

This **measure** of “**what is**” **allowed** the NCSC to **develop** a set of case weights that **measure** the status quo of **case processing**.

Judicial Workload Study

for the Superior Court in Yuma County, AZ

By Margaret Guidero and Suzanne Tallarico

Superior Court in Yuma County (the court) is a general jurisdiction court with six elected judges and three commissioners who serve a population of 160,000 residents. The courts and court departments, including juvenile court, adult probation, and the clerk of superior court, employ about 360 people. The court system in Arizona is not a “unified” court in the strict sense,

however, presiding judges in each county have general administrative authority over all courts and court employees in the county. Limited jurisdiction courts in Yuma County are located in the four corners of the 5,561 square miles that comprise Yuma County and include three justice courts and four municipal courts. Funding for our court system is a mix of general funds appropriated by

our elected board of supervisors, local city councils, and state funds and special revenue from many sources.

The court became aware of court performance measurement tools, like CourTools, during training presented by the Institute for Court Management division of the National Center for State Courts (NCSC) and the Education Services Center of the Arizona

Administrative Office of the Courts. Presiding Judge Andrew W. Gould identified the need in the court to allocate judicial resources in a way that improves equity of case assignments and quality of justice and the potential for CourTools to assist with a redesign of Yuma's case assignment protocols.

In August 2007, the court obtained a technical assistance grant from the State Justice Institute (SJI.) In collaboration with NCSC, Dr. Ingo Keilitz was hired to present CourTools to the court and assist in developing a performance dashboard and data-gathering strategies. After implementation of CourTools, the court was able to publish statistics on its newly designed dashboard and provide this data to local and state funding authorities to support budget requests. More important, the products of the court performance measures — through the mechanics of CourTools — confirm to the public that the court is accountable.

In June 2007, the court's "Court Performance Measurement System" — facilitated by Dr. Keilitz — received the Arizona Supreme Court Award for excellence in the category of "Being Accountable." The award was presented to the court by now-retired Chief Justice Ruth McGregor and then-associate chief justice and current chief justice, Rebecca White Berch.

In 2008, Judge Gould participated in an NCSC focus group that produced recommendations entitled "A Unifying Framework for Court Performance Measurement," the Yuma CourTools performance measurement project was presented at the 2008 annual NACM conference in Chicago, and the Yuma court received another SJI technical assistance grant to conduct a statistical analysis of judicial workload. Suzanne Tallarico, an NCSC consultant, assisted the court in developing a judicial workload data gathering tool. The data, in conjunction with case filings and case

processing standards, helped the presiding judge develop a new case assignment protocol that also takes into consideration the subject matter expertise among the judges, judicial workloads based on case types, case processing timelines, and non-bench workloads.

The data gathering tool, the enthusiastic participation of the Yuma Superior Court bench, and tireless efforts of Tallarico, Schaben, and Presiding Judge Gould are presented in narrative form for this article.

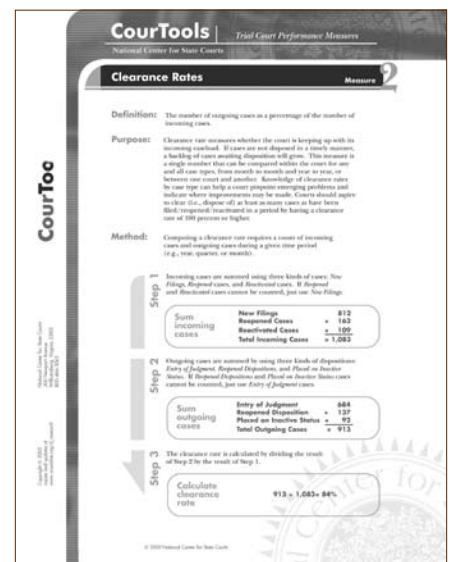
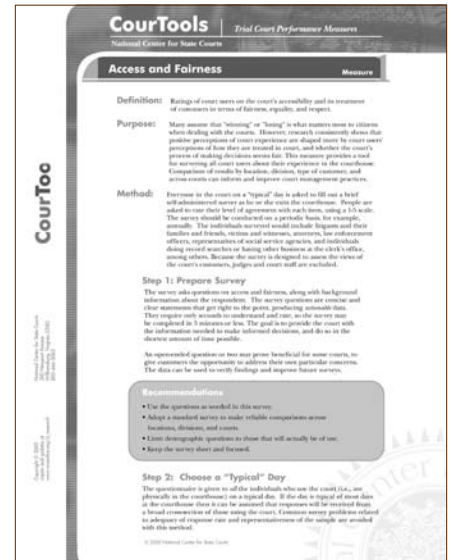
In 2009, the court conducted a judicial workload assessment among its judges with the aid of technical assistance grant funds from SJI and an NCSC consultant.

