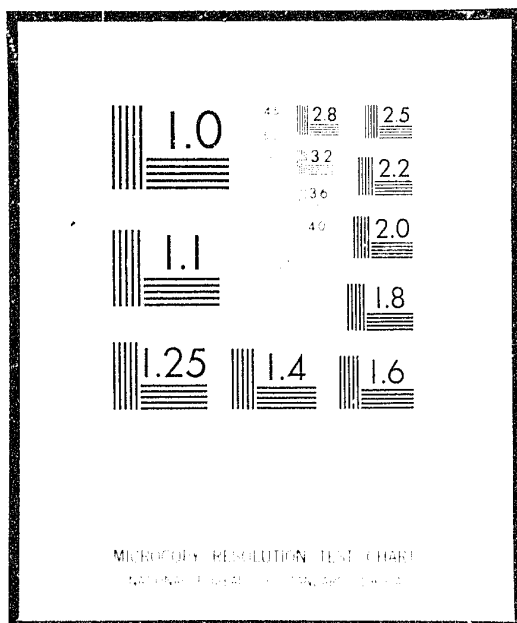


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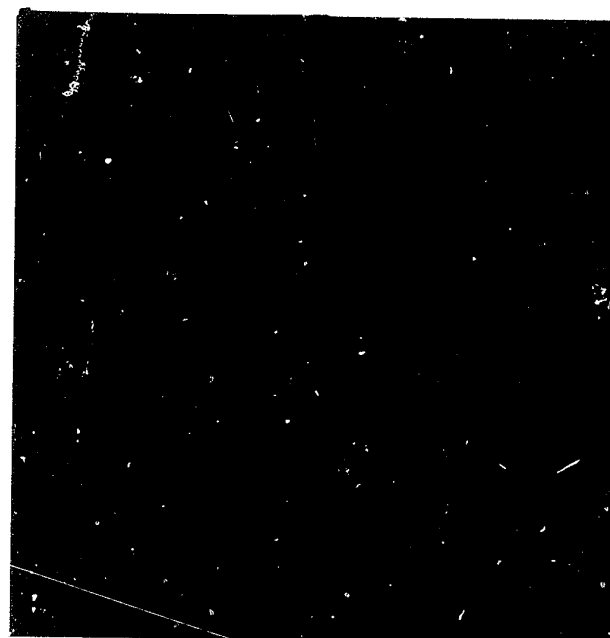
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ANALYSIS OF JUROR
UTILIZATION IN MONROE COUNTY

Grant 74 NI-02-0002

October, 1974

By

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FOREWORD

This study, focusing on an area of interest to the criminal justice system, illustrates the mutual benefits accruing from the association of the Pilot City Program with the University of Rochester.

The authors of this utilization analysis were graduate students in the System Analysis Program of the Graduate School of Management. As part of their course work, they undertook this study for the Pilot City Program. Because of the level of sophistication of these students, plus the fact that they were receiving on-going advice and assistance from Professor Ronald W. Hansen, of the Graduate School, the input of the Pilot City staff was maintained at a reasonable level, consisting mainly in assisting in study design and serving as a liaison with relevant community agencies.

This linking of the resources of the academic community and the Pilot City Program provided the graduate students the opportunity to participate in meaningful research, and provided the Pilot City Program with a definitive study in an area relevant to criminal justice.

Elizabeth Benz Croft
Elizabeth Benz Croft, Director
Rochester-Monroe County Criminal
Justice Pilot City Program

This document, prepared in coordination with the Pilot City Program, was partially supported by Grant 74 NI-02-0002 from the National Institute of Law Enforcement and Criminal Justice of the Law Enforcement Assistance Administration, United States Department of Justice. Statements or conclusions contained in this paper do not necessarily indicate the concurrence of the Institute.

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ABSTRACT

This study analyzes the operation of the jury system in Monroe County and examines ways and means by which the size of the daily pool of potential jurors can be reduced without significantly increasing the probability of incurring delays in the processing of cases due to the non-availability of jurors. Reduction in the size of the daily pool will mean that a fewer number of potential jurors will be utilized more intensively and will remain idle for shorter periods of time. The study examines six specific proposals which will enable the daily pool size to be reduced, and indicates for each proposal the amount of reduction and the saving in cost both to the court system as well as to the community.

ACKNOWLEDGEMENT

The authors of this study wish to express their thanks and appreciation to the members of the local criminal justice community and in particular the Honorable Justices Joseph G. Fritsch and John S. Marsh, Messrs. A. Raymond Uttaro, Douglass C. Dodge, Cody Bartlett, Bert DiPaola, Clayton F. Kennedy, Howard T. Eichorn, Walter R. Dukelow, and Ms. Virginia Johnson. The assistance of Mrs. Elizabeth Croft and Lois Horwitz of the Rochester County Criminal Justice Pilot City Program proved to be very valuable. Without the assistance of all these individuals this study would not have been possible.

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CHAPTER I

A. Overview of the Problem of Juror Usage

The right to trial by jury can be traced back to the Magna Carta and even before. It is guaranteed to all adult criminal defendants by the constitution of the United States and thus forms an important part of our democratic system. The right to be judged by one's peers, rather by an established judge or precept, was intended to prevent the abuses of law enforcement and other legal officials and to prevent a decision of guilt and a sentence of punishment which was not rendered by impartial members of the community.

The obligation to serve on juries is also a duty recognized of every citizen. Every year thousands of citizens are summoned for jury service by federal, state and local courts. Because jury service is considered a duty, the rate of payment is usually quite low, ranging from \$5 to \$10 per day. In 1972, the daily payment for jury service in federal courts was increased to \$20 per day. For many persons even this is less than what they would have earned in alternative employment. Because of the fact that jurors are poorly paid and therefore relatively inexpensive to retain, it has become a practice of the courts over the years to call as many jurors as is felt necessary to meet all possible demands. Due to the great importance placed on the need to avoid delays in the judicial process, the requirement is usually imposed on jury administrators to have available at all times a sufficient number of potential jurors so as to be able to furnish a panel whenever a judge wants to start a case. This has resulted in the problem of a large number of persons called for jury duty spending most of their time in jury lounges waiting to be called for a trial instead of actually serving on a case.

Wastage of juror time imposes costs not only on the court system in the form of juror fees and travel expenses, but also on many potential jurors who lose their regular income and incur out of pocket expenses, and on some employers who pay their workers for time spent in jury service. Moreover, the experience of having to sit idle for long periods of time waiting to be called for a trial leads to a juror's loss of respect for the judicial system, and alienates the system from the community which it serves.

Many critics of the jury system fail to realize how difficult it is to make efficient use of jurors, given the nature of the jury operation and the uncertainty of events in the judicial system. Under the trial by jury system of justice, to select a jury of 12 (plus two alternates) more than 14 potential jurors are called in and made available for questioning by the parties involved. Each party is entitled to a certain number of what are called peremptory challenges by which he can refuse to accept particular persons on the jury without giving any cause. Further challenges with cause are allowed. Any potential juror can be rejected if he has previous knowledge of the case, is personally acquainted with the individuals involved, admits to bias, etc. It may take any number from 14 to more than a hundred people in a panel to select a 14-member jury. The selection process, known as a voir dire, usually lasts about an hour, whereas the trial which follows may last a day or more. The whole operation is one that requires many persons for a short time and a few of them for a long time.

Any court system, which has more than one judge or courtroom and follows the policy of assigning each potential juror to serve for a particular judge will need to call as many persons each day as the largest expected panel size

times the number of judges. Most court systems try to overcome this obvious inefficiency by trying to share jurors among several judges or courtrooms-- thus making an implicit assumption that the probability of all or most judges wanting to start voir dire and requiring juror panels at the same time will be very small. Where jurors are thus pooled among many judges or courtrooms, it becomes possible to obtain a better balance between the number of jurors needed for voir dire and the number needed for trials. Proper achievement of this objective requires good communication, planning and coordination between the various elements of the court system.

The problem is even more complex when one considers the uncertainty of events in the judicial system. No one knows how long a voir dire or trial will last. At any stage of the operation, even before the start of the voir dire, the parties might settle or the defendant might change his plea. A case may be on the calendar and be scheduled to start on a certain day, but the judge may delay the start or postpone it to another day for any of a number of legitimate reasons. Lawyers find it advantageous to delay settlement in civil cases as long as possible. All these uncertainties serve to emphasize the point that in order to achieve efficient juror utilization one needs to take into consideration the operation of the entire court system of which the jury system is only a subset.

B. Scope and Objectives of the Study

Until recently, not much research in the area of juror utilization had been done. But now, especially after the increase of federal jurors' pay, there is increasing concern for improving juror usage and reducing the waste

of juror time. In the past few years a number of studies have been conducted. These studies pertain to particular court systems and their results cannot necessarily be projected to other courts because each court system has different procedural characteristics.

This study is an attempt to analyze the operation of the jury system in Monroe County in order to determine how far the size of the daily pool of jurors can be reduced without significantly increasing the probability of incurring delays in the processing of cases due to the non-availability of jurors. Reduction in the size of the daily pool will mean that a fewer number of potential jurors are utilized more intensively, and as a result remain idle for shorter periods of time. The study will examine a number of alternatives which will enable the daily pool size to be reduced, and will indicate for each alternative the amount of reduction. The possible effects of each alternative on the operation of the rest of the court system will be pointed out as far as possible.

The amount of reduction in the pool size will mean savings not only to the courts, but also to potential jurors and hence the community at large. The study will try to assign a dollar value to the savings. The idea that "justice delayed is justice denied" is a well recognized principle of our judicial system. The past decade has seen a great increase in the caseload and growing concern for the rights of the defendant which have resulted in many delays in the judicial process. It has, therefore, become even more imperative to have potential jurors on hand when needed in order to avoid further delays. However, one still needs to ask--What is the cost to the community of avoiding such delays? The study will provide an estimate of this cost, and thus indicate the trade-offs involved.

A. Juror Conscription Policy in Monroe County

Potential jurors in Monroe County are selected from a list of approximately 47,000 persons maintained by the office of the Commissioner of Jurors. This list is about a 12% sample drawn randomly from voter registration files and intended to represent proportionately the population of the 19 towns in Monroe County plus all the wards in the City of Rochester.

The current year's list of eligible jurors is a combination of the previous year's list and about 8,500 new entries, adjusted for deaths, changes of address, persons convicted of crimes, etc. Twice a year in November and May, names are selected at random from voter registration files and from the Department of Motor Vehicle list of licensed operators. In 1972, about 29,000 such names were marked off. These names are then checked against the existing list of eligible jurors. For those persons not on the list, cards are prepared and sent out requesting them to come in for jury examinations. This is done on a staggered basis over a period of ten months. Any person who fails to report without having successfully applied for exemption with a two-week period, is liable to be held in contempt of court.

Section 655 of the Judiciary Law states that the following persons, although qualified for jury service, are entitled to claim exemption: clergymen, doctors, lawyers, members of the armed forces, firemen, policemen, government employees, crew members of ships and airplanes, women, persons over 70, and full-time news broadcasters. Of the persons who report for jury examination, some are eliminated at the very outset because they are outside the allowable age limit which is 21 to 72 years.¹ Others, who were previously unaware of their eligibility

¹ As of September 1, 1974 the age allowable for jury service was lowered to 18.

for exemption, may claim exemption at this point. A list of names is then compiled of all those persons who are accepted for jury examination. In 1972, this list comprised 11,131 persons. The names of those who pass the jury examination are sent to the Rochester Police Department and the Monroe County Sheriff's Office for a criminal history check. Section 662 of the Judiciary Law states that in order to be qualified to serve as a juror a person must not have been convicted of a felony or a misdemeanor involving moral turpitude. If a police check shows such a conviction, the name is removed from the list. The final list of names of persons who passed the jury examination and the police check forms the year's new entries which are added to the previous year's list of eligible jurors to obtain the current list. Small ballots are prepared for each new person and these are placed together with the existing ballots in a large wheel from which the names of the potential jurors to be summoned every week are randomly drawn.

Each Tuesday morning the Commissioner of Jurors takes the large wheel containing the ballots of the eligible jurors to a courtroom where in the presence of a judge and a representative of the Sheriff's office, the names of approximately 175 eligible jurors are drawn. Summons are then prepared and mailed out to each person whose name has been drawn directing him or her to report for jury duty about two weeks later on a Monday morning at 9:30 A.M. During this period some of the persons summoned may contact the office of the Commissioner of Jurors to either claim their exemption, or ask to be excused or have their service postponed. Excuses and postponements may be granted for such reasons as ill-health, being the sole guardian of an infirm relative, being a student, having too much responsibility at work

etc. Persons reporting on the morning of the appointed day are first briefed by a jury official regarding the nature of their activity and later by a judge who advises them of the laws governing their service. At this point more persons may claim exemptions, or be granted excuses or postponements at the discretion of the judge. Ultimately, only about 40% to 50% of the people summoned end up in the jury pool.

Those who serve are required to do so for a period of two weeks. Since a new group of potential jurors are summoned every week, at any point of time some of the people serving are "first-weekers" while the rest are "second-weekers." A person must serve a minimum of five days for his service to be credited, in which case his name goes into a control file which is checked every year when the list of new names is drawn to ensure that no person serves more than once every four years. The juror fee is \$8 a day plus travel expenses--which is calculated at the rate of 8¢ a mile for persons residing outside the city limits while for those residing within, it is the two-way bus fare, 80¢.

The fee of \$8 a day, however, does not fully reflect the value that most people place on time spent in jury service. The value of time is a very subjective concept which differs from person to person and varies also with the nature of the activity during that period of time. A surrogate commonly used in economic analysis is the value of an individual's marginal productivity which in a freely competitive full-employment economy is equal to his wage. Therefore, to arrive at a measure of the cost of jury service to the community --as opposed to the cost of \$8 a day plus travel expenses to the court system-- would require information on the incomes of people who are called in for jury

service. In the absence of such information, this study has taken as an estimate of the cost of jury service to the community, the average earnings of the labor force in Monroe County as reported in the U.S. Census of 1970. According to the census report, the 212,883 male members of the labor force over 16 years of age had an average annual income of \$9,696; for the 130,433 female members of the labor force over 16 the average annual income was \$4,296. This gives an overall average income per person adjusted to 1974 of about \$40 a day--or five times the daily juror fee. Given the fact that the nature of exemptions under present judiciary laws allow many high income persons such as doctors and lawyers to avoid jury duty, plus the fact that the policy of drawing from voter registration lists may overlook many low income groups who do not register to vote, the estimate of \$40 is probably very close to the actual average daily income of persons who come in for jury service in Monroe County. This then is the average daily cost per person of jury service, \$8 of which is borne by the tax payers in general and the rest is borne either by the person called in for jury duty or by companies which compensate their employees for jury service.

B. Operation of the Jury Pool

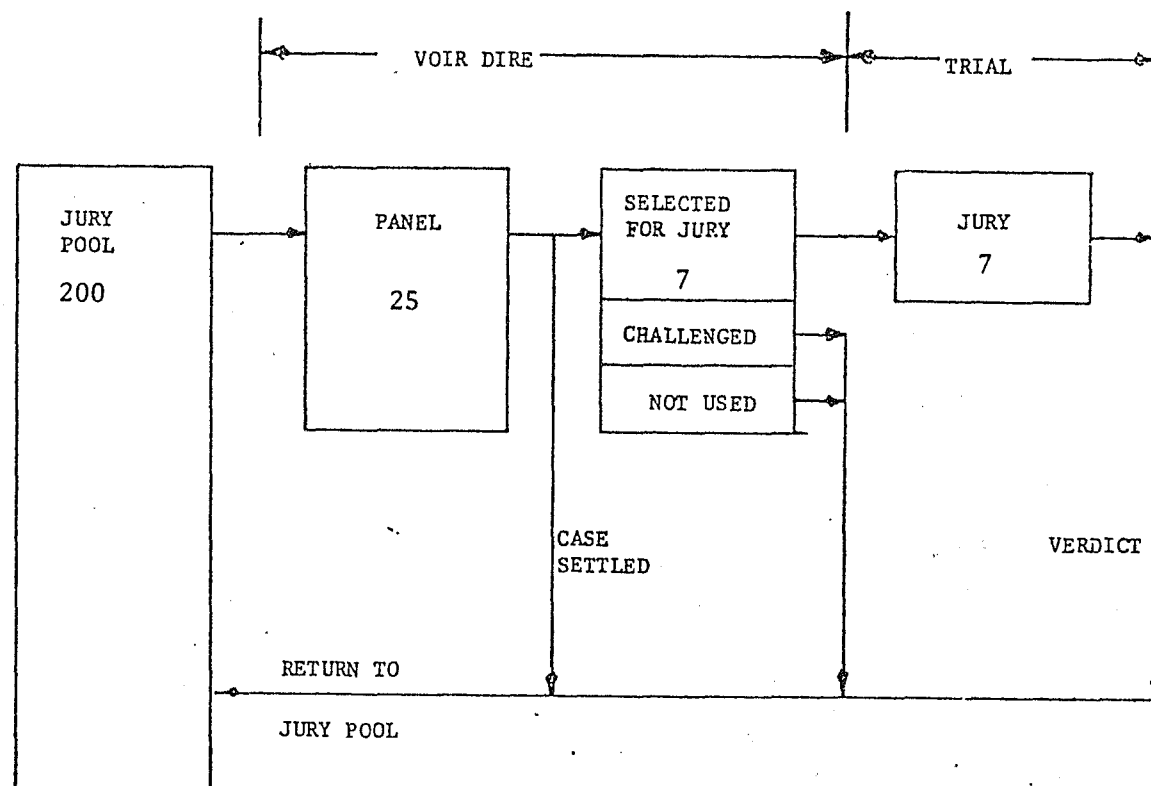
The office of the Commissioner of Juror serves three courts--the Supreme Court, the County Court, and the City Court. Each court has a different jurisdiction, depending on, among other things, the nature of the case and the value of the litigation involved. The Supreme Court has 7 courtrooms (plus 2 selection rooms and 3 holding rooms whose functions are described later). The County Court has 4 courtrooms and the City Court has 3 courtrooms.

All three courts share a common pool of jurors who, when not in use in voir dire or trials, are kept in two waiting rooms, one called the central jury room which is much larger than the other. The two rooms are equipped with a connecting intercom system.

