several cities, both before and after effective date of federal sentencing guidelines).

47 See U.S. SENTENCING COMM'N, SOURCEBOOK OF FEDERAL SENTENCING STATISTICS S-32 (2017) (Table 13) (average sentence for drug-trafficking cases was 70 months, and average sentence for firearms cases was 71 months; conversely, average sentence for immigration cases was 12 months and average sentence for fraud cases was 26 months).

48 In the past two decades, the national average guideline minimum for all federal offenders consistently has been around five years (60 months). See U.S. SENTENCING COMM'N, FEDERAL ALTERNATIVE-TO-INCARCERATION COURT PROGRAMS 32 (2017) (average guideline minimum in 2016 was 59 months); 2012 BOOKER REPORT, at 60 (showing guideline minimum slightly above or slightly below 60 months from 1996 through 2011).

49 See MICHAEL O. FINKELSTEIN & BRUCE LEVIN, STATISTICS FOR LAWYERS 22 (2d ed. 2000).

50 For example, if the judge at the top of the bar graph had an average percent difference of 10.0% and the judge at the bottom of the bar graph had an average percent difference of -40.0%, the total spread for the city would be 50.0.

51 Ottavania v. State University of New York at New Paltz, 875 F.2d 365, 371 (2d Cir. 1989) (citation and internal quotation marks omitted).



52 Charlotte, Memphis, and San Antonio each had fewer than five judges in at least one period.

53 The specific percentages (taken to two decimal points) were 32.43% and 17.02%, which when summed and rounded equals 49.5.

54 The following 23 cities had increases in their total spreads from the *Booker* to *Gall* Periods: Alexandria, Atlanta, Baltimore, Boston, Charlotte, Chicago, Dallas, Denver, Houston, Los Angeles, Memphis, Miami, Minneapolis, Philadelphia, Phoenix, Pittsburgh, Portland, Saint Louis, Salt Lake City, San Diego, San Francisco, San Juan, and Tampa.

The following seven cities had decreases in their total spreads from the *Booker* to *Gall* Periods: Cleveland, Columbus, Detroit, Manhattan, Oklahoma City, San Antonio, and Seattle.

The following 22 cities had increases in their standard deviations from the *Booker* to *Gall* Periods: Alexandria, Atlanta, Baltimore, Boston, Chicago, Dallas, Denver, Detroit, Houston, Los Angeles, Miami, Minneapolis, Philadelphia, Phoenix, Pittsburgh, Portland, Saint Louis, Salt Lake City, San Diego, San Francisco, San Juan, and Tampa.

The following five cities had decreases in their standard deviations from the *Booker* to *Gall* Periods: Cleveland, Columbus, Manhattan, Oklahoma City, and Seattle.

55 The following 20 cities had increases in their total spreads from the *Gall* to Post-Report Periods: Alexandria, Charlotte, Chicago, Cleveland, Dallas, Denver, Detroit, Houston, Los Angeles, Manhattan, Memphis, Miami, Philadelphia, Phoenix, Portland, Salt Lake City, San Antonio, San Diego, San Juan, and Seattle.

The following ten cities had decreases in their total spreads from the *Gall* to Post-Report Periods: Atlanta, Baltimore, Boston, Columbus, Minneapolis, Oklahoma City, Pittsburgh, Saint Louis, San Francisco, and Tampa.

The following 16 cities had increases in their standard deviations from the *Gall* to Post-Report Periods: Atlanta, Cleveland, Dallas, Denver, Detroit, Houston, Los Angeles, Manhattan, Miami, Philadelphia, Phoenix, Portland, Salt Lake City, San Diego, San Juan, and Seattle.

The following 11 cities had decreases in their standard deviations from the *Gall* to Post-Report Periods: Alexandria, Baltimore, Boston, Chicago, Columbus, Minneapolis, Oklahoma City, Pittsburgh, Saint Louis, San Francisco, and Tampa.