Caseloads and case types in the Superior Court Yuma vary in complexity and judicial effort required for resolution. Yuma's study utilized a weighted workload assessment methodology and a time study data collection procedure to translate judicial workload into an estimate of judicial need. The study utilized two analytical tools:

- **Judicial workload estimate** — judicial workload based on the average amount of time a judge needs to resolve a case and the annual number of cases in the court.
- **Judicial resource assessment** — compares the current available judicial resources to the resource demand predicted by the model.

Judicial Workload Estimate

The judicial workload value represents the minutes of annual case-specific work using case weights and annual filings. This measure uses baseline filing data and current practices. Judges need sufficient time



to *reasonably* engage litigants, listen to victims, and clearly explain rulings and orders — features fundamental to the public perception of fairness and appropriate treatment by the court.

The first phase of a weighted workload assessment is the determination of an estimated judicial workload. Data generated from the study are used in conjunction with case filings to develop a judicial officer resource needs model. A caseload calculator was developed to allow the presiding judge to equalize judicial case assignments according to workload demands.

Time study

The time study of a weighted workload assessment yields individual case weights. Case weights are used to calculate the overall judicial workload values. In this study, individual case weights were generated for 23 case types.¹

A case weight represents the average amount of time a judicial officer needs to process a case from filing to resolution.² Final case weights were developed using a qualitative adjustment process.

Qualitative adjustments consider unique aspects of case processing not otherwise captured by the study. Case weight adjustments are accompanied by clear justification. Case weights are applied to annual filings and the result is a workload value.

Qualitative Adjustments

The study measured how judicial officers in the superior court in Yuma County currently process cases. This measure of “what is” allowed the NCSC to develop a set of case weights that measure the status quo of case processing. The NCSC Advisory Committee (hereinafter Committee)

used this data to review the baseline data and make adjustments as needed (e.g., areas in which judicial officers do not have adequate time to engage in certain areas of case processing). Case weights can be adjusted to allow the court to move toward “what should be.”

The Committee reviewed individual case weights to determine reasonableness and the adequacy of effort required in each case type. This “reality check” indicated that judges frequently have inadequate time available to write decisions and issue orders. Case weights were adjusted accordingly.

Judicial Resource Assessment

The judicial resource need is determined using three steps:

- *Judicial Resource Supply* — current judicial resources available
- *Judicial Demand* — calculation of the number of judicial officers necessary to complete the court’s work

- *Judicial Need* — difference between the judicial demand calculation and the judicial officer supply

Judicial Resource Supply

The judicial resource supply value is the number of full-time equivalent (FTE) positions available to process the court’s work (cases, administrative duties).

Judicial Demand

The judicial demand value is calculated by dividing the judicial workload value by the judicial average annual availability value. The judicial demand value represents the judicial FTEs needed to process case-specific work.

The judicial average annual availability value is the total amount of time per year that judges have to process their workload. This value was calculated by the Committee using the number of days per year and hours per day that a judicial officer has to work on case-specific and non-case-



specific activities. This value accounts for weekends, holidays, sick days, and vacation time.

Applying the case weights to the 2009 filings resulted in the workload value. We divided that value by the judge year value and the resulting number was the judicial demand. The calculated judicial demand for all court-related activities in the Yuma County Superior Court is 7.89 FTEs.

Judicial Need

The judicial need value was calculated by comparing the predicted judicial demand with the judicial resource supply in Yuma.