The way the pool works is illustrated in Figure 1. When a judge is ready to start a voir dire, he sends a requisition to the jury clerk in the central jury room for a certain panel size which he feels will be sufficient to produce a jury. The jury clerk then draws at random from a box containing the names of all persons in the pool the required number of ballots. When the panel has been drawn, it is taken to the courtroom where the voir dire begins. In the voir dire each person on the panel is questioned, one at a time, by the lawyers of the various parties involved in the case. Each party is entitled to a certain number of peremptory challenges without cause and then entitled to additional challenges with cause subject to the direction of the judge. A few judges prefer to conduct the questioning themselves. When one member of the panel has either been accepted as a juror or challenged and rejected, the next person is questioned, and so on until a jury is formed. Those who are challenged and rejected are either released immediately or in groups from time to time during the voir dire, upon which they return to the pool. At the end of the voir dire, the people who have not been questioned are released and return to the pool. When the jury has delivered its verdict at the end of the trial, it returns to the pool. At any time during the voir dire or the trial, the parties in a civil case may settle or the defendant in a criminal case may plead guilty. If that happens, all person in use return to the pool.

FIGURE 1

FLOW CHART OF JUROR POOL OPERATION



The procedure is slightly different for civil cases in the Supreme Court. The presence of the judge during the voir dire is not required so that in nearly all such cases the voir dire is conducted by the lawyers in one of the two selection rooms mentioned earlier. Whenever the lawyers want to start a voir dire, the jury clerk sends a panel of potential jurors to a selection room. After the jury has been selected, the rest of the panel returns to the pool while the jury goes to a holding room where it waits until the judge is ready to start the trial. The justification put forward for this procedure is that it gives the judge more time to devote to more important business, and also that a waiting jury increases the inducement to the parties involved in the civil suit to reach a settlement out of court and thus forego the time and expense of a trial and subsequent appeals if any.

Starting from the afternoon of Wednesday, people in their second week of service begin to be excused, and by the end of Friday all of the "second-weekers" have been excused, except those who are still serving on trials. They are excused when the trials end. Every Monday, around 10:00 in the morning, a new batch of "first-weekers" enter the pool.

CHAPTER III

For the purposes of this study data on juror usage were collected covering a period of six months from September 1973 through February 1974. During this period there were 112 working days and 254 cases came to the docket which required the use of jurors either in voir dires or in trials.

A. Description of the Data Source

The above data were derived from two main sources: daily juror usage sheets maintained by the jury pool clerk, and case panel sheets in which entries are made both by the jury clerk as well as by the particular clerk of the court in which the voir dire and trial are conducted. An example of a daily usage sheet is shown as Figure 2. It is for Monday, December 3, 1973. The first column shows the additions and subtractions of potential jurors from the available pool waiting in the jury rooms (406 is the room number of the central jury room) in the order in which they are called for voir dires or returned from voir dires or trials. The next 7 columns show the 7 courtrooms of the Supreme Court. These are followed by columns for the 2 selection rooms, the 3 holding rooms, the 4 County courtrooms, and the 3 City courtrooms. The entries in these columns indicate the number of potential or actual jurors in use in the various rooms.

The first entry in the jury pool column usually shows the available pool of unutilized jurors at the beginning of the day. Sometimes this figure does not include those jurors who returned to the pool the previous evening if a trial ended after 5:00 P.M. The first entry is then adjusted to get the starting figure before any additions or subtractions for that day are made. On December 3, the available pool at 9:30 A.M. was 48. In

FIGURE 2. DAILY USAGE SHEET

Date: Monday, December 3, 1973

Jury Pool	Supreme Court							Selection Rooms			Holding Rooms		County Court				City Court				
	401	402	403	407	408	409	444	404	405	425	426	428	Name of Judge	Name of Judge	Name of Judge	Name of Judge	Name of Judge	Name of Judge	Name of Judge	Name of Judge	
48	7	27	7	14	7	7	7	20	20		7	7									
-20 (405)	+ 5					delib- era- tion for ver- dict	delib- era- tion for ver- dict	-13 -7	-13 -7		11:00 am to 4:44 pm	11:30 am to 4:09 pm	14 ver- dict 6:00 pm								
28	32					3:10 pm	4:00 pm	to 4:28 pm	to 4:15 pm												
-27 (402)	-14					7	7	7	7												
1	18							11:30 am	11:00 am												
+96 (New)	- 4							25	25												
97	14							-18	-18												
-20 (404)								7	7												
77								4:10 pm	4:15 pm												
+13 (405)																					
90																					
+13 (404)																					
103																					
-25 (404)																					
78																					
- 5 (402)																					
75																					
+14 (402)																					
87																					
+ 4 (402)																					
91																					
+18 (404)																					
109																					
+14 (Co.)																					
123																					

order to get the total pool the number of jurors already in use in voir dires and trials carried over from the previous day must be added on. This is done by examining the columns for the various courtrooms, selection rooms and holding rooms, and comparing them with the entries in the jury pool column later in the day to see which entries in the courtroom columns were made that day and which were carried over from the previous day. Thus, in the Supreme Court, juries of size 7 were already in use on trials going on in five courtrooms (401, 403, 408, 409, 444). A criminal trial with a jury of 14 was in progress in a sixth courtroom (407). No voir dires were in progress in the selection rooms and no juries were waiting in the holding rooms. In the County Court, one criminal trial with a jury of 14 was going on. In the City Court no jury trials or voir dires were in progress. In all 63 jurors were in use at the end of the previous day. This plus the available pool of 48 makes a total pool of 111 potential and actual jurors in service on the morning of Monday, December 3.

The first change which took place in the available pool of jurors was a call for a panel of 20 from selection room 405. The time when this panel was sent is not shown on the daily usage sheet--this information may be obtained from the respective case panel sheet to be described shortly--but the entry in the column of the selection room shows that the voir dire ended at 11:00 A.M.--this information is also given in the case panel sheet--and the jury of 7 was taken to holding room 426, so the call must have come sometime between 9:30 and 11:00. It was followed by a call for a panel of 27 to pick a jury for a criminal trial starting in courtroom 402, etc.

Any changes in the available pool are entered in the first column. Thus the arrival of a new group of 96 jurors is shown as the third event on Monday, December 3. Any excuses of "second-weekers" are also usually entered in the jury pool column. At times, however, this information has to be inferred. Thus if a trial with a jury of 7 ends and only 4 persons are shown returning to the pool, it is inferred that the 3 others were "second-weekers" and were excused.

The form for the case panel sheet is shown as Figure 5. When the jury clerk receives a request for a voir dire panel, he takes a fresh case panel sheet and fills in the entries at the top of the sheet on the lefthand side, including the number of the selection room (or of the courtroom if it is not a civil case in the Supreme Court), the date and time of the panel requisition and the name of the judge. The names of the potential jurors are then listed down the page in the order in which their ballots are drawn. The case panel sheet is then passed on to the clerk of the courtroom in which the subsequent trial is to be held. The court clerk then marks off the names of those persons in the panel who are challenged during the voir dire, and those who are not questioned, usually indicating the different categories separately. During the course of the voir dire and trial, the rest of the entries are made, including the time of the voir dire end, the date and time of the trial end, and whether there was a verdict or whether the case was settled or dismissed.

As is to be expected with routine clerical work, occasionally some items of information were missing from the case panel sheets. For the purposes of this study the important data are dates and times of events.

FIGURE 3. CASE PANEL SHEET

No. of Selection Room: _____ Date: _____ Time: _____		No. of Holding Room: _____
Name of Judge: _____		Time Completed: _____
No. and Name of Case: _____		Plaintiff: _____
Name of Clerk: _____		Defendant: _____
No.	Name of Juror	Returned to 406
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

No. of Court Room: _____
 Name of Judge: _____
 Time Assigned: _____
 Name of Clerk: _____
 Verdict: _____
 Settled: _____
 Dismissed: _____
 Date: _____
 Time: _____

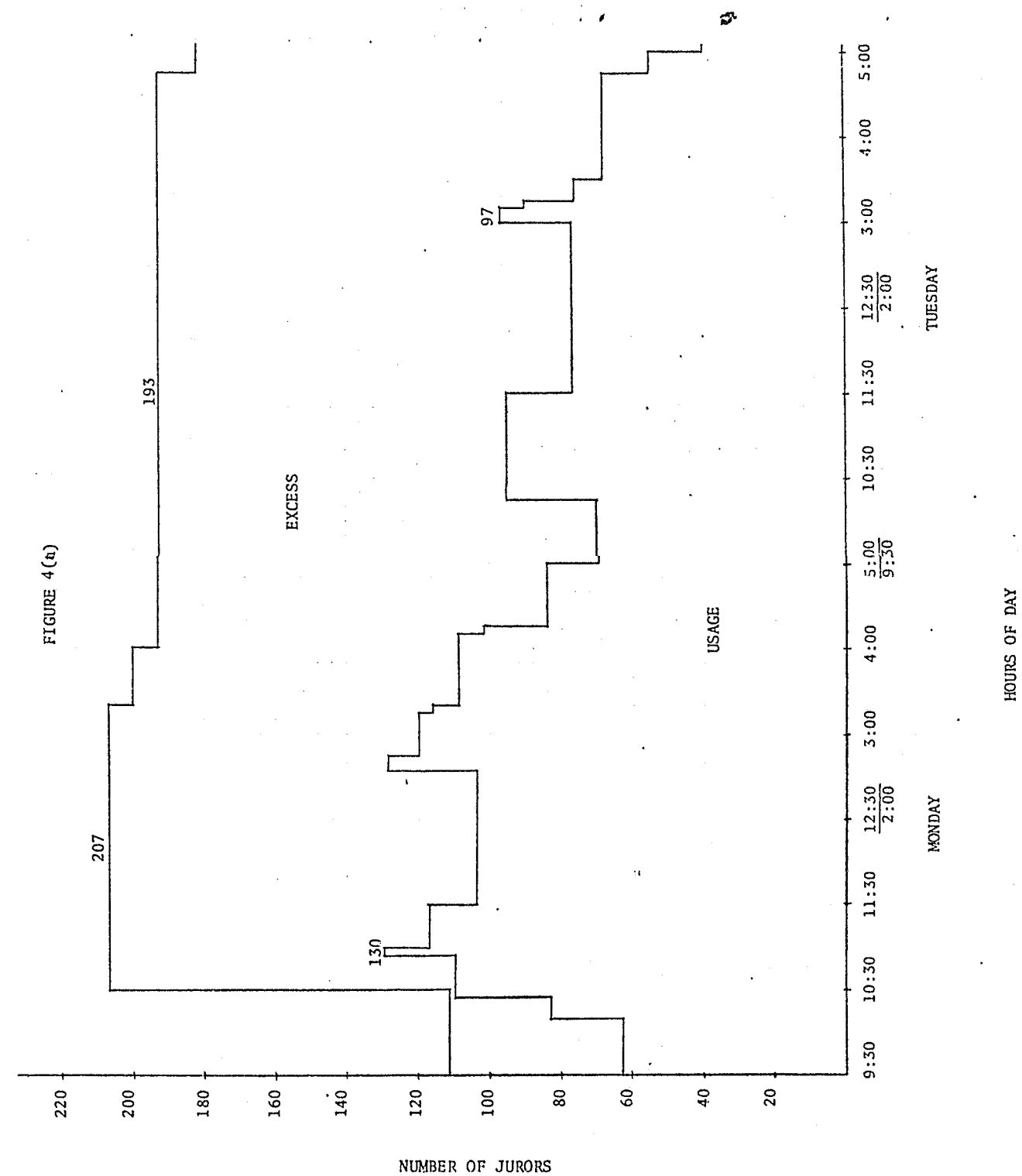
Dates could nearly always be determined from the daily juror usage sheet. When a time was missing and could not be determined from any other source, the policy was adopted to select a time which was compatible with the other data and biased to show maximum juror usage.

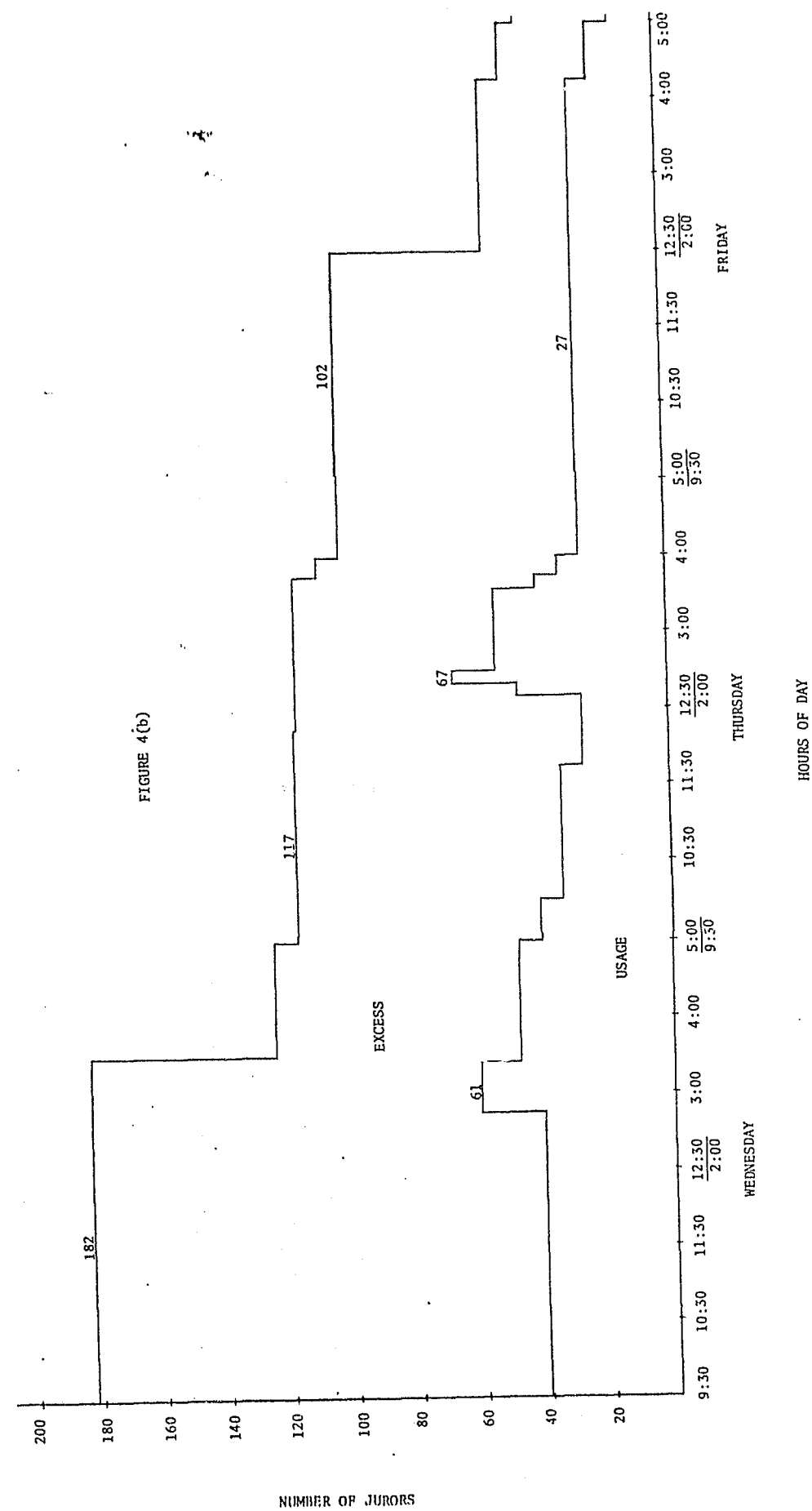
B. Example of a Typical Workweek

The five days beginning Monday, December 3 and ending Friday, December 7, 1973 illustrate a typical week's juror use. Figures 4(a) and (b) show the total pool size and the number of jurors in use at different points of time on each of the 5 days.

The week began with a total pool of 111 persons, 63 of whom were already serving on 7 on-going trials and 48 others were idle in the jury room. Two calls for voir dres at 10:10 and 10:25 raised the usage to 110. At 10:30 96 new jurors joined the pool raising the total to 207. The morning peak usage of 130 was reached at 10:55 with another voir dire start. The peak lasted for only five minutes after which one of the voir dres ended and 13 jurors returned to the pool. The afternoon peak of 129 was reached at 2:35 and lasted only 10 minutes. Thereafter usage continued to drop with voir dres and trials ending and people returning to the jury room. By the end of the day, usage was down to 70. Two trials ended, one at 3:20 and another at 4:00, in which the jurors were excused from service, dropping the total pool down to 193. Of the four voir dres which started on Monday, three began in the morning hours and one in the afternoon. Compared to a pool size of 207, the maximum usage was 130.

On Tuesday, two voir dres began resulting in two peaks. The morning peak of 95 lasted from 10:15 to 11:30, while the afternoon peak of 97 lasted





NUMBER OF JURORS

HOURS OF DAY

from 3:00 to 3:10. At 4:45 a trial ended and of the 14 jurors released 11 were excused, dropping the total pool from 193 to 182. By the end of the day usage had dropped to 41.

During the rest of the week usage continued to drop except for occasional peaks. On Wednesday only one voir dire started resulting in a peak of 61 at 2:45 lasting for 40 minutes. Fifty-eight "second-weekers" were excused at 3:30 and 7 more at the end of the day leaving a total pool of 117. On Thursday two voir dires began, both in the afternoon, causing a peak of 67 at 2:20 lasting for 10 minutes. Fifteen more persons were excused at various points of the day. No voir dires were started on Friday. Two trials ended dropping the usage to 14. Forty-seven people were excused at 2:00 and 12 more later on leaving 43 persons in the total pool at the end of the week.

This example illustrates the pattern of juror utilization in the Monroe County Court system. The system appears to operate with a substantial excess of idle jurors. Many more jurors are called than are utilized during the day. Usage is much greater towards the beginning of the week. Of the 9 voir dires which began during the week beginning December 3, 1973, 6 were started in the first two days. Voir dire starts are concentrated at certain times of the day. Although the court operates on a working day of 6 hours, all of the 9 voir dires were started either between 10:00 and 11:00 in the morning or 2:00 and 3:00 in the afternoon. A more detailed analysis of six months' data is presented in the next chapter.