56 The main four guidelines constituted 71.0% of all cases in the Commission's city-level dataset, while all other guidelines constituted 29.0% of cases.

57 Because of rounding to one decimal point, some of the totals for the cities in Appendix C add up to less than 100.0%.

58 Weighting is a common technique in the social sciences whereby a researcher assigns comparable weights to different datapoints in an analysis in order to control for unweighted differences. Weighting is most commonly used in survey methodology. See, e.g., Luke W. Miratrix *et al.*, *Worth Weighting? How to Think About and Use Weights in Survey Experiments*, 26 *POLITICAL ANALYSIS* 275 (2018). The Commission used a somewhat similar method to control for differences in caseload composition among the judges in each city and among the cities' caseloads over time.

59 For that weighting analysis, only judges who met the 50-case minimum for two consecutive periods (e.g., *Booker* to *Gall*, or *Gall* to Post-Report) were included in order to determine the effect of changes in the city's caseload composition from one period to the next. Therefore, it is not possible to compare all three periods to each other because there were not the exact same judges in all three periods in any of the 30 cities. Therefore, only two periods at a time (*Booker* to *Gall*, and *Gall* to Post-Report) could be compared based on the judges common to those two periods.

60 Of all major guideline types, illegal reentry (§2L1.2) had the highest within-range rate from fiscal year 2005 to fiscal year 2017 (after the case exclusions discussed above):

**Average Within-Range Rates (Fiscal Years 2005-2017)**

2B1.1: 46.0%  
2D1.1: 46.1%  
2K2.1: 60.8%  
2L1.2: 61.1%  
Other: 49.6%

61 In the *Booker* and *Gall* Periods, Houston had the following percentages of guideline types:

<b><i>Booker</i> Period</b>	<b><i>Gall</i> Period</b>
2B1.1: 7.8%	2B1.1: 8.0%
2D1.1: 20.3%	2D1.1: 10.9%
2K2.1: 17.2%	2K2.1: 8.3%
2L1.2: 24.0%	2L1.2: 51.2%
Other: 30.7%	Other: 21.6%

62 FEDERAL JUDICIAL CENTER, REFERENCE MANUAL ON SCIENTIFIC EVIDENCE 291 (3d ed. 2011).

63 *Id.*

64 See, e.g., NANCY PFENNING, ELEMENTARY STATISTICS 96-97 (2011) (discussing the 1.5 x IQR test).

65 Although there were 413 different judges in the 30-city dataset, many of those judges sentenced in more than one period. Therefore, the outlier analysis includes a total of 909 unique analyses of judicial sentencing practices in the dataset during three periods. Note that a judge could be an outlier in one period but not an outlier in a different period.

66 The cities with at least one outlier judge in at least one period were Atlanta, Chicago, Cleveland, Columbus, Dallas, Detroit, Los Angeles, Manhattan, Memphis, Miami, Minneapolis, Oklahoma City, Philadelphia, Phoenix, Pittsburgh, Portland, Salt Lake City, San Diego, San Juan, and Tampa.

67 See Finkelstein & Levin, *supra* note 49, at 18-19; see also FJC's REFERENCE MANUAL ON SCIENTIFIC EVIDENCE, *supra*, at 298.

68 REBECCA M. WARNER, APPLIED STATISTICS: FROM BIVARIATE THROUGH MULTIVARIATE TECHNIQUES 1114 (2013 2d ed).

69 The standard deviation is a less meaningful statistic when there are only a few datapoints being analyzed. The Commission thus only has reported the standard deviation for cities with at least five judges in all three periods.

70 See Finkelstein & Levin, *supra* note 49, at 18-19 (discussing the manner in which the standard deviation is calculated); Warner, *supra* note 68, at 59 (same). Reporting the standard deviation is preferable to reporting the variance. The variance, which is the standard deviation squared, is more sensitive to outliers than the standard deviation because the influence of an outlier is magnified (insofar as the outlier's average percent difference from the guideline minimum is squared in calculating the variance).



## **United States Sentencing Commission**

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