The study revealed that the superior court requires additional judicial resources to manage the court's work. Specifically, 1.39 judicial officers (or 1.5 FTEs) are required to adequately handle the caseloads based on 2009 filings. These case weights applied to 2010 filings (or projected filings) provide the judicial resources needed for the 2010 fiscal year. A comparison of the judicial demand, availability, and need values is shown in Table ES-1.

Case filings in most jurisdictions determine the demands on judicial districts, but they are silent about the resources needed to process cases effectively. Similarly, case filings offer insights into the amount of judicial work generated by the case filings, but they do not differentiate workloads of each case type, nor do they eliminate a common misperception: that equal numbers of cases filed for two different case types result in the same case-specific work.

The primary goals of the project were (1) to establish a judicial workload standard, (2) to provide a viable tool to predict future judicial officer need, and

Table ES-1: Total Judicial Need

Judicial Resources (FTE)	Superior Court Judicial Officers
Judicial Case-Specific Resource Supply	6.50
Judicial Predicted Resource Demand	7.89
Supply/Demand Difference	-1.39

(3) to develop a caseload calculator tool to assess judge caseload demands based upon the workload standards.

Overview: Workload Assessment Model

A judicial workload assessment model is a quantitative representation of variables that determine judicial resource needs. The core of the workload assessment model is a **time-study**, whereby judges track time spent on each case type on their calendar. The time-study data combined with case filing data for the same period enables the court to construct a "case weight" or workload standard. The case weights represent the average judicial time required to handle a case from filing to disposition in a one-year period.³

Case weights summarize the variation in judicial time by providing an average amount of time per case. On average, the case weight reflects the typical amount of time needed to process specific case types. Case weights are used to calculate the expected annual judicial workload.

Applying case weights to current or projected annual case filings

results in a measure of annual judicial workload. Divide the workload values by the amount of work time available for an individual judicial officer, and the result is the required judicial resources. This approach allows a court to measure resource needs and evaluate resource allocations.

The most credible resource assessment technique, including the workload assessment model, cannot determine the *exact* number of judges required to manage caseloads. No single quantitative resource assessment *model* can do that. A workload model should be used in concert with the budget, population trends, and court-specific factors that affect judicial resources.

The draft case weights and needs model were compared with the Committee's assessment of case types that required additional handling. This qualitative assessment allowed the Committee to make adjustments to the case weights. Case weights measure "what is" and incorporate resource values that allow the court to process cases according to "what should be." Adjustments made by the Committee are discussed in the section entitled "Case Weight Adjustment."

Methodology

Two types of information are necessary to determine the judicial resources required by the workload demand:

- *Workload Estimate.* This is calculated by multiplying case weights (the average amount of time spent on case processing) by the number of annual case filings.
- *Resource Assessment.* The assessment of judicial resources is based on three calculations:
 1. Judicial resource supply
 2. Judicial demand
 3. Judicial need

Yuma has strived to develop an objective assessment of the time judges need to resolve different types of cases in an *efficient* and *effective* manner.

Workload Estimate

Time Study

A time study measures case complexity in terms of the average amount of judicial time spent annually to process different types of cases, from the initial filing to final resolution, including post-judgment activity. Data collection of all judicial activities is critical in a time study.

Judicial officers in superior court recorded time spent on various case types on a daily log. These stats were entered into a web-based data collection site designed for Yuma. Judicial matters include (1) time on and off the bench, (2) time spent processing cases, (3) case-specific work, and (4) non-case-specific work. Non-case-specific activity is a broad category and includes activities that

cannot be attributed to a specific case (e.g., legal research, staff meetings, administrative tasks, and community speaking engagements).

The project liaison for this study provided training for all judicial officers who participated in the study about recording their time and completing the web-based data collection.⁴ The training provided participants with an opportunity to familiarize themselves with the data collection tools. The data recorded on the web data collection instrument was submitted directly into a database maintained by the NCSC. The 12-week data collection effort was very successful and participation rates were perfect.

Case Weight Calculation

Preliminary case weights were calculated by adding the annual time spent on case-specific activities and dividing that value by the case filings for a one-year period.⁵ The draft case weights were presented to the Committee for review of the adequacy of time available to process cases and possible quality adjustments.

Adequacy of Time Discussion

No single quantitative resource assessment model can determine the exact number of judicial officers required for current caseloads. Results from a weighted workload assessment model should be used in concert with other qualitative, court-specific factors that affect the conclusion that a court needs additional judicial resources.

