



# Benchmarks & Bar Charts

## Arkansas Court Statistics Research

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## Special Topics Research Issue: Judicial Resources Assessment

### Fast Facts About Judicial Resources in Arkansas

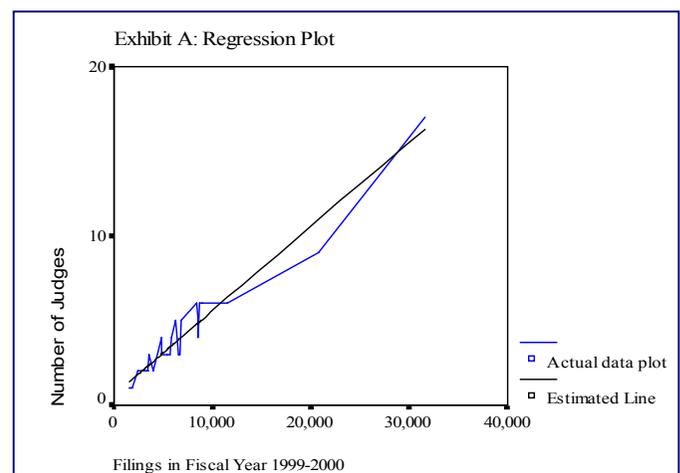
- Act 864 of the 1989 Arkansas General Assembly authorized the Arkansas Judicial Council “to develop criteria concerning the establishment of new judgeships or redistricting” of circuit courts.
- The Judicial Resources Assessment Committee (JRAC) was established by the Arkansas Judicial Council in response to Act 864 of 1989 to make recommendations concerning new judgeships or redistricting.
- JRAC recently adopted and completed a time study of judicial workload in order to estimate where new judgeships are needed.

### Introduction

With the proliferation of data that is available in modern times, many states now utilize statistical models to assess judicial staff needs. Among the common forms of assessment are raw data analysis, regression analysis, Delphi estimates, and time studies.

Raw data analysis typically consists of comparing filings and terminations among judicial districts. Often filing and termination statistics in such analysis may be further divided by the number of judgeships in a district or by the district’s population to estimate per judge or per capita figures. Average filing and average termination statistics may also be used in such analysis to see which districts are comparatively “overloaded” beyond the “average district.”

Regression analysis takes raw data analysis a step further. Regression often utilizes the same variables: filings, terminations, population, and so on. Nevertheless, regression differs from mere raw data analysis in that



it uses variables such as population and filings to “predict” the number of judges needed. The prediction method behind regression simply plots the relationship between the current number of judges in a circuit and variables such as filings on a two-axis graph (see Exhibit A). A straight line is then drawn between the data points that were plotted on the graph (the “estimated line” in Exhibit A). The points on the straight line represent the estimated number of judges needed for a circuit, whereas the plotted points represent the current reality. Any differences between the straight line and the plotted points indicate the need for additional or possibly fewer judges in a circuit.

Delphi estimation involves the use of “expert” opinion. In the case of judicial resource assessment, judges are the experts about how much time it takes to process certain case types within criminal, juvenile, civil, domestic relations, and probate caseloads. The time estimates are then multiplied by the current number of filings in each subject area and divided by the amount of judicial work time available in order to estimate the number of judges needed.

*Continued on the next page.*

Arkansas adopted a weighted Delphi study in 1994 and utilized it through 2000. The Judicial Resources Assessment Committee (JRAC) selected it at the time “due to its cost effectiveness, simplicity, use of data already captured by the [judiciary’s] information system, and high probability of judicial involvement.”<sup>1</sup>

In 2001, JRAC sought to address concerns that had arisen out of the Delphi studies. Judges felt that tracking and averaging actual time spent in court would give a better time estimate than asking for opinions that tend to overestimate time. Also, judges hearing juvenile subject matter were concerned that review hearings mandated by law were not being fully captured in the analysis that primarily focused on initial filings.