CHAPTER IV

A. Analysis of the Data

Figure 5 shows the court-wise distribution of the 254 cases which required the use of jurors during the period September 1973 through February 1974. Of the 194 civil cases, 167 went to the Supreme Court, 6 to the County Court and 21 to the City Court. The total number of criminal cases was 60, of which 9 were tried in the Supreme Court, 35 in the County Court, and 16 in the City Court. In all there were 176 Supreme Court cases, 41 County Court cases and 37 City Court cases.

For each day of the week the average pool size and the average maximum number in use are shown in the form of a bar diagram in Figure 6. The daily pool size is defined here as the maximum number in the total pool during the day. Since the payment of the juror fee is on a per day basis regardless of whether or not the person has served for the entire six hours, any excuses during the day while reducing the size of the pool do not reduce the cost to the courts. Nor does the fact of being excused late in the afternoon reduce the loss of regular income for most individuals. The maximum number in use for any given day is the peak usage for that day--it also indicates the minimum pool size for the day which could have been achieved without delaying the start of any voir dires for lack of a panel. Thus, for example, for the 20 working Mondays during the six month period, the average pool size was 181.79 while the average maximum usage was 99.30. Or in other words, 82.49 more jurors on the average were called than were utilized on Mondays, indicating an excess of 45.38%. Considering all the days of the week together, the average daily pool size was 153.50, whereas the average maximum usage

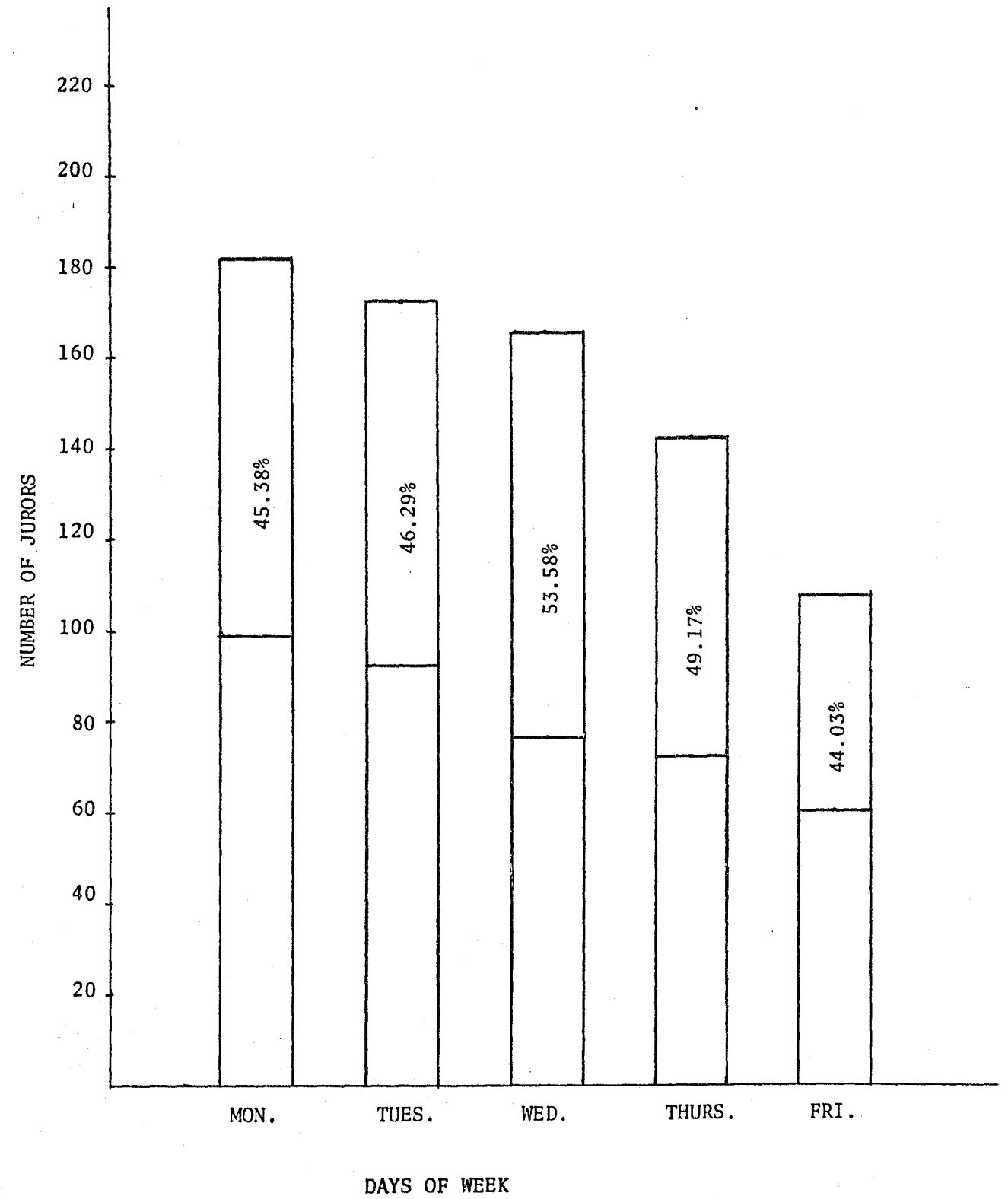
FIGURE 5

CASE DISTRIBUTION

Type of Case	Supreme Court	County Court	City Court	Total
Criminal	9 (3.54%)	35 (13.78%)	16 (6.30%)	60 (23.62%)
Civil	167 (65.75%)	6 (2.36%)	21 (8.27%)	194 (76.38%)
Total	176 (69.29%)	41 (16.14%)	37 (14.57%)	254 (100%)

FIGURE 6

AVERAGE DAILY POOL AND MAXIMUM USAGE



per day was 79.82--an average excess per day of 73.68 people or 48% of the pool.

The above discussion is, of course, not intended to suggest that the excess of unutilized jurors can be reduced to zero. Given the uncertainty of events in the judicial process, as mentioned earlier, it would be impossible to predict the exact maximum usage on a particular day--more so if the prediction has to be made, and potential jurors summoned, two weeks in advance of the day of use. Nevertheless, the fact that on the average 48% of the total pool of jurors called in remain unutilized does suggest the possibility that the size of the pool could be substantially reduced without significantly increasing the time that the court has to wait to start voir dire because of the unavailability of jurors.

The pattern of usage over the week is uneven and on the whole shows a declining trend. While the average maximum use is 99.30 on Monday, it drops to 92.64 on Tuesday, and is only 60.65 on Friday. The reason for this lies in the fact that more voir dire are started on Mondays and Tuesdays than in the rest of the week. This is revealed in Figure 7 which shows the percentage of voir dire started on different days of the week during the 6 months. Out of the total of 254 voir dire, 30.7% were started on Mondays, 21.7% on Tuesdays and only 12.6% on Fridays.

Usage over the day is also highly uneven, showing extreme peaks lasting for relatively short periods of time followed by much lower usage during the rest of the day. Figure 8 shows the number of voir dire started at different times of the day. During the entire 6 months observed, only one voir dire began before 10:00, only 4 (1.6%) began between 12:00 and 12:30 and only

FIGURE 7

VOIR DIRE STARTS OVER THE WEEK

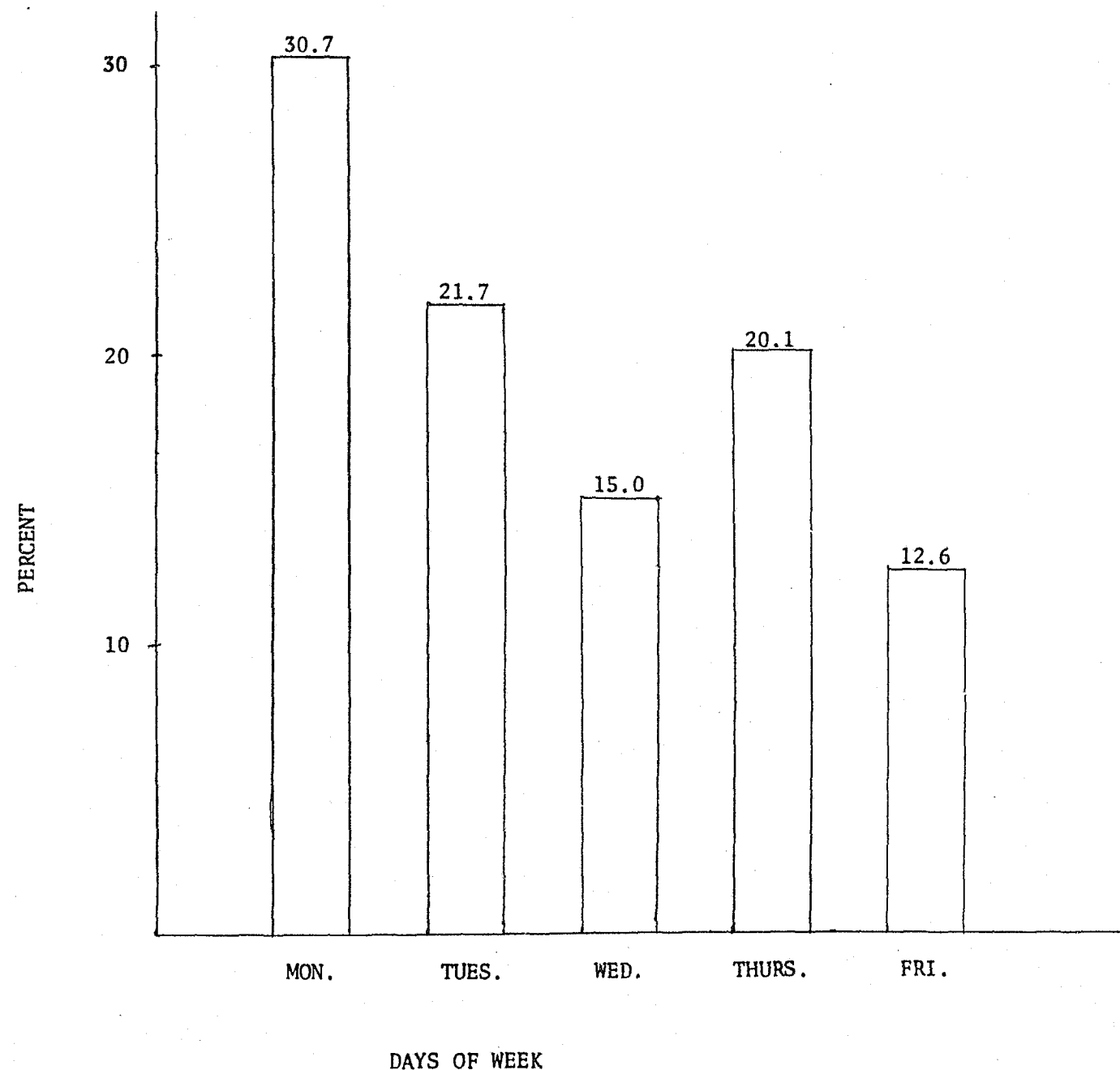
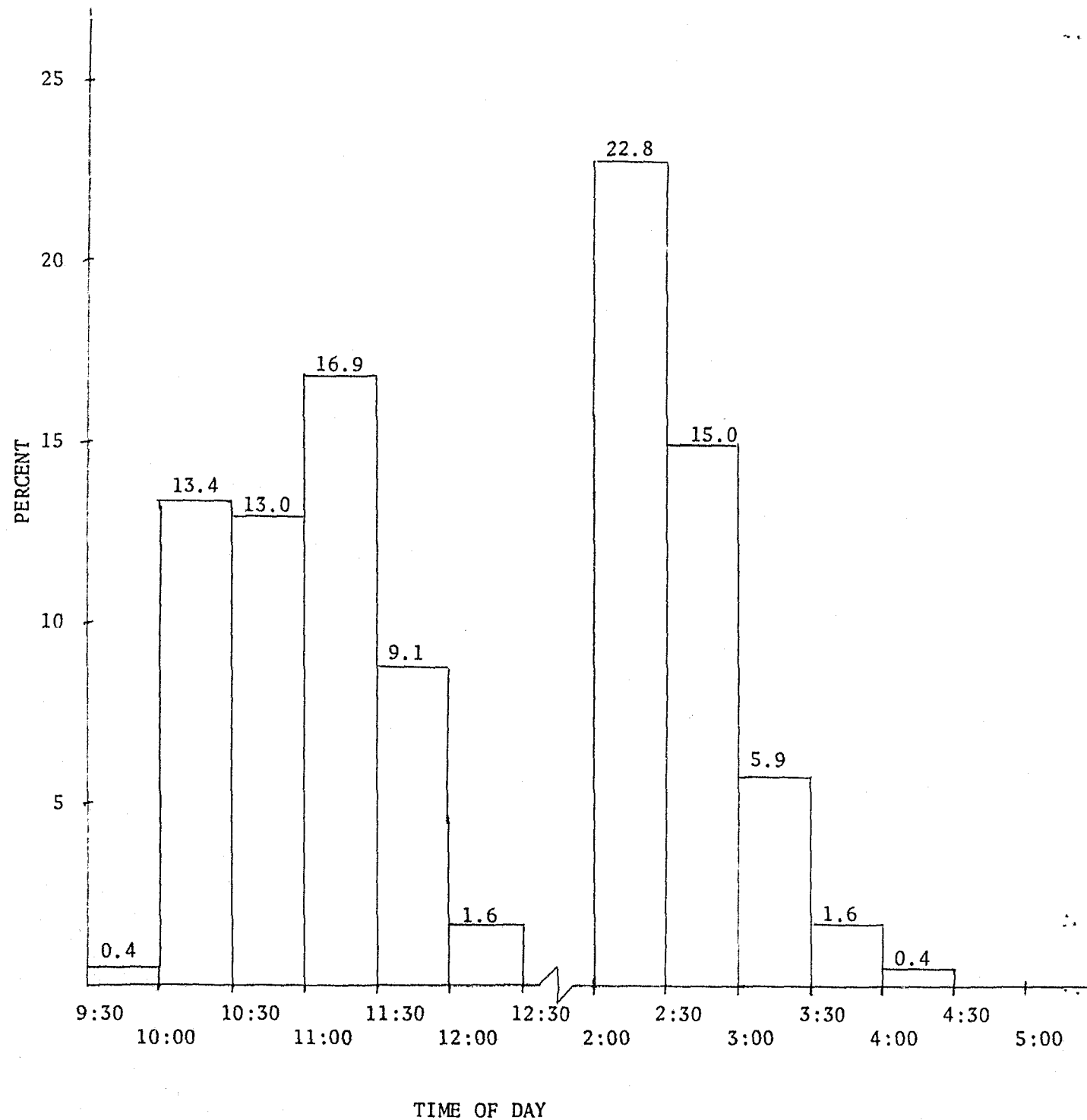


FIGURE 8

VOIR DIRE STARTS DURING THE DAY

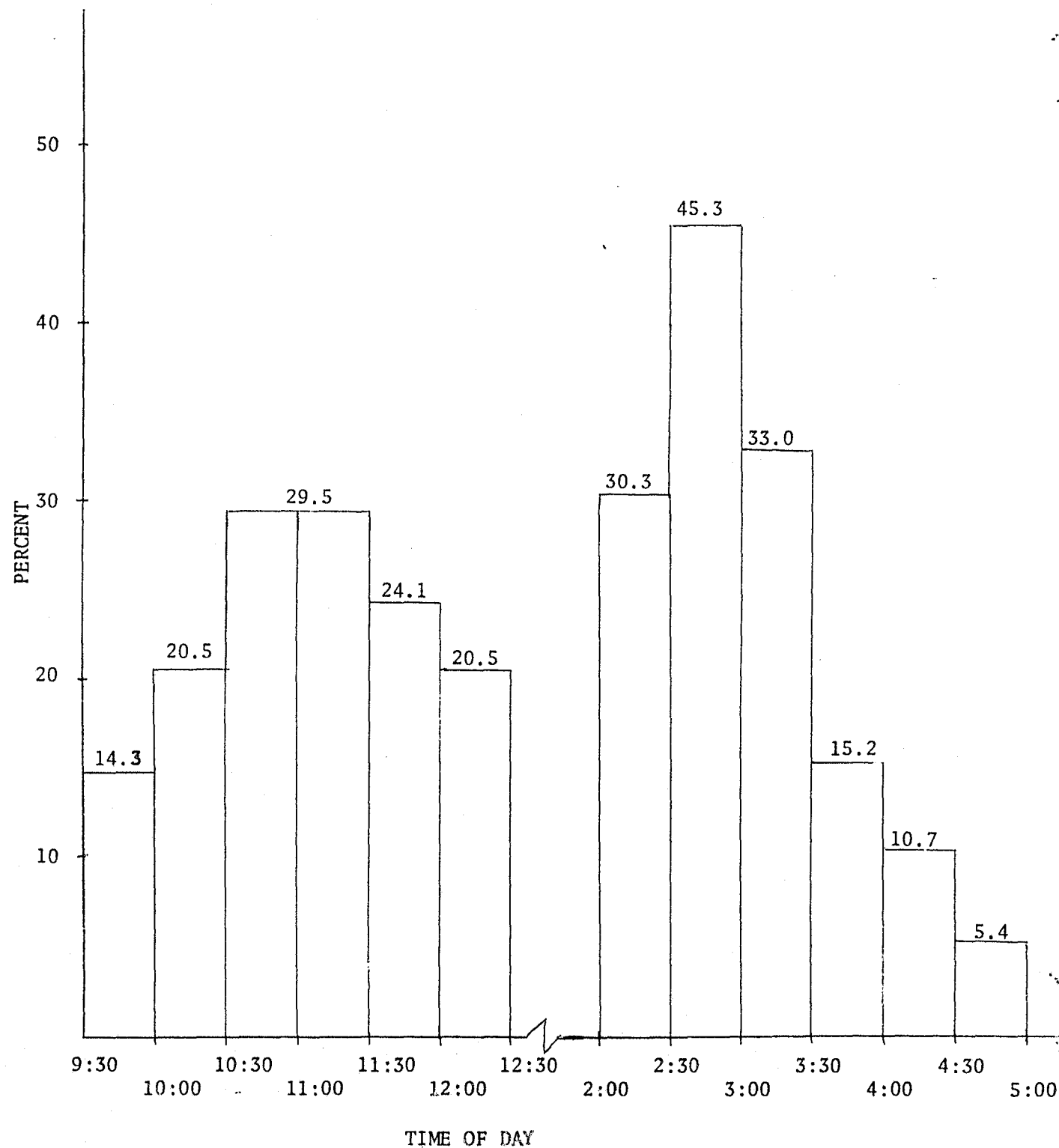


5 (2%) began after 3:30. Although the court hours are from 9:30 in the morning to 5:00 in the afternoon, with an hour and a half break for lunch, 206 voir dres or 81.1% of the total of 254 were started in the 2 1/2 hours covering 10:00 to 11:30 and 2:00 to 3:00. This pattern of bunching up voir dire starts creates the uneven usage illustrated in Figure 9 which shows the percentage of days that different periods had peak usage for the day. (Since a peak may be spread over more than one period during the day, the percentages may sum up to more than 100%.) Whereas the period from 9:30 to 10:00 in the morning showed peak usage on only 14.3% of the total number of days observed, and the period 4:30 to 5:00 in the afternoon was a time of peak use on only 5.4% of the days, the periods 2:30 to 3:00 and 3:00 to 3:30 showed peak usage on 45.5% and 33.0% of the days respectively. Casual observation reveals the high correlation between the two diagrams.