The Committee was asked to consider whether judicial officers had adequate time to complete a range of specific tasks — which can be statistically significant based on the case type.

Case Weight Adjustment

The final case weights are a result of (1) the study of judicial workload based on data collected, (2) adequacy of time to process cases, and (3) scrutiny by the Committee and qualitative adjustments if necessary. This three-phase process is a better predictor of workload and of the judicial resource need than any single process. Each step validates the prior step and accounts for unique practices and challenges of the superior court in Yuma.

Analysis of time study data indicated that judicial officers in Superior Court in Yuma County work an additional average of 46 minutes per day beyond the expected 7.5 hours per day. Annualized, this figure is equivalent to 219 additional working days; judicial officers in this court work 22.38 days more than they are expected to work. This need to work additional hours suggests an insufficient amount of time available to do the work required of them.

Yuma's judicial officers agreed that for all case types except for injunctions against harassment, drug court, and post conviction relief cases, described below, the area in which they had the least sufficient amount of time was writing post-judgment rulings and orders.

Using a standard from other workload assessment studies,⁶ judges concluded that the time available for this work could be increased by adding one hour to 10 percent of cases or by adding six minutes to each case type (except for injunctions against harassment, drug court, and post-conviction relief cases).

The draft drug court case weight was adjusted to reflect an average of 20 minutes per month per case. This adjusted the case weight from 94 minutes, which equates to eight minutes per case per month, to 240 minutes per case.⁷ Post conviction

relief cases were adjusted to include time for hearings that were not reflected during the study. Specifically, 21 minutes were added to the draft case weight of 111 minutes for the following hearing types: four minutes for status hearings, four minutes for oral arguments, and 12 minutes for evidentiary hearings. The total minutes for the three hearing types, which are expected in post conviction relief cases, equal 21 minutes. The additional six minutes for post-judgment rulings and orders was not added to this case type.

Final case weights are presented in Table 1. Final case weights include quantitative and qualitative aspects of case processing and are accurate, valid, and credible.

Among the felony case types listed, drug court cases require the most judicial officer time. Non-specialty court case types, F1-F3 non-drug felonies, have the highest case weight: 142 minutes (more than two hours).

No case is an “average” case that requires exactly 142 minutes of judge time. On average, superior court judges spend 142 minutes on a single F1-F3 non-drug felony case. Some cases take more time, and some cases take less time. Generally, case weights are lower for high-volume case types with a lower likelihood of appearance in court.

Workload Calculation

Applying case weights to the annual filings produces the overall judicial case-specific workload for the court. Using case filing figures for the six-month period November 2008 through April 2009 and annualizing the number of filings results in an annual case-specific workload value for the superior court of 637,666 minutes.

Table 1: Case Weights for Yuma County Superior Court

Criminal	
Felony Drug F1- F3	117
Felony Non-Drug F1-F3	142
Felony Drug F4 – F6	129
Felony Non-Drug F4-F6	130
Drug Court Cases	240
Post Conviction Relief	132
Violation of Probation	29
Civil	
Tort – Motor Vehicle	68
Tort – Non Motor Vehicle	633
Medical Malpractice	633
Contracts	86
Injunction Against Harassment	11
Other Civil	36
Probate	
Estate	45
Guardian/Conservatorship	57
Domestic Relations	
Dissolution of Marriage – With Children	236
Dissolution of Marriage – No Children	50
Paternity	74
Request to Establish Child Support – IV D	74
Request to Establish Child Support – Non-IV D	436
Child Custody & Parenting Time	436
Other	
Orders for Protection	49
Mental Health	68

Resource Assessment

Judge Resource Supply

The judicial resource supply value is the number of FTE judicial officers available to process the case-related workload. This calculation excludes the number of FTEs dedicated to non-case-specific activity. Non-case-specific activity includes community activities, speaking engagements, committee meetings, and non-case-specific

administration (accounted for separately in the model).