Time studies are another form of estimation utilized by judiciaries around the United States. Time studies track actual time spent by the judiciary in processing its caseload. Once a time estimate has been averaged from timesheet data, it is multiplied by filings and divided by the entire amount of available judicial time in a similar fashion as the Delphi estimation.

**Methodology of a Time Study**

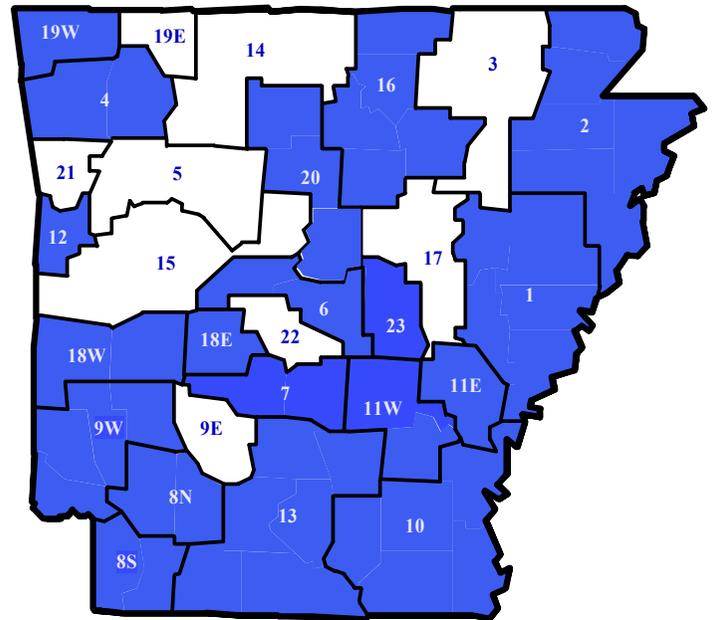
The methodology for the Arkansas weighted time study that was completed in 2002 was based upon a similar study conducted by the National Center for State Courts for the State of Florida. The Florida methodology was modified by JRAC to accommodate Arkansas laws and procedures.

A sample of 35 circuit judges participated in the time study and submitted one to two months of timesheet data during the timeframe of January to June 2002. The sample’s demographics represented the diverse aspects of the state’s judiciary from varying regions of the state, to rural/urban populations, and to subject areas heard. (See Exhibit A for a map of the judicial districts covered in the sample).

The necessary data elements for the Arkansas time study were as follows: (1) an estimate of workload for each subject area (criminal, civil, domestic relations, juvenile, and probate); (2) the number of cases pending or filed for one calendar year for each subject area; and (3) the maximum amount of judge time available to be worked in a given year.

Exhibit B (at the top of the next page) displays a row for data entry from the daily time sheet instrument. Each participant in the time study was trained and was provided a copy of the definitions for each of the necessary fields to be completed on the timesheets.

Exhibit A: Time Study 2002: Areas Covered by Sample in Blue



All time submitted on timesheets was considered to be either case-related or non-case-related. Case-related judge work included time spent on filings at the following stages: pretrial; trial or disposing stage; and post-trial. Non-case-related work included judge time obligated to such activities as circuit travel, personnel matters, Judicial Council and committee meetings, judicial education, legislative and quorum court meetings, and board/commission meetings.

The maximum judge year estimate accommodated a 40 hour work week, less holidays and average vacation and sick time. All non-case-related time, with the exception of circuit travel, was aggregated and composed 32% of all available judge time. The maximum judge year was then scaled down by 32% to adjust out non-case-related work. Circuit travel was individually deducted from circuits with more than one courthouse and was based upon the amount of travel unique to that circuit.

The weighted time study equation for this analysis was as follows:

$$\frac{\text{workload case weight} \times \text{case statistics}}{\text{maximum judge year}}$$

A workload case weight was generated for each court subject matter (i.e., criminal, civil, domestic relations, probate, and juvenile) based upon the entire state’s case and time statistics. The workload case weights

<sup>1</sup>Weighted Caseload System. June 20, 1994. Document produced by the Arkansas Administrative Office of the Courts and adopted by JRAC.