Examination of the size of the panels sent for voir dres and the number of persons actually questioned shows that in many instances a large portion of the panel is released without being challenged. In the Monroe County court system, civil cases in the Supreme and County Courts almost always use a jury of 7 members including one alternate. For the Supreme Court civil cases the voir dire is usually conducted by the lawyers in a selection room without the presence of the judge. The jury clerk sends a panel of either 20 (if there are two parties) or 25 (if there are three) to the selection room. For the County Court civil cases the voir dire is held in the presence of the judge and the size of the panel depends on the number requisitioned by the judge (which in 5 of the 6 cases observed was 20). Of the total of 167 civil cases which reached the Supreme Court, in 68 cases panels of 25 persons were sent and in 99 cases panels of 20 were

FIGURE 9

FREQUENCY OF PEAK USAGE DURING THE DAY



NOTE: Since more than one period may show peak usage during the day, the percentages may sum up to more than 100%.

sent. Seventeen cases (10.2%) settled in voir dire and the panels returned unused. Figure 10 is a table which shows the frequency of occurrence for each number greater than 7 which was sufficient to select a jury together with the cumulative percentage. Thus, for example, in the Supreme Court cases where a panel of 25 were sent, 18 or less persons produced a jury in 55 cases, or 93.2% of the total number of cases which went to trial. For cases where a panel of 20 was sent, 18 or less persons yielded a jury in 88 cases, or 96.7% on the total. Considering all the Supreme and County civil cases together, a panel of 18 persons would have been enough to pick a jury in 95.5% of the cases.

The number of persons required to select a jury in criminal cases in the Supreme and County Courts is not only higher, but also shows a much greater variance. This is not only due to the fact that a criminal charge may range from a minor misdemeanor to first-degree murder, but also because of the much larger presence of the human interest element in situations involving crime. Many persons, for example, have strong personal views on the death penalty, or the use of drugs. Moreover, many criminal cases acquire a lot of publicity in the local newspapers and generate much controversy which makes the task of selecting an unbiased jury even more difficult. Criminal cases in the Supreme and County Courts require a jury of 12 persons, plus 1 or 2 alternates depending on the expected length of the trial. Very large panels, often between 40 and 50 persons, are sent for such cases. Figure 11 shows that out of the total number of 40 cases which completed their voir dires (4 settled during voir dire), a panel of 50 would have been sufficient to pick a jury in 95% of them. In fact, only 2 of the cases required a

FIGURE 10

PANEL MEMBERS UTILIZED FOR SUPREME AND COUNTY COURT CIVIL CASES

Panel Members Utilized	SUPREME COURT CIVIL				COUNTY COURT CIVIL		TOTAL	
	Two Parties		Three Parties		Frequency of Occurrence	Cumulative Percentage	Frequency of Occurrence	Cumulative Percentage
	Frequency of Occurrence	Cumulative Percentage	Frequency of Occurrence	Cumulative Percentage				
7	8	8.8	7	11.9			15	9.6
8	18	28.6	6	22.0	3	50.0	27	26.9
9	12	41.8	5	30.5	1	66.7	18	38.5
10	11	53.8	9	45.8	2	100.0	22	52.6
11	6	60.4	4	52.5			10	59.0
12	14	75.8	7	64.4			21	72.4
13	7	83.5	3	69.5			10	78.8
14	3	86.8	5	78.0			8	84.0
15	4	91.2	2	81.4			6	87.8
16			5	89.8			5	91.0
17	3	94.5	2	93.2			5	94.2
18	2	96.7					2	95.5
19	2	98.9	1	94.9			3	97.4
20	1	100.0	1	96.6			2	98.7
21			1	98.3			1	99.4
22							1	100.0
23			1	100.0				

FIGURE 11

PANEL MEMBERS UTILIZED FOR SUPREME AND COUNTY COURT CRIMINAL CASES

Panel Members Utilized	Frequency of Occurrence	Cumulative Percentage
17	1	2.5
18	1	5.0
20	1	7.5
23	2	12.5
24	4	22.5
25	1	25.0
26	1	27.5
27	1	30.0
28	1	32.5
29	2	37.5
30	7	55.0
31	1	57.5
32	1	60.0
33	1	62.5
34	3	70.0
35	3	77.5
36	1	80.0
39	1	82.5
43	1	85.0
44	1	87.5
45	1	90.0
46	1	92.5
50	1	95.0
60	1	97.5
61	1	100.0

panel greater than 50. On the other hand, in 55% of the cases a panel of 30 was sufficient. Therefore, it may be tentatively suggested, before the whole problem of panel size is examined in greater detail in a subsequent chapter, that the initial requisition for a panel in a criminal case in the Supreme or County Courts be limited to 30, after which 20 more persons may be sent if the first 30 are not enough to pick a jury.

In the City Court juries of 6 persons are picked for both civil and criminal cases. In almost no case is an alternate juror selected, presumably on the grounds that cases appearing before the City Court involve relatively minor infractions of the law and the trials are not expected to last more than a couple of days. Figure 12 is another frequency table, this time for the City Court cases, both criminal and civil. Of the total of 37 cases, 5 settled during the voir dire. To pick a jury in 95% of the cases would require a panel of 12, which in the City Court cases is exactly the number of persons sent for a voir dire every time. No further reduction in the voir dire panel size therefore appears advisable.

Having examined the current pattern of juror utilization in the major courts in Monroe County, and having noted the possibility of substantial improvements in usage, it is now necessary to determine to what extent the size of the daily pool could be reduced and to evaluate the various means by which this could be achieved. Due to the time constraints operating on the study, it was not possible to collect data for a period longer than six months. Nor was it considered advisable to do so since the performance of the system too far in the past may not have much relevance today. However, in order to provide a broader foundation on which the evaluation of the various proposals

FIGURE 12

PANEL MEMBERS UTILIZED FOR CITY COURT
CIVIL AND CRIMINAL CASES

<u>Panel Members Utilized</u>	<u>Frequency of Occurrence</u>	<u>Cumulative Percentage</u>
6	12	37.5
7	1	40.6
8	4	53.1
9	7	75.0
10	2	81.3
11	2	87.5
12	3	96.9
14	1	100.0

could be based, the six months' findings were supplemented by a computer program designed to simulate as closely as possible the current operation of the system as regards the use of jurors.

B. Description of the Computer Simulation

The value of a simulation lies in the ability to feed into the computer the various parameters which govern the performance of a system and then let the computer operate so as to resemble the activity of the system over a very long period of time. This can be done at a relatively low cost. The computer program written for this study was able to simulate the performance of the court system for a period of 10 years at a cost of about \$2.50 in less than one minute of computer time.

An important advantage of simulation as opposed to real life observation is that it is possible to change just one or a few parameters and repeat the performance of the system, keeping all other parameters unchanged. This may not only be expensive to do in real life, but in some cases it may be impossible to change one parameter without affecting the value of some other parameter. In a simulation it is possible to ask such questions as: If the daily pool on Mondays was decreased by such and such, what would be the effect on total delay time? Or, if voir dire starts are spread more evenly over the day, by how much would this reduce the daily maximum usage?

The simulation was conducted in two stages to achieve its two-fold objective: (1) to derive for 10 years a distribution of the daily maximum usage, assuming an infinite pool and hence zero probability of any court delay due to the non-availability of jurors; (2) to feed in the daily pool size

and then determine for the same period of 10 years, under exactly the same conditions, the total amount of time that voir dire starts were delayed due to non-availability of jurors, and the number of cases delayed.

In order to achieve as close a resemblance to the actual operation as possible, the data on voir dire lengths, trial lengths, panel and jury sizes for all the cases during the six months were read into the computer in the form of 254 input cards. Whenever a case was ready to start one of the input times was randomly selected and the data ascribed to the particular case. In this way, the actual data were used over and over again for the entire course of the simulation. This procedure ensured that the courtwise distribution of cases in the simulation would be identical to the actual findings.

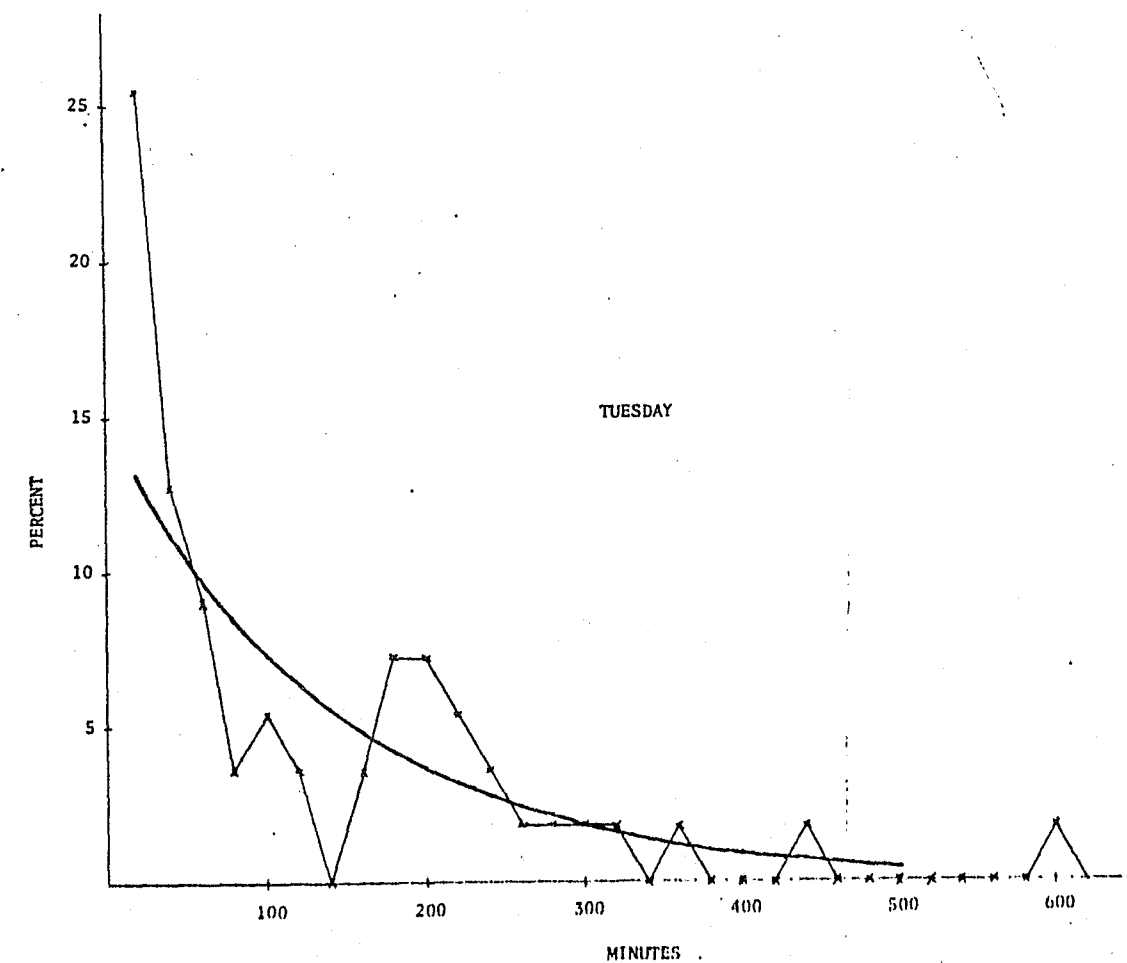
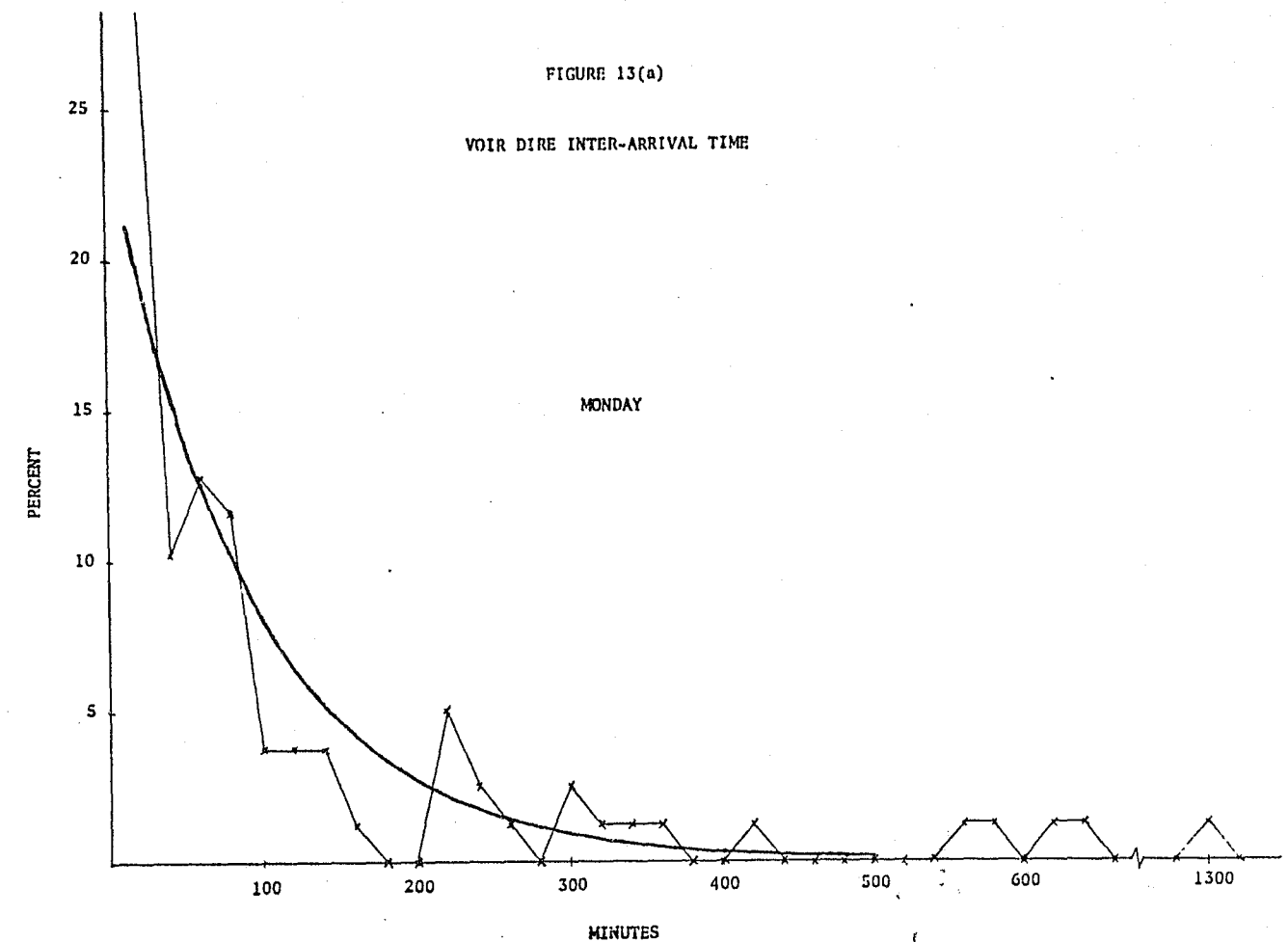
One of the basic assumptions which was made was regarding the pattern of arrival of cases. Previous studies on juror utilization have also attempted computer simulations. One such study made the assumption that as soon as one trial ended another was ready to start, so that the only constraints limiting the total number of cases was the number of courtrooms and the length of each case. This also required that all courtrooms should be having either trials or voir dire going on at any time. From the observation of actual data over 6 months, this did not appear to be the case in the Monroe County court system. Of the 14 available courtrooms, at no time during these 6 months did more than 11 of them have voir dire or trials going on simultaneously. In fact, many of the courtrooms, especially in the County and City Courts, were "inactive" for long periods of time. This is not to suggest that these courtrooms were empty or that the judges were idle. They may have been holding pre-trial hearings, conducting non-jury trials,