To calculate current available judicial resources, we began with the number of FTE judicial officers. The average amount of non-case-specific time recorded during the study was subtracted from the time available for direct case-specific work. In Superior Court in Yuma County, all judicial officers spend an average of 81 minutes per day on non-case-specific work.⁸ This

decreases the average 7.5-hour work day from 450 minutes to 369 minutes.⁹

The presiding judge has substantial administrative duties but also receives the same volume of case assignments as the other judicial officers. He manages a full caseload in addition to the time per day spent on administrative duties. The study revealed that the presiding judge spends an average of 281 minutes per day on non-case specific (administrative) work compared to 70 minutes per day for the other judicial officers.¹⁰ The administrative responsibilities of the presiding judge increase his schedule three hours a day more than the schedules of other judicial officers, all of whom have a workday that routinely exceeds 10 hours.

Judicial Officer Demand

The judicial demand value is calculated by dividing the judicial workload value by the judge year value. The result is the number of judicial FTEs needed to process case-specific work. The judge year value is defined as the number of work days in a year that a judge has to process their caseload. Weekends, holidays, vacation, sick leave, and time required for education and training are deducted from 365 days to arrive at the judge year value of 219 days. The average workday is defined as 7.5 hours, minus 81 minutes of non-case-specific work per judge, for a final workday of 369 minutes. The minutes in a workday multiplied by the number of available days results in the average annual availability of judges. In Superior Court in Yuma County, judicial officers average 98,550 minutes of availability annually (219 days x 7.5 hours x 60 minutes).¹¹

Workload values divided by the total case-specific time available (80,811 minutes per year) results in the total judicial officer need.

Judicial Officer Need

The judicial need value is the comparison of projected judicial demand with the judicial resources currently available to process cases (judicial availability). This study determined that Superior Court in Yuma County requires an additional 1.39 judicial officers to complete their casework, based on court filings from November 2008 through April 2009. Applying the case weights to the final 2009 or projected 2010 case filing figures results in an updated resource need scenario. Specifically, the current model indicates superior court needs a total of 7.89 judicial officers or 3.63 judicial officers for criminal cases,¹³ 1.80 judicial officers for civil cases, and 2.46 judicial officers for domestic cases reflected in Table 4 (page 25).

Keeping the Model Current

In the absence of significant changes in case processing, court structure, or jurisdiction in the Arizona or Superior Court in Yuma County judicial system, the case weights developed in this study should be accurate for the next five to seven years. Periodic updates are necessary to ensure case weights continue to represent the actual judicial case processing and workload. Case processing can change significantly when courts increase efficiencies, when there are statutory or procedural changes, or when various caseload management initiatives are implemented.

Workload assessment models similar to the one used in Yuma can be used effectively for judicial resource management. A six-month sample of case filing data (November 2008

Table 3: Calculation of Judicial Annual Availability Value

	Days	Minutes
Available Time	365	164,250
LESS		
Weekends	104	46,800
Holidays	10	4,500
Leave (vacation, illness)	27 ¹²	12,150
Judicial Education	5	2,250
TOTAL TIME	219	98,550
LESS		
Non-case specific time (81 min/day)		17,739
TOTAL CASE SPECIFIC TIME AVAILABLE		80,811

Table 4: Overall Judicial Officer Need in Yuma County Superior Court

	Case Type	Case Weight	Cases Filed	Minutes Required Annually
CRIMINAL	Felony Drug F1-3	117	410	47,970
	Felony Non-Drug F1-3	142	424	60,208
	Felony Drug F4-6	129	352	45,408
	Felony Non-Drug F4-6	130	604	78,520
	Drug Court	240	128	30,720
	Post Conviction Relief	132	72	9,504
	VOPs	29	376	10,904
CIVIL	Tort - Motor Vehicle	82	144	11,808
	Tort - Non Motor Vehicle	633	54	34,182
	Medical Malpractice	633	8	5,064
	Contract	86	450	38,700
	Estate	45	132	5,940
	Guardian/Conservatorship	57	276	15,732
	Injunction Against Harassment	11	274	3,014
	Other Civil	36	864	31,104
DOMESTIC RELATIONS	Dissolution w/ Children	236	436	102,896
	Dissolution w/o Children	50	416	20,800
	Paternity	74	168	12,432
	Request to Est. Child Support IV-D	74	312	23,088
	Request to Est. Child Support Non-IV-D	436	8	3,488
	Child Custody & Parenting	436	52	22,672
	Orders for Protection	49	280	13,720
MH	Mental Health	68	144	9,792
	Case Specific Workload (Weight x filings)			637,666
RESOURCE NEEDS	Judge Average Annual Availability (219 days)			98,550
	Average non-case specific work (81 minutes per day)			17,739
	Average case-related availability			80,811
	Judicial Officer Demand			7.89
	Judicial Officer Demand: Criminal			3.63
	Judicial Officer Demand: Civil			1.80
	Judicial Officer Demand: Domestic			2.46
	Total Judicial Officer Demand			7.89