## Exhibit B: Time Study Form

Type of Event (Circle one)	Subject Matter (if case-related)	Case Type (if case-related)	Start/End Time	Description/Explanation of Work	Method of Disposition
Pretrial	Criminal				Agreed
Trial/Disposition	Civil				Contested
Post-Trial	Dom. Relations				Uncontested
Non-Case-Related	Juvenile				Bench Trial
	Probate				Jury Trial

represent an average amount of time needed to process all case types in a given subject area. For example, the juvenile case weight included an average of all delinquency, dependency-neglect, termination of parental rights, Families in Need of Services, and other juvenile court cases with time reported during the study. The workload case weights for the time study were as follows:

Juvenile:	34 minutes
Civil:	29 minutes
Domestic Relations:	20 minutes
Criminal:	19 minutes
Probate:	7 minutes

The workload case weights appear to have intuitive validity. They seem to rank the most time consuming subject matters such as juvenile and civil higher than the voluminous subject matters of domestic relations and criminal that tend to process caseloads quickly to avoid backlog.

### What circuits need additional judges?

Exhibit C displays the final results of the weighted time study. Currently, Arkansas has 115 circuit judges. The weighted time study estimates that the state only needs 106. Estimates from urban circuits tend to show slight over-staffing by at least one judgeship, and circuit travel plays a pivotal role in estimates where more circuit judges are needed. Overall, however, the time study estimates are close to the current number of judgeships in the circuits when decimal rounding is utilized.

Based upon the data presented in Exhibit C, the 1st, 2nd, and 20th circuits display a need for additional judgeships. Both the 1st and the 2nd circuits have 6 counties each within their jurisdiction, and circuit travel consumes much of their non-case-related time. The 20th circuit contains only 3 counties, and circuit travel is a lot less frequent. The 20th circuit's primary county, Faulkner, has however experienced a 43% increase in population in the 1990s, and its filings have likewise increased.

## Conclusion

The weighted time study appears to have statistical validity as it closely predicts the current number of judgeships *within* the circuits. The time study has also allowed a cross-section of judges with different case types, circuits, and management styles to submit *actual time* spent on caseloads. This use of actual time, rather than a "guesstimated" approach, should be more appealing to all that utilize these statistics.

*Report written by Kellye Mashburn, AOC Research Analyst. Additional editorial assistance was provided by Karolyn Bond and Kay Palmer of the AOC.*

*Special thanks to the Judicial Resources Assessment Committee and its Time Study Taskforce composed of Judges Robin Mays, David Guthrie, Tom Keith, and Howard Templeton for their input in the design of the time study methodology.*

**Exhibit C: 2002 Arkansas Time Study Judgeship Estimates**

Circuit	Current # of Judges	Time Study Estimate
1	5	6
2	10	13
3	3	3
4	6	6
5	4	4
6	17	15
7	2	2
8N	2	1
8S	3	2
9E	1	1
9W	2	2
10	5	4
11E	1	1
11W	6	5
12	6	4
13	6	5
14	4	3
15	3	3
16	4	4
17	3	2
18E	4	3
18W	1	1
19E	1	1
19W	5	3
20	4	5
21	2	2
22	3	3
23	2	2
Total	115	106

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## *For More Information*

*Benchmarks & Bar Charts: Arkansas Court Statistics Research* is available on the web with additional files to download at [http://courts.state.ar.us/courts/aoc\\_pubs.html](http://courts.state.ar.us/courts/aoc_pubs.html). A complete copy of the weighted time study results is also available at the site.

*Benchmarks & Bar Charts: Arkansas Court Statistics Research* is a publication by the Arkansas Administrative Office of the Courts. Contributions, comments, or inquiries for data are welcome. Please submit to Kellye Mashburn, AOC, Justice Building, 625 Marshall, Little Rock, AR 72201. Phone (501) 682-9400.



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