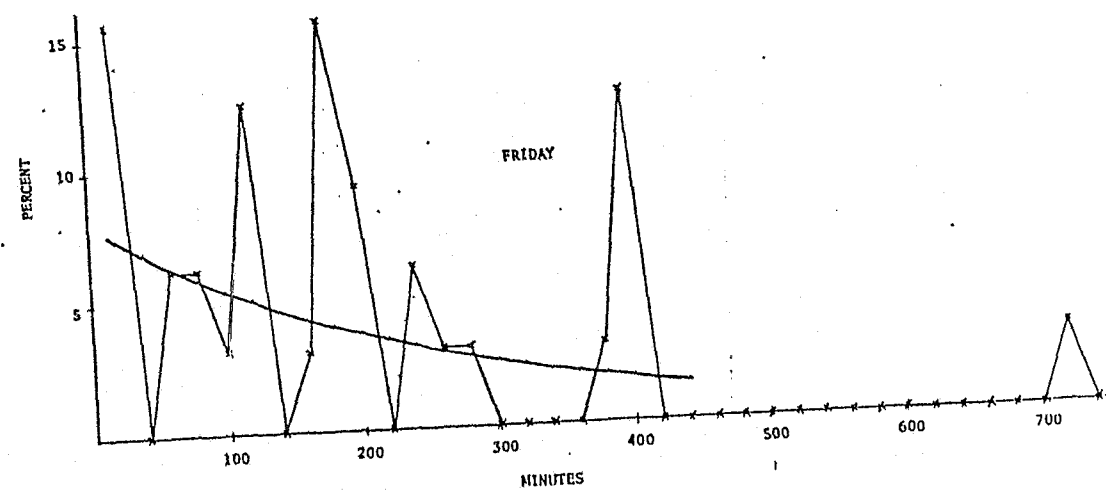
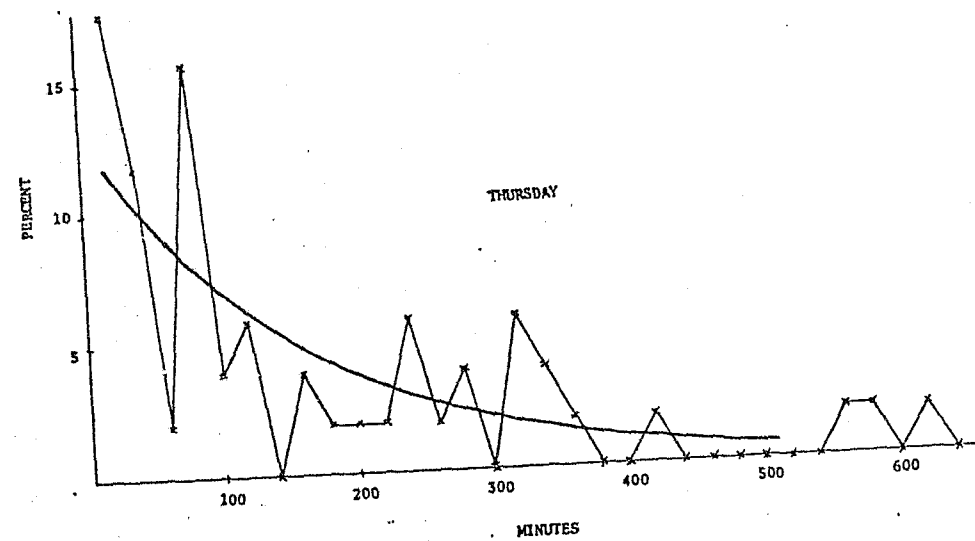
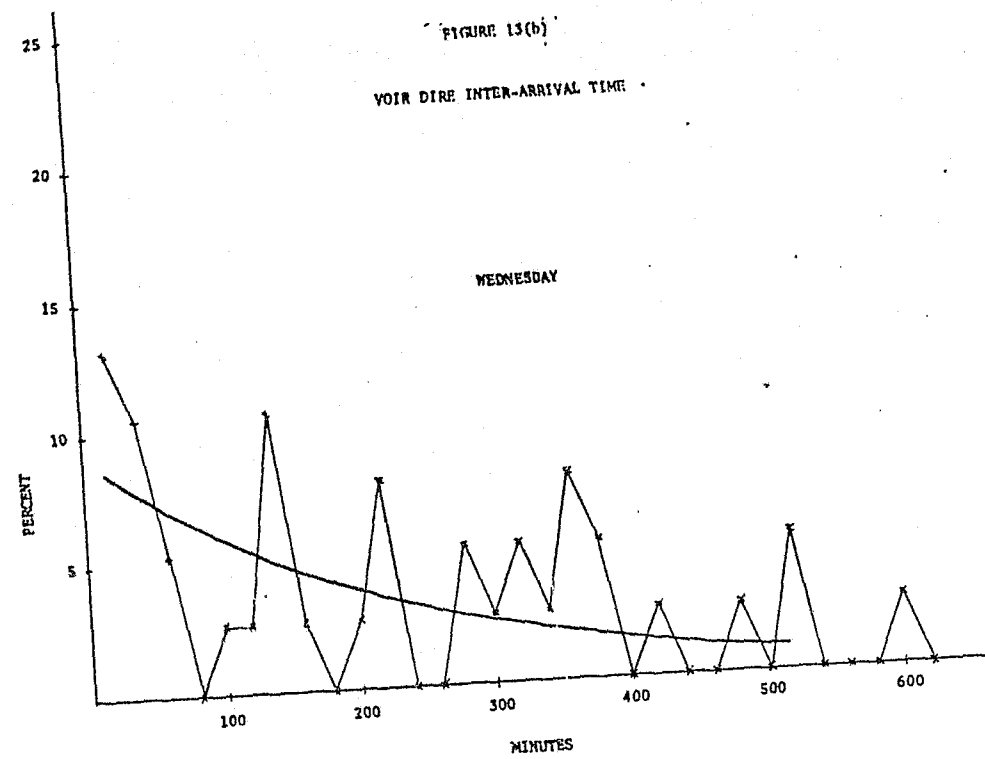
hearing motions, conferring with lawyers, etc. In this simulation, the constraint on the number of cases was not only the number of courtrooms (14) and the length of each case, but also the actual average number of voir dire starts per day.

Since it had been noted that the number voir dire starts were different on different days of the week, the time between the start of one voir dire and the start of the next voir dire was plotted for each day of the week. These shown in Figure 13(a) and (b). The mean of these inter-arrival times was then calculated for each day of the week. The graph of the exponential distribution having the same mean was then superimposed on the plot of actual inter-arrival times, and for most days the fit was observed to be reasonable. Therefore, it was decided to generate the arrival of cases such that the inter-arrival times formed an exponential distribution whose mean was the mean of the actual inter-arrival times. The means for the different days of the week were then read in as parameters to the system.

Another assumption which was made was regarding the allowable time for the start of voir dire. As pointed out in the previous section, only 9 out of the 254 voir dire starts in the period 9:30 to 10:00, 12:00 to 12:30 and after 3:30. Thus, in order to simulate the daily peaking effect, any voir dire which was scheduled to start between 9:30 and 10:00 was "bumped" up to 10:00, if it was scheduled between 12:00 and 12:30, it was bumped up to 2:00, and if it was scheduled after 3:30 it was bumped back to 3:30.

Finally, in the second run when a limit on the daily pool size was set, the condition was imposed that a voir dire could not start if the panel size was greater than the available pool. The start was then delayed until





an on-going voir dire or trial ended and the pool increased enough to accomodate the starting panel.

In Figure 14, the simulated performance of the court system is compared with the actual performance. The close similarity between the two sets of numbers indicates that the program was able to simulate successfully the real life operation of the major Monroe County courts. The way in which the results of this simulation program plus the actual findings are used to evaluate various proposals to reduce the daily pool size and improve juror usage is described in the next few chapters.

FIGURE 14

COMPARISON OF ACTUAL AND SIMULATED
PERFORMANCE OF COURT SYSTEM

	<u>Actual</u>	<u>Simulated</u>
Overall Average Maximum Usage	79	82
Average Maximum Usage		
Mondays	99	94
Tuesdays	93	91
Wednesdays	77	79
Thursdays	73	80
Fridays	61	70
Case load for 112 days	254	241

CHAPTER V

In the last chapter the analysis of juror utilization in the Monroe County court system demonstrated the current practice of maintaining a large excess pool of idle jurors and pointed out the possibility of a substantial improvement in juror usage. The discussion on the uneven pattern of daily and weekly voir dire starts and the use of large panels has already partly indicated some means by which the improvement in juror usage can be achieved. In this and the following two chapters six specific proposals to promote efficient use of jurors shall be examined in some detail:

- 1) To simply reduce the size of the daily pool, without making any other changes in the operation of the court system, to an extent that will meet the daily maximum usage (a) 95% of the time, (b) 90% of the time.
- 2) To lower the size of voir dire panels sent for civil cases in the Supreme and County Courts to 18 and then reduce the daily pool size to the levels of 95% and 90% probability of meeting the maximum usage.
- 3) To stagger the start of voir dire over the day and over the week and then reduce the daily pool to the levels of 95% and 90% probability of meeting the maximum usage.
- 4) To have both staggered voir dire starts and smaller voir dire panels and reduce the daily pool to the levels of 95% and 90% probability of meeting the maximum usage.
- 5) To make special arrangements to call in a larger pool on only those days on which voir dire for major criminal cases are likely to

start--and other-wise maintain the levels of 95% and 90% probability of meeting the maximum usage pool size with staggered voir dire starts and smaller panels.

- 6) To lower the size of the jury for criminal cases in the Supreme and County Courts to 8, and then reduce the daily pool to the levels of 95% and 90% probability of meeting the maximum usage with staggered voir dire starts and smaller panels.

Proposal #1:

Interviews with various court officials during the course of this study confirmed the fact the policy followed by the court system with regard to juror usage is to have enough potential jurors available in the pool whenever the judge or the lawyers wish to start a voir dire. The results of the simulation also supported this conclusion. When the actual average daily pool size of 182 on Mondays, 173 on Tuesdays, 167 on Wednesdays, 143 on Thursdays and 109 on Fridays was fed into the computer and the performance of the system simulated over 10 years, the annual delay time was found to be 49.8 hours, and the average number of cases delayed in a year was only 14.7 or 6.1% of the total of 241 cases a year. In other words, the average delay per week was less than an hour (57.475 minutes to be exact) and each case, which was delayed due to the lack of enough potential jurors in the available pool, had to wait on an average for 3.4 hours before the pool size was increased by persons returning from on-going voir dire and trials enough to provide a panel. Such a delay occurred only about once every three weeks.

At this juncture it is proper to point out three features in the simulation which deviate from real-life operation and result in abnormally high peak usages at certain times in the simulated performance. Firstly, if a case requires a panel of 50, for example, it is assumed in the simulated operation that all 50 persons are sent to the voir dire at one time and not in two groups of 25 with the second group of 25 being sent only if the first group has been unable to provide a fully jury, as is often the case in actual operation. Secondly, the simulated performance shows the entire panel as being in use until the end of the voir dire and does not show persons being released during the voir dire and returning to the pool. Thirdly, if a panel of 50 has been requisitioned and there are only 49 persons in the available pool, the case is shown in the simulated performance as being delayed whereas in actual operation the voir dire may start with only 49 persons. This means that the daily maximum usage in the simulated performance is higher than what it would be in real-life operation. Consequently, any proposal to reduce the pool size to meet the maximum usage, say, 95% of the time in the simulated performance means that the same pool size in real-life operation would meet the maximum usage more than 95% of the time. Thus, the actual cost saving from such a proposal would be greater than that shown by using the simulation.

Figure 15(a)-(e) shows both a table and a graph of the upper end of the distribution of daily maximum usages for different days of the week which was obtained by running the simulation without any limit on the pool size. It can be seen from the figure that on Mondays, for example, an average pool size of 166 would have been sufficient to meet the maximum usage 95% of the time.

FIGURE 15(a)

PROPOSAL NO. 1

DISTRIBUTION OF SIMULATED MAXIMUM USAGE
FOR MONDAYS

Usage	Frequency of Occurrence	Cumulative Percentage	
121-140	67	88.08	90% Usage = 146.89
141-160	29	93.65	95% Usage = 165.84
161-180	24	98.27	
181-200	3	98.85	
201-220	2	99.23	
221-240	2	99.62	
241-260	2	100.00	

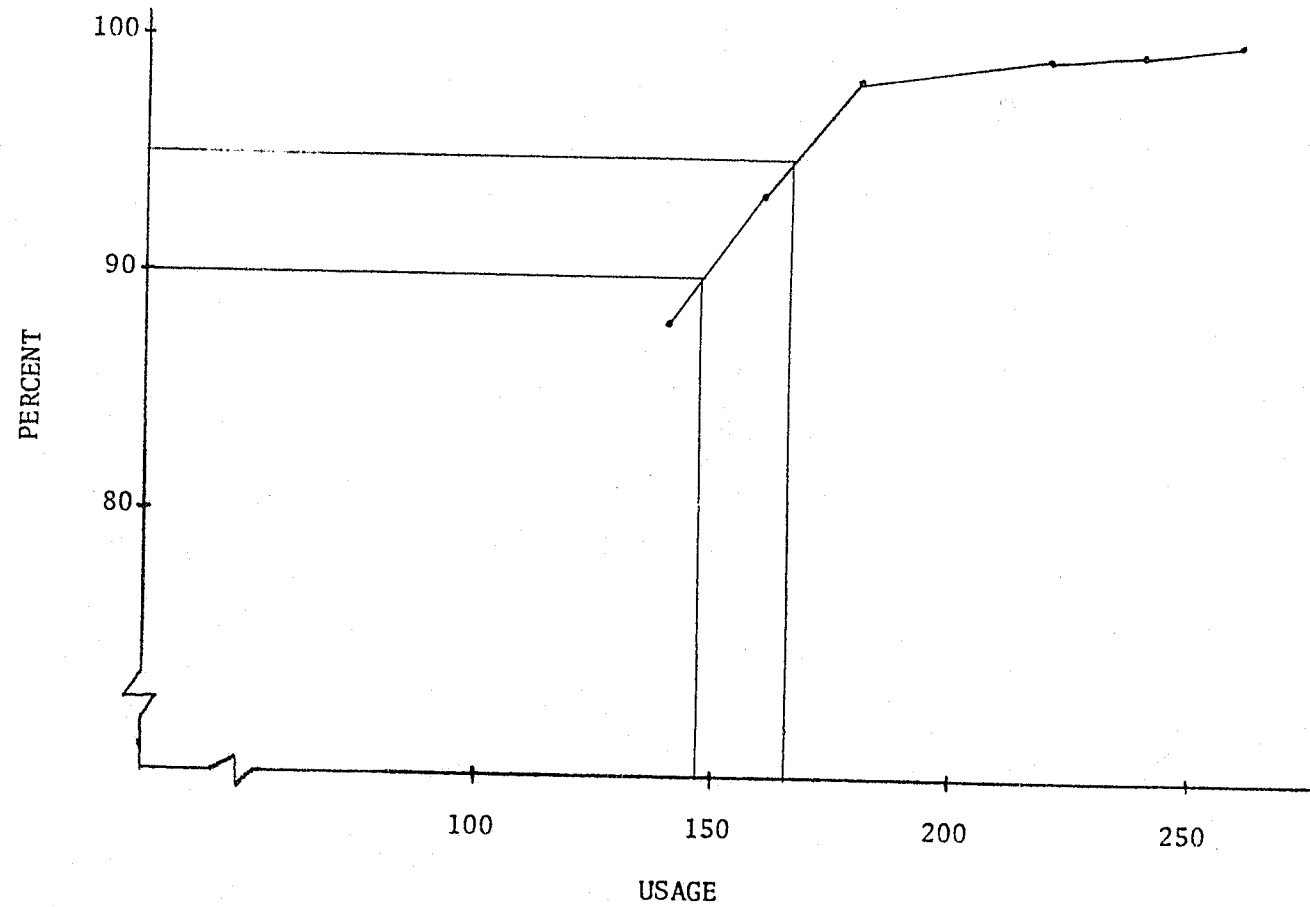


FIGURE 15(b)

PROPOSAL NO. 1

DISTRIBUTION OF SIMULATED MAXIMUM USAGE
FOR TUESDAYS

Usage	Frequency of Occurrence	Cumulative Percentage	
121-140		87.88	90% Usage = 145.96
141-160	37	95.00	95% Usage = 160.00
161-180	12	97.31	
181-200	7	98.65	
201-220	5	99.62	
221-240	1	99.81	
241-260	0	99.81	
261-280	0	99.81	
281-300	1	100.00	

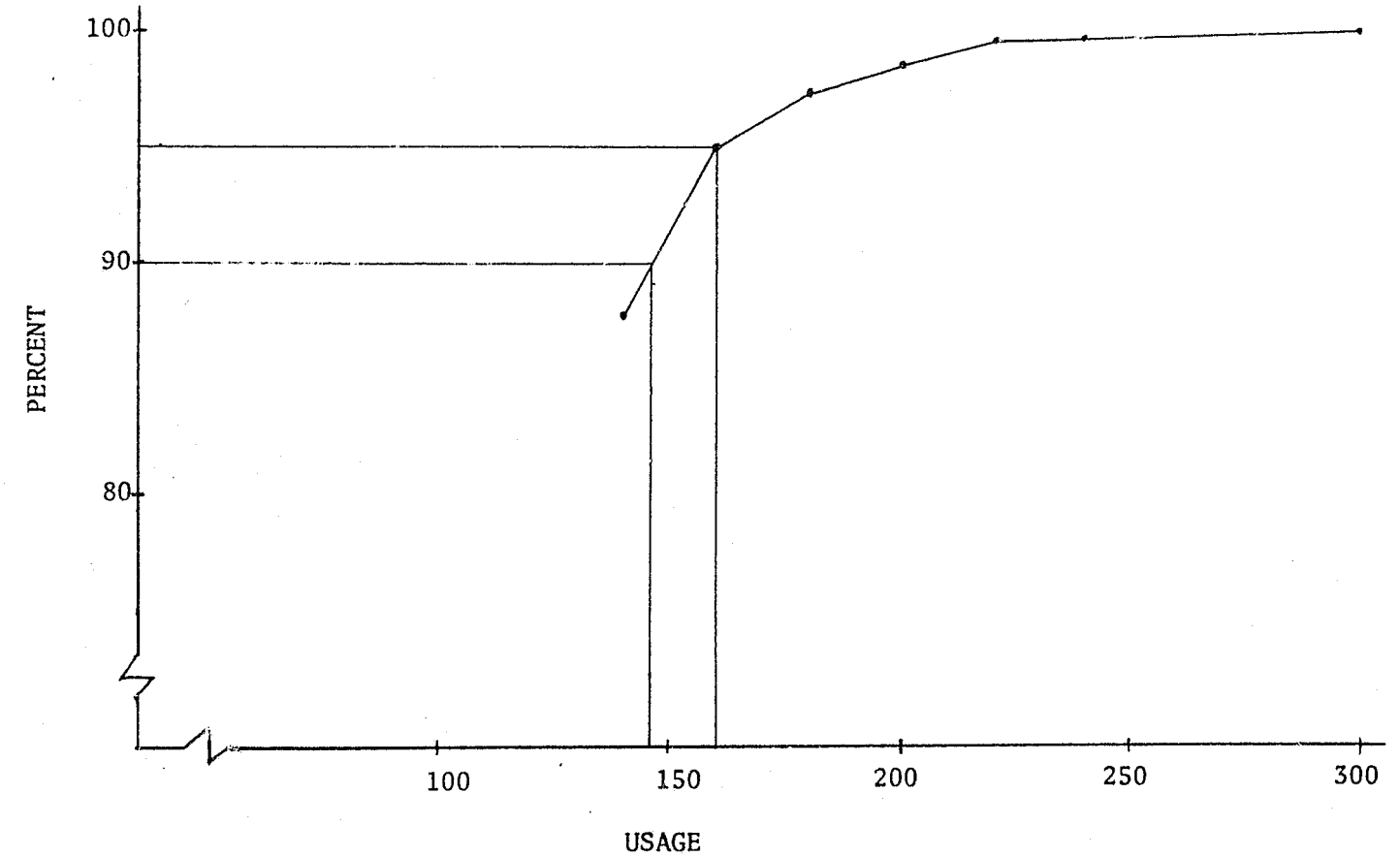


FIGURE 15(c)