through April 2009) was used to validate this model. The real power of the model lies in its applicability to predict future judicial resource needs with caseload projection analysis. Projected caseloads can be easily inserted into the model to provide an estimate of future judicial requirements.

Case Assignment Tool

Unlike other studies, the Yuma study developed case assignment tools. The presiding judge requested these tools to be able to use the case weights in a “real time” manner to ensure equitable distribution of the caseload among all judicial officers in superior court. To that end, an interactive tool was developed on a spreadsheet incorporating the expected case-specific

work year for the presiding judge and the other judicial officers.

The presiding judge has administrative duties not shared by other members of the bench. For purposes of the real-time caseload assignment, the average non-case specific times for the presiding judge (281 minutes per day) and the other judicial officers (70 minutes per day) have been used.

The case assignment tool allows the presiding judge to view the number of cases assigned to each judge — by case type — and determine the capacity at which each judge is working. As caseloads ebb and flow and the mix of different case types change, so, too, does the workload of each judge.

Three case assignment tools were developed for Yuma. In Example 1

(page 28), the tool is based on the 23 case weights computed in this study, and it compares caseloads of the presiding judge, who has more administrative duties than the other judges, and another judicial officer on the bench. In Example 2 (page 30), the tool compares caseloads of two judicial officers with different types of caseloads. In Example 3 (page 32), the tool compares the presiding judge with a judicial officer but uses the collapsed case weights for three case types: all criminal cases, all civil cases, and all domestic cases. It was necessary to collapse the 23 case types into three case types to more closely align with the court’s case management system’s case type categories.¹⁴ The case assignment tools are illustrated in Tables 5, 6, and 7. In Example 1

Using a **standard from** other workload assessment studies,¹ judges concluded that the **time available** for this work could be increased by adding one hour to 10 percent of cases or by adding six minutes to each case type.

in Table 5, the presiding judge has 276 cases and judicial officer 2 has twice as many cases, but their work capacities are 91.61 percent and 79.97 percent, respectively. The reason for this difference is the expected annual work year (37,011 annual case-specific minutes for the presiding judge vs. 83,220 annual case-specific minutes for judicial officer 1).

The case assignment tool also differentiates between judicial officers with a different mix of caseloads. In the second example, shown in Table 6 of the use of the caseload calculator, judicial officer 1 and judicial officer 2 both have 552 cases assigned to them. The cases have different case weights and the workload capacities are different, with judicial officer 1 working at 81.48 percent capacity, compared to judicial

officer 2 at 79.97 percent capacity.

The case assignment tool presented in Tables 5 and 6 is based on the 23 case weights developed during the study. To generate the case weights, court staff calculated case filing figures in the identified case types. The current case management system used in the court groups cases in three broad categories: criminal, civil, and domestic. To accommodate the court's case assignment tool, the case weights were recomputed into the collapsed categories to reflect the broader categories available in the case management system. The revised case assignment tool with the collapsed case weights is presented in Table 7.

The case assignment tool can be used to assess workload of the bench to ensure a consistent and equitable

workload distribution. Although the case assignment tool using the collapsed category weights doesn't distinguish among time required by case type, it provides the court with workload stats for judicial officers. As the case management system evolves, it can differentiate cases by the more refined case types for which case weights have been developed. The court will be able to make more meaningful case assignments to ensure equitable caseloads among all judicial officers.

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Periodic updates are necessary to ensure case weights **continue to represent** the actual judicial case processing and workload. **Case processing can change significantly** when courts increase efficiencies, when there are statutory or procedural changes, or when various caseload management initiatives are implemented.