PROPOSAL NO. 1

DISTRIBUTION OF SIMULATED MAXIMUM USAGE
FOR WEDNESDAYS

Usage	Frequency of Occurrence	Cumulative Percentage
101-120		85.77
121-140	38	93.08
141-160	18	96.54
161-180	13	99.04
181-200	4	99.81
201-220	0	99.81
221-240	0	99.81
241-260	0	99.81
261-280	1	100.00

90% Usage = 131.57
95% Usage = 151.10

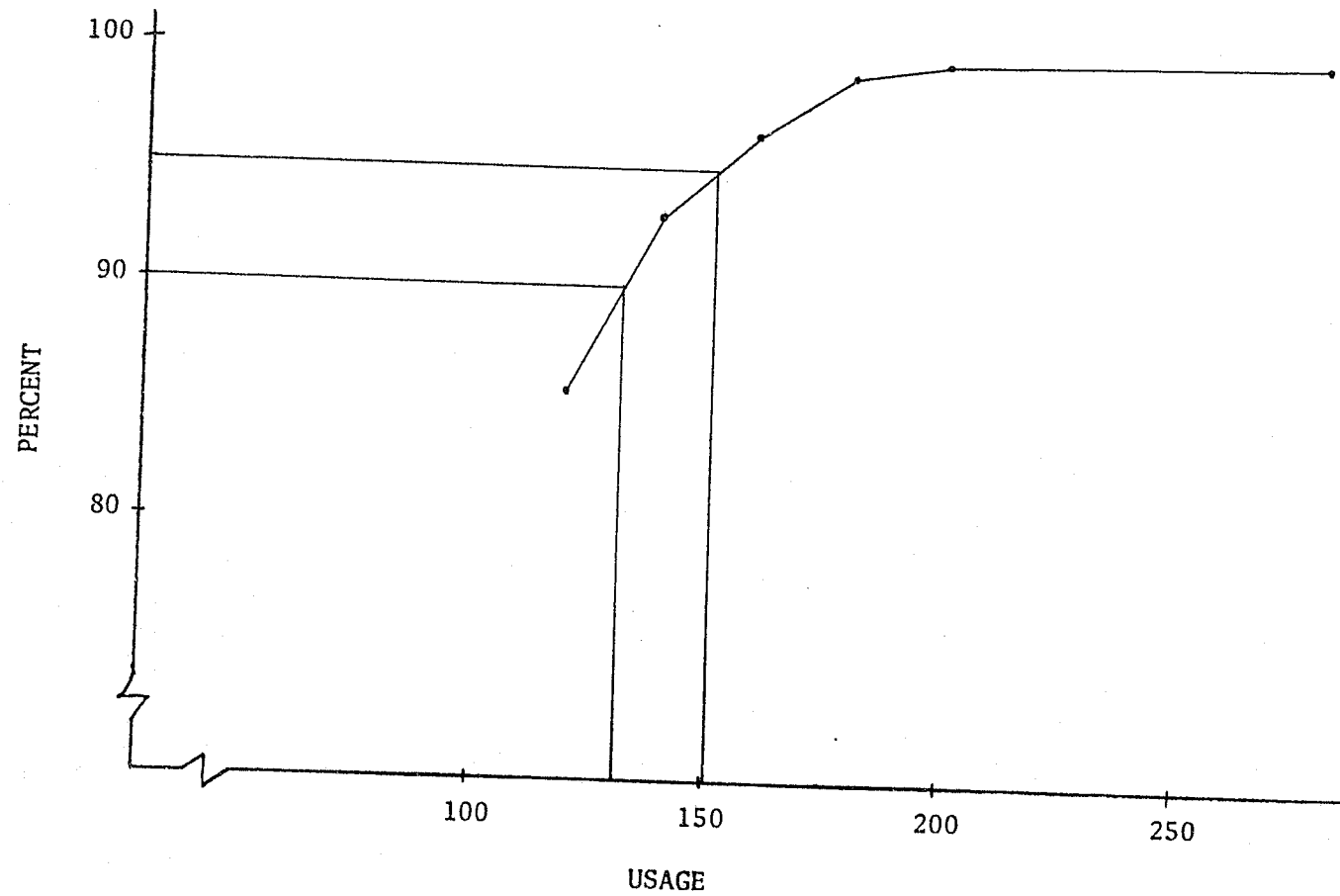


FIGURE 15(d)

PROPOSAL NO. 1

DISTRIBUTION OF SIMULATED MAXIMUM USAGE
FOR THURSDAYS

Usage	Frequency of Occurrence	Cumulative Percentage
101-120		88.08
121-140	34	94.62
141-160	10	96.54
161-180	8	98.08
181-200	6	99.23
201-220	1	99.42
221-240	3	100.00

90% Usage = 125.87
95% Usage = 143.96

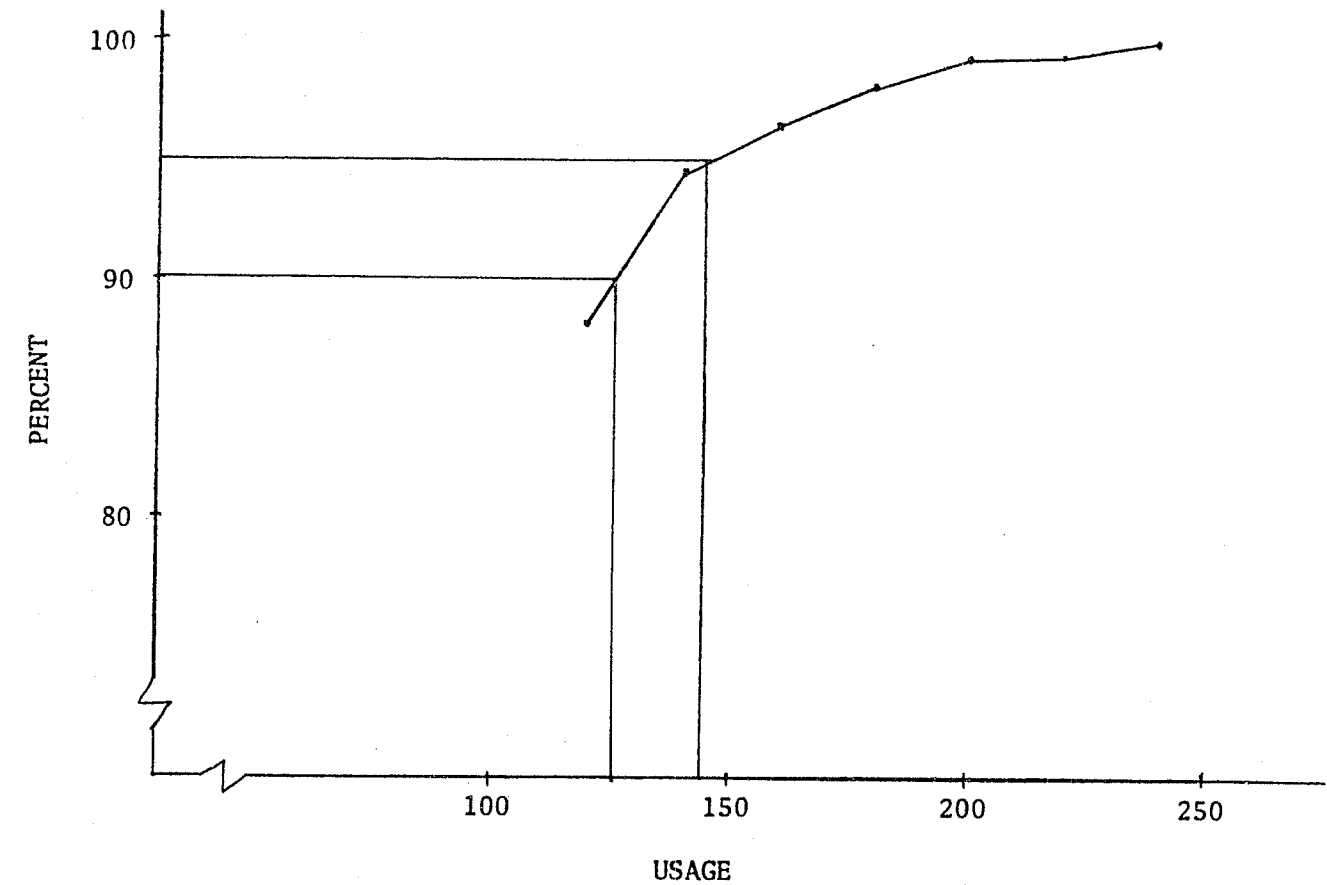


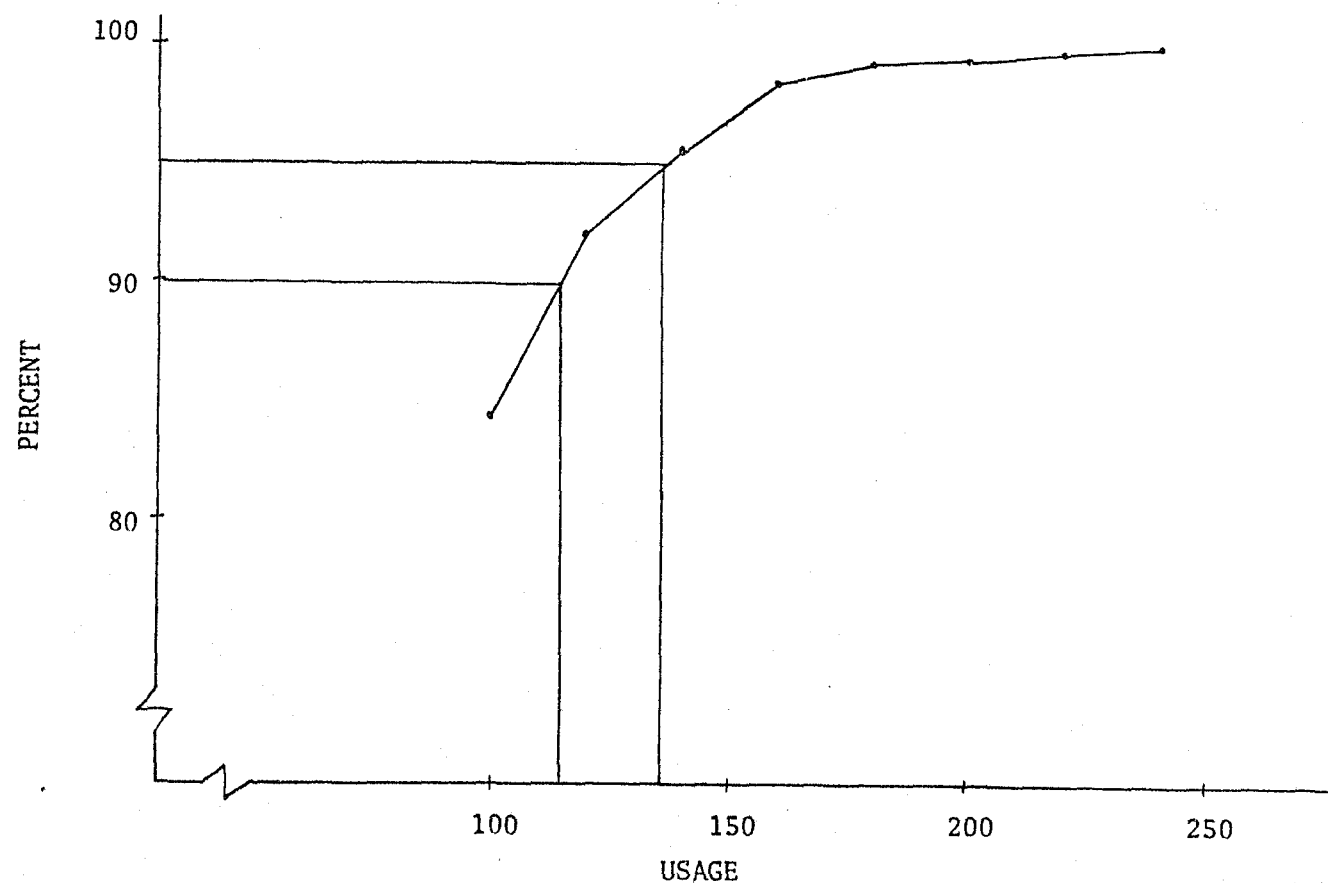
FIGURE 15(e)

PROPOSAL NO. 1

DISTRIBUTION OF SIMULATED MAXIMUM USAGE FOR FRIDAYS

Usage	Frequency of Occurrence	Cumulative Percentage
81-100		84.42
101-120	40	92.12
121-140	19	95.77
141-160	14	98.46
161-180	4	99.23
181-200	1	99.42
201-220	2	99.81
221-240	1	100.00

90% Usage = 114.49
95% Usage = 135.78



An average pool size of 147 would have been sufficient 90% of the time.

No other change in the operation of the court system would have been required.

The pool sizes required to meet the maximum usage 95% of the time for the rest of the week are: 160 on Tuesday, 152 on Wednesday, 144 on Thursday, and 136 on Friday. The pool sizes required to meet the maximum usage 90% of the time are: 146 on Tuesday, 132 on Wednesday, 126 on Thursday, and 115 on Friday.

Running the simulation with the pool sizes at the level of 95% probability of meeting the maximum usage resulted in an annual delay time of 46.2 hours, with the number of cases delayed per year being 17.2. In other words, as compared to the actual pool size situation, the annual delay time decreased by 3.6 hours and the percentage of cases delayed in a year went up to 7.1% of the total. The decrease in the delay time may appear counter-intuitive until one considers the fact that the pool sizes required to meet the maximum usage 95% of the time are lower than the actual average pool sizes on only three days of the week. On Thursday, and particularly on Friday, the proposal pool sizes are higher. Nevertheless, some cost saving is achieved. As compared to the actual pool sizes, the proposed pool sizes will mean that on the average 3.2 less persons will need to be called every day, resulting in an annual saving in jury fee costs alone of \$6,400. The saving in costs to the community, being the value of the decrease in the total amount of time spent in jury service, is much higher, amounting to \$32,000 per year.

With the pool sizes at the level of 90% probability of meeting the maximum usage the annual delay time was found to be 127 hours and the number of cases delayed per year was 35.2. Or, in other words, the annual delay

time increased by 77.2 hours and the percentage of cases delayed went up to 14.6% of the total. The saving in jury fee costs in this case amounts to \$43,200 whereas the saving in costs to the community is \$216,000.

The results of this proposal are summarized in Figure 16:

	Monday	Tuesday	Wednesday	Thursday	Friday	Annual delay time (hours)	Percentage of cases delayed	Annual saving in jury fee	Annual saving in costs to community
Actual pool	182	173	167	143	109	49.8	6.01	---	---
95% pool	166	160	152	144	136	46.2	7.1	\$ 6,400	\$ 32,000
90% pool	147	146	132	126	115	127.0	14.6	\$43,200	\$216,000

FIGURE 16

Proposal #2:

The analysis in Chapter IV of voir dire panel sizes for civil cases in the Supreme and County Courts revealed that a panel of 18 would have been sufficient to pick a jury in more than 95% of the cases which went on to trial. If the cases which settled in voir dire without the jury being picked are included, the percentage of cases in which a panel of 18 persons would have sufficed rises even higher. Therefore, it is proposed that for all civil cases in the Supreme and County Courts, irrespective of whether there are two or three parties involved in the case, no more than 18 persons should form the voir dire panel initially. Later, for those 5% of the cases in which more than 18 persons are required, a further group of potential jurors may be sent to complete the process of selecting the jury.

The number of persons required to pick a jury depends to a large extent on the number of peremptory challenges which each party in the case is allowed to make. This number is established by statute and varies from one type of case to another. What is important to note is that it is not being suggested here that the number of peremptory challenges currently allowed for different types of cases be reduced. Keeping this number unchanged would still mean that 18 persons would be sufficient to pick a jury in 95% of the cases.

Thus, after changing the voir dire panel sizes for all civil cases in the Supreme and County Courts to 18, the simulation was run without any limit on the pool to derive the new distribution of daily maximum usage for each day of the week. The upper end of this distribution is shown as a table and a graph in Figure 17(a)-(e). The pool sizes at the level of 95% probability of meeting the maximum usage were found to be: 157 on Monday and Tuesday, 148 on Wednesday, 139 on Thursday, and 132 on Friday. The pool sizes at the level of 90% probability of meeting the maximum usage were: 139 on Monday, 140 on Tuesday, 128 on Wednesday, 120 on Thursday, and 112 on Friday.

Using the 95% pool sizes the annual delay time was found to be 47.5 hours and the number of cases delayed per year was 16.2. Therefore, compared with actual pool sizes and enlarged voir dire panels, the annual delay time decreased by 2.3 hours and the percentage of cases delayed went up to 6.7% of the total. The annual saving in jury fee costs in this case would be \$16,400, or \$10,000 more than the corresponding saving under Proposal 1. The saving in costs to the community would be \$82,000 per year, or \$50,000 more than that under Proposal 1.

FIGURE 17(a)

PROPOSAL NO. 2

DISTRIBUTION OF SIMULATED MAXIMUM USAGE
FOR MONDAYS

Usage	Frequency of Occurrence	Cumulative Percentage
101-120		79.42
121-140	61	91.15
141-160	25	95.96
161-180	13	98.46
181-200	2	98.85
201-220	2	99.23
221-240	4	100.00

90% Usage = 138.04
95% Usage = 156.01

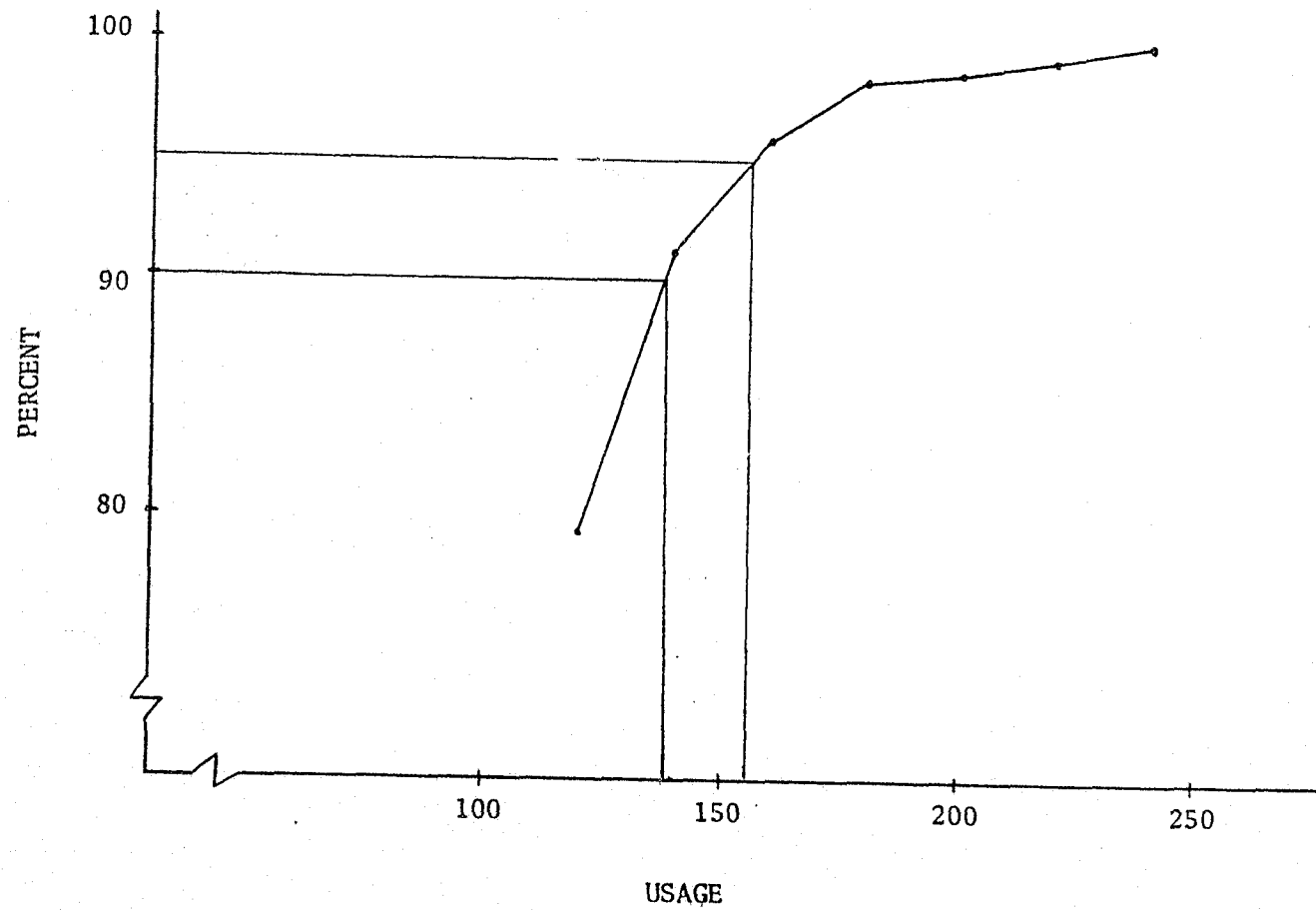


FIGURE 17(b)

PROPOSAL NO. 2

DISTRIBUTION OF SIMULATED MAXIMUM USAGE
FOR TUESDAYS

Usage	Frequency of Occurrence	Cumulative Percentage
121-140		90.00
141-160	32	96.15
161-180	8	97.69
181-200	6	98.85
201-220	5	99.81
221-240	0	99.81
241-260	0	99.81
261-280	1	100.00

90% Usage = 140.00
95% Usage = 156.26

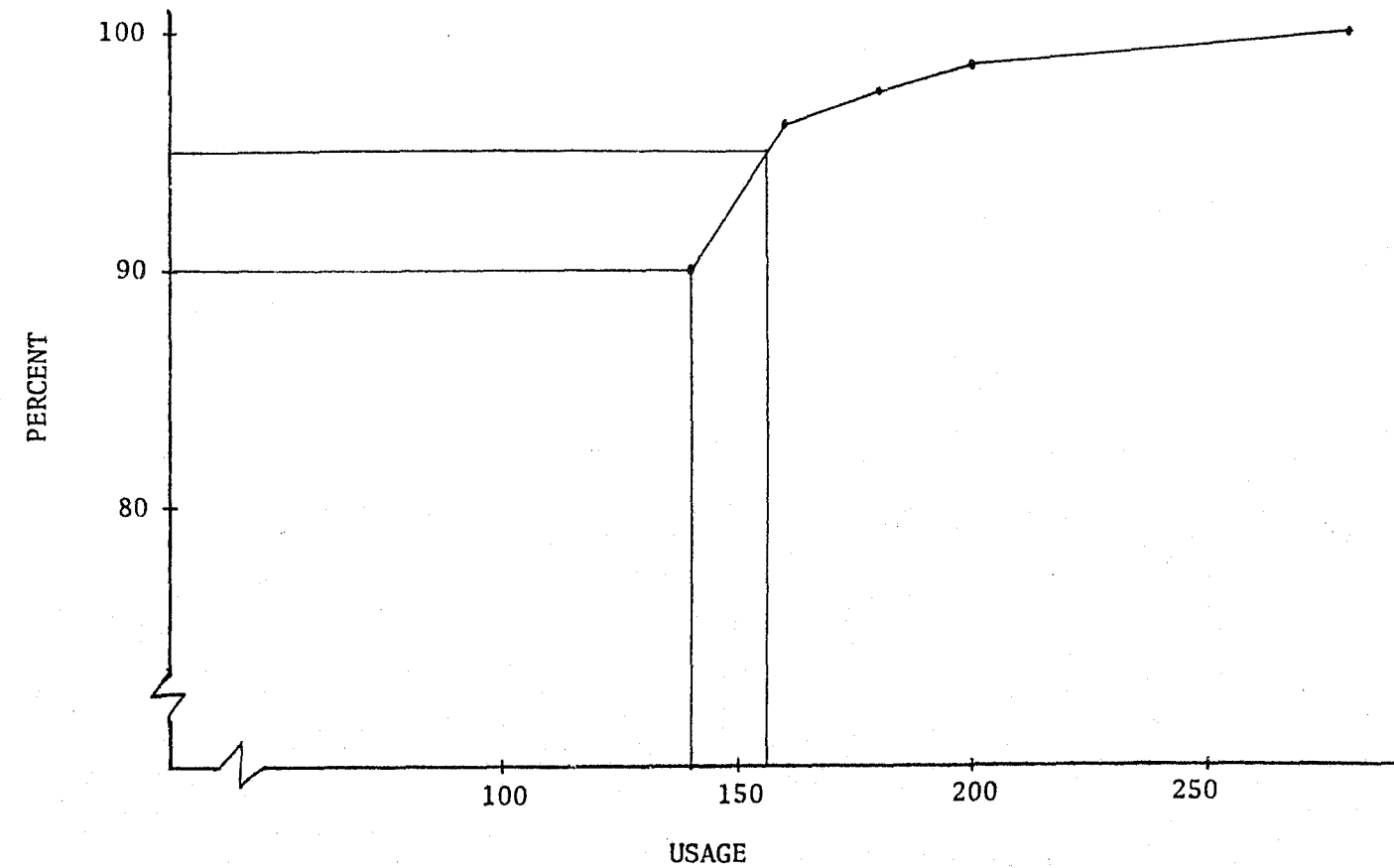


FIGURE 17(c)

PROPOSAL NO. 2

DISTRIBUTION OF SIMULATED MAXIMUM USAGE
FOR WEDNESDAYS

Usage	Frequency of Occurrence	Cumulative Percentage
101-120		87.88
121-140	29	93.46
141-160	21	97.50
161-180	9	99.23
181-200	3	99.81
201-220	0	99.81
221-240	0	99.81
241-260	0	99.81
261-280	1	100.00

90% Usage = 127.60
95% Usage = 147.62

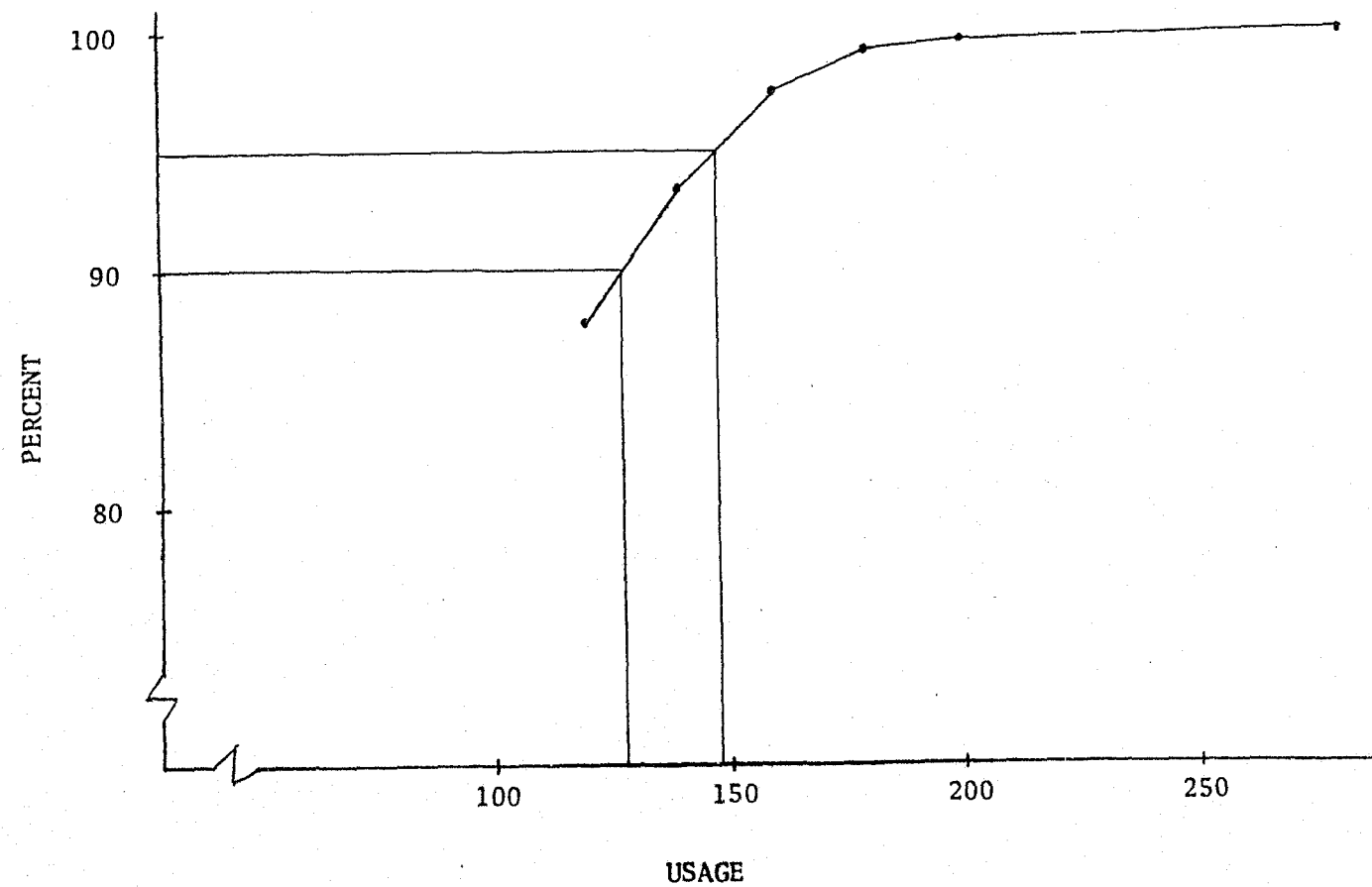


FIGURE 17(d)

PROPOSAL NO. 2

DISTRIBUTION OF SIMULATED MAXIMUM USAGE
FOR THURSDAYS

Usage	Frequency of Occurrence	Cumulative Percentage
101-120		90.00
121-140	28	95.38
141-160	9	97.12
161-180	6	98.27
181-200	6	99.42
201-220	1	99.62
221-240	2	100.00

90% Usage = 120.00
95% Usage = 138.59

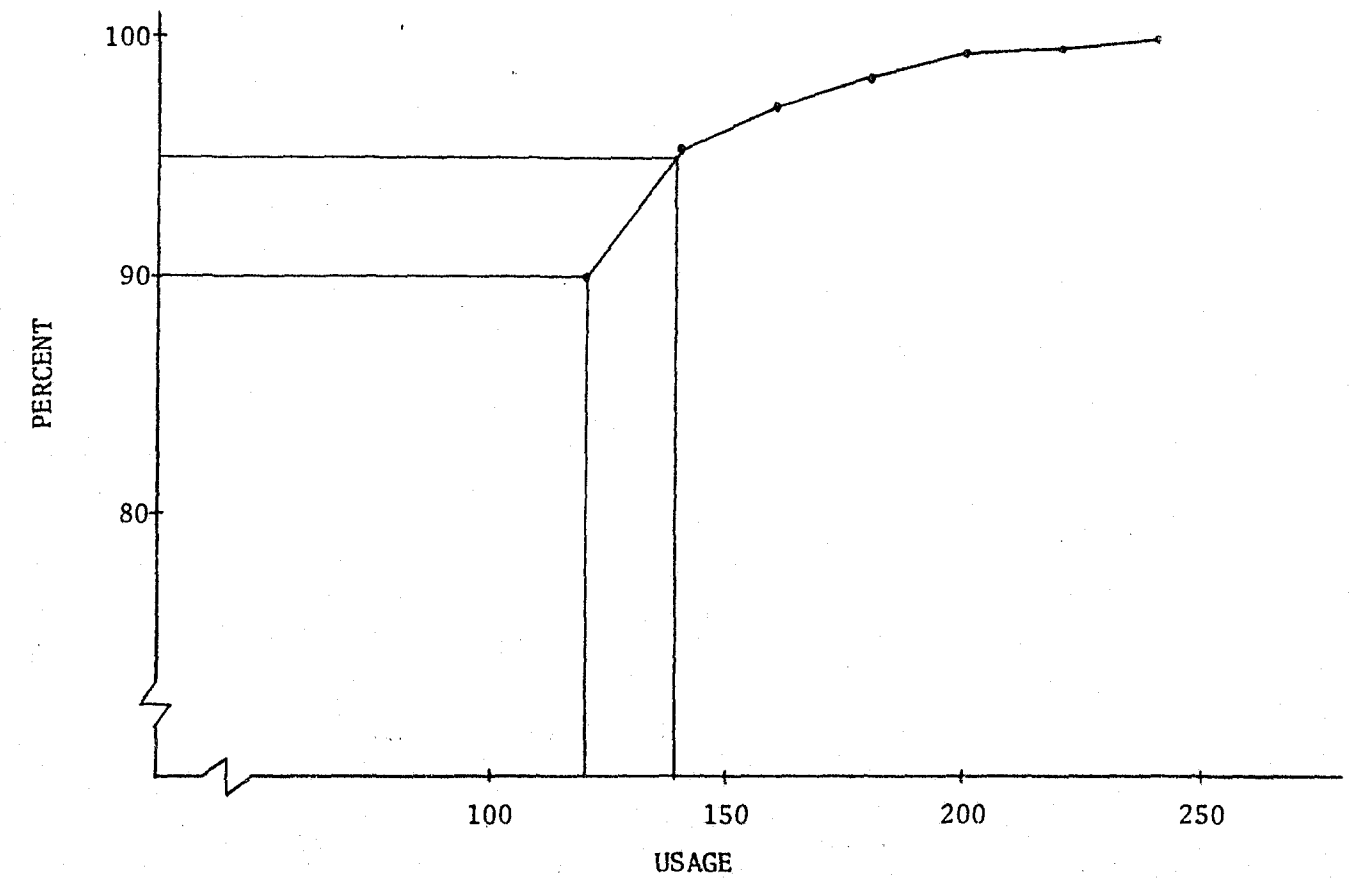


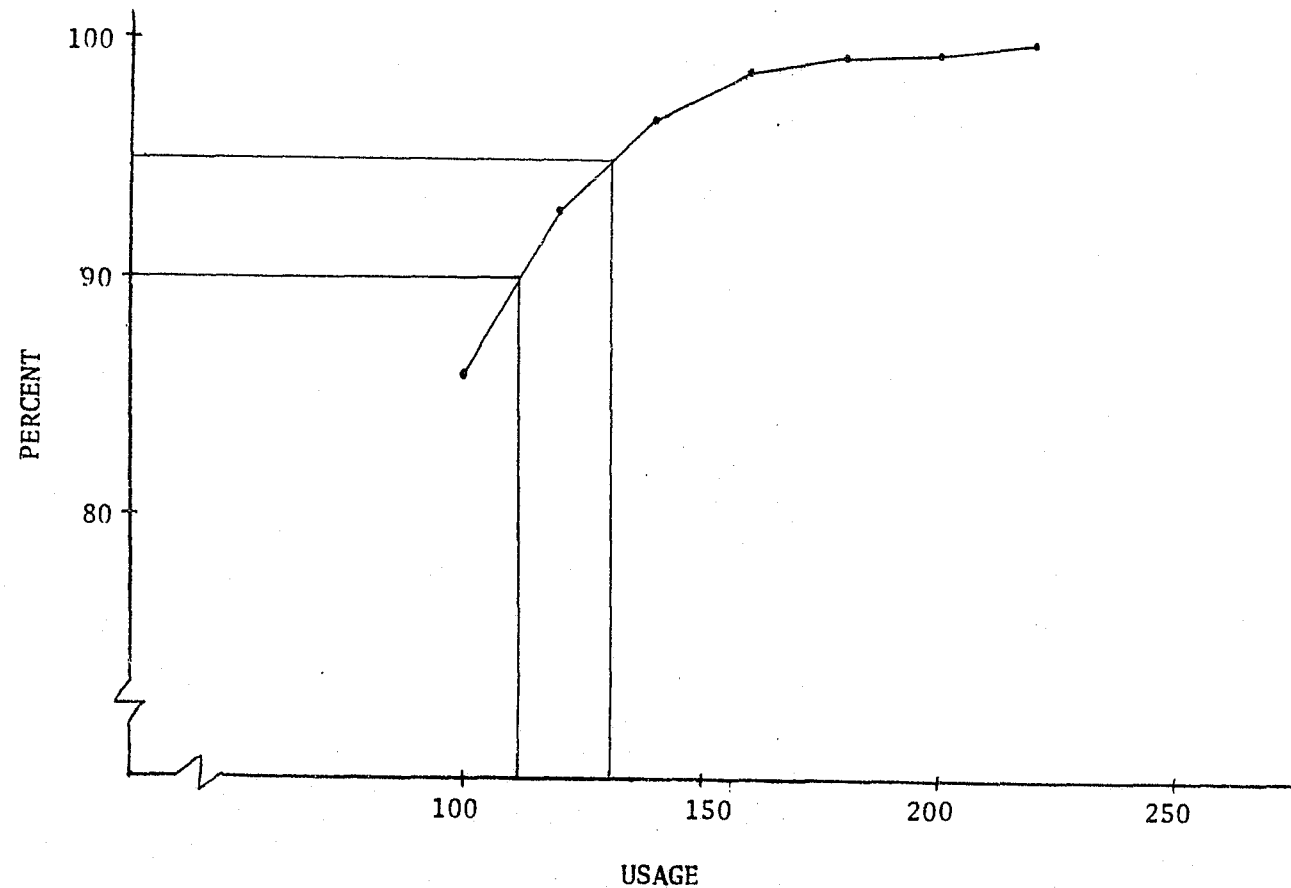
FIGURE 17(e)

PROPOSAL NO. 2

DISTRIBUTION OF SIMULATED MAXIMUM USAGE
FOR FRIDAYS

Usage	Frequency of Occurrence	Cumulative Percentage
81-100		85.96
101-120	36	92.88
121-140	20	96.73
141-160	11	98.85
161-180	2	99.23
181-200	1	99.42
201-220	3	100.00

90% Usage = 111.68
95% Usage = 131.01



With the 90% pool size the annual delay time was 140.1 hours and the number of cases delayed was 34.9. Thus, compared to the actual operation, the annual delay time increased by 90.3 hours and the percentage of cases delayed went up to 14.5%. The annual saving in jury fee costs would now be \$54,000, which is \$10,000 more than the corresponding saving under Proposal 1, whereas the saving in costs to the community would be \$270,000, or \$54,000 more than that under Proposal 1.

A summary of the results of this proposal are given in Figure 18:

	Monday	Tuesday	Wednesday	Thursday	Friday	Annual delay time (hours)	Percentage of cases delayed	Annual saving in jury fee	Annual saving in costs to community
Actual pool	182	173	167	143	109	49.8	6.1	---	---
95% pool	157	157	148	139	132	47.5	6.7	\$16,400	\$ 82,000
90% pool	139	140	128	120	112	140.1	14.5	\$54,000	\$270,000

FIGURE 18

CHAPTER VI

Proposal #3:

The current practice in the Monroe County Court system of concentrating the start of voir dires during certain hours of the day and starting more voir dires on Mondays and Tuesdays than during the rest of the week, has already been discussed in Chapter IV. It was seen, for example, that during the six months from September 1973 to February 1974, only one voir dire was started before 10:00 in the morning. The reason behind this is the policy followed by the judges of attending to the calendar calls the first thing in the morning before beginning or resuming any voir dires or trials scheduled for the day. These calendar calls usually take about an hour or more to complete, and it is only after they are finished that the judge begins a voir dire or resumes an on-going trial. As the calendar calls come to an end the judges start calling for voir dire panels which accounts for the fact that out of the 254 voir dires observed 110 (43.31%) began between 10:00 and 11:30. If voir dires are started uniformly throughout the day and week, the demand for potential jurors is likely to be more even because sharp and extreme peak demands caused by many simultaneous voir dires will be avoided.

In order to achieve a smooth usage pattern, it is therefore proposed that firstly, on the average, the same number of voir dires be started on any day of the week, and secondly, voir dire starts be staggered during the day. Perhaps judges and lawyers can start voir dires, especially for those criminal cases involving large panels, during the off-peak hours from 3:00 to 5:00. Or judges may have their calendar calls at different hours of the

day so that non-jury trials, pre-trial hearings, motions, etc. may be used to fill in the gaps rather than be allowed to dominate the scheduling of jury trials.

There is no doubt a lot of benefit to be derived from having calendar calls at the beginning of each day. It leads to less confusion and uncertainty regarding the scheduling of the non-trial activities of the court. It also means that the judge does not have to interrupt voir dres or trials during the course of the day in order to attend to these other activities. Nevertheless, it is necessary to point out the trade-off involved in not having voir dres start uniformly throughout the day. Bunching up the start of voir dres, thus increasing the likelihood of many of them occurring simultaneously, creates very high peak demands on juror use and necessitates the calling of a larger daily pool. In order to examine the alternative of staggered voir dres, a few changes were made in the simulation program.

Firstly, to show the balanced start of voir dres over the week, only one mean inter-arrival time was used instead of five different means for the five days of the week. Secondly, to show the balanced start over the day, and to reduce the possibility of too many simultaneous voir dres, inter-arrival times were generated from a normal distribution with a mean adjusted to produce approximately the same number of cases per year as the original simulation. Thirdly, the time period in which voir dres were not allowed to start was changed to include the last 15 minutes before the lunch break and the last half hour before the end of the day. All other conditions remained unchanged.

The first run was made without a limit on the pool size in order to determine the distribution of maximum daily usages over the 10 year period. The upper portion of this distribution is shown in Figure 19. The pool size which would have met the daily usage 95% of the time was found to be 136. The pool size at the level of 90% probability of meeting the maximum usage was 120.

Using the daily pool size of 136 the annual delay time was 36.4 hours and the total number of cases delayed was 14.2. Compared to the performance of the system with the actual daily pool sizes, this meant a decrease in the annual delay time of 13.4 hours and a decrease in the percentage of cases delayed to 5.9% of the total. The annual saving in jury fee costs in this case would be \$37,600, which is \$31,200 more than the corresponding saving under Proposal 1. The saving in costs to the community would be \$188,000, or \$156,000 more than that under Proposal 1.

With the pool size of 120 the annual delay time was 112.2 hours or an increase of 62.4 hours over the actual pool size performance. The number of cases delayed was 31.8, or 13.2% of the total. The annual saving in jury fee costs in this case would be \$69,600, which is \$26,400 more than the corresponding saving under Proposal 1. Whereas the saving in cost to the community would be \$348,000, or \$132,000 more than that under Proposal 1.

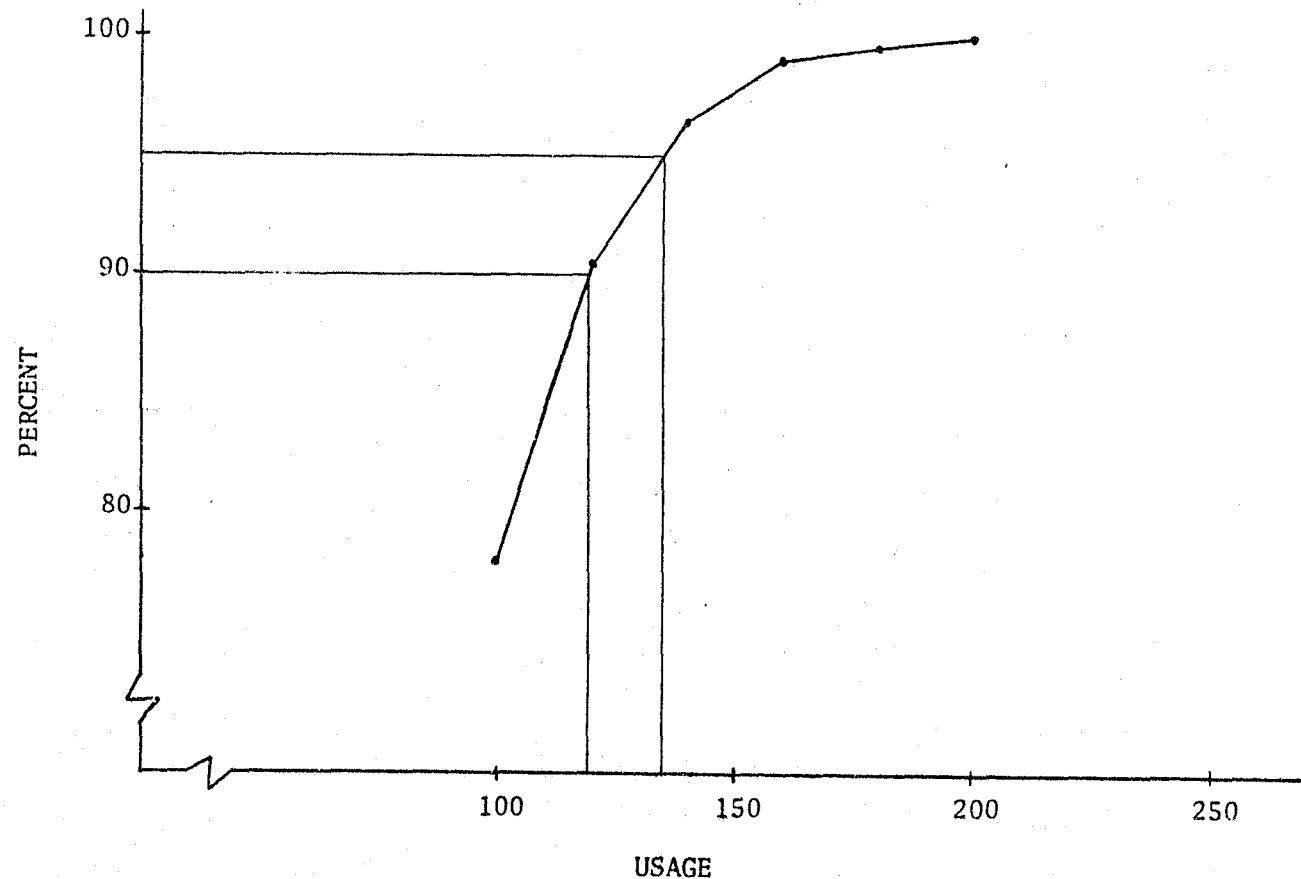
The results of this proposal are summarised in Figure 20:

FIGURE 19

PROPOSAL NO. 3

DISTRIBUTION OF SIMULATED DAILY MAXIMUM USAGE

Usage	Frequency of Occurrence	Cumulative Percentage	
81-100		78.00	90% = 119.20
101-120	325	90.50	95% = 135.10
121-140	155	96.46	
141-160	67	99.04	
161-180	17	99.69	
181-200	8	100.00	



	Monday	Tuesday	Wednesday	Thursday	Friday	Annual delay time (hours)	Percentage of cases delayed	Annual saving in jury fee costs	Annual saving in costs to community
Actual Pool	182	173	167	143	109	49.8	6.1	---	---
95% Pool	136	136	136	136	136	36.4	5.9	\$37,600	\$188,000
90% Pool	120	120	120	120	120	112.2	13.2	\$69,600	\$348,000

FIGURE 20

It should be noted that the proposed pool sizes do not distinguish between "first-weekers" and "second-weekers". To the extent that "second-weekers" may be excused on Friday and are not available in the pool, the delay times have been underestimated for Friday.

Proposal #4:

This is a combination of the second and third proposals. In other words, it is suggested that in addition to the staggering of voir dires, the panel sizes for civil cases in the Supreme and County Courts should at the same time be reduced to 18.

The distribution of daily maximum usages simulated under this proposal is given in Figure 21. The pool size at the level of 95% probability of meeting the maximum usage was found to be 132. The pool size at the level of 90% probability of meeting the maximum usage was 117. Using the pool size of 132, the annual delay time was found to be 36.2 hours, or a decrease of 13.6 hours. The number of cases delayed was 12.8, or 5.3% of the total. The annual saving in jury fee costs would be \$45,600, which is \$8,000 more than the corresponding

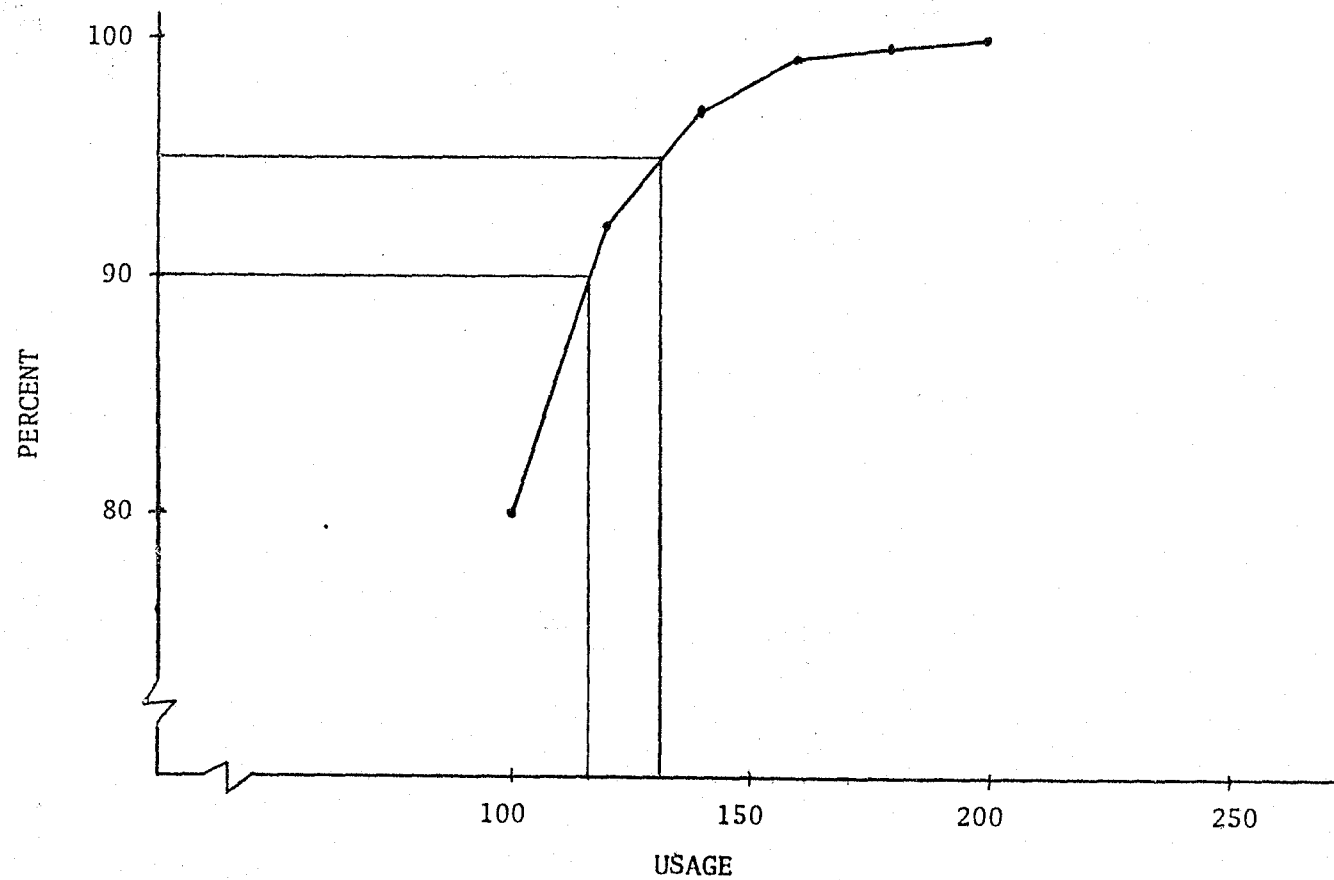
FIGURE 21

PROPOSAL NO. 4

DISTRIBUTION OF SIMULATED DAILY MAXIMUM USAGE

Usage	Frequency of Occurrence	Cumulative Percentage
81-100		80.54
101-120	302	92.15
121-140	127	97.04
141-160	54	99.12
161-180	17	99.77
181-200	6	100.00

90% = 116.30
95% = 131.66



saving under Proposal 3. The saving in costs to the community would be \$228,000, or \$40,000 more than the corresponding saving under Proposal 3. With the pool size of 117 the annual delay time was 103.6 hours, an increase of 53.8 hours. The number of cases delayed was 29, or 12% of the total. The annual saving in jury fee costs in this case would be \$75,600, which is \$6,000 more than the corresponding saving under Proposal 3, whereas the saving in costs to the community would be \$378,000 or \$30,000 more than that under Proposal 3.

A summary of the results for this proposal is given in Figure 22:

	Monday	Tuesday	Wednesday	Thursday	Friday	Annual delay time (hours)	Percentage of cases delayed	Annual saving in jury fee costs	Annual saving in costs to community
Actual Pool	182	173	167	143	109	49.8	6.1	--	--
95% Pool	132	132	132	132	132	36.2	5.3	\$45,600	\$228,000
90% Pool	117	117	117	117	117	103.6	12.0	\$75,600	\$378,000

FIGURE 22

CHAPTER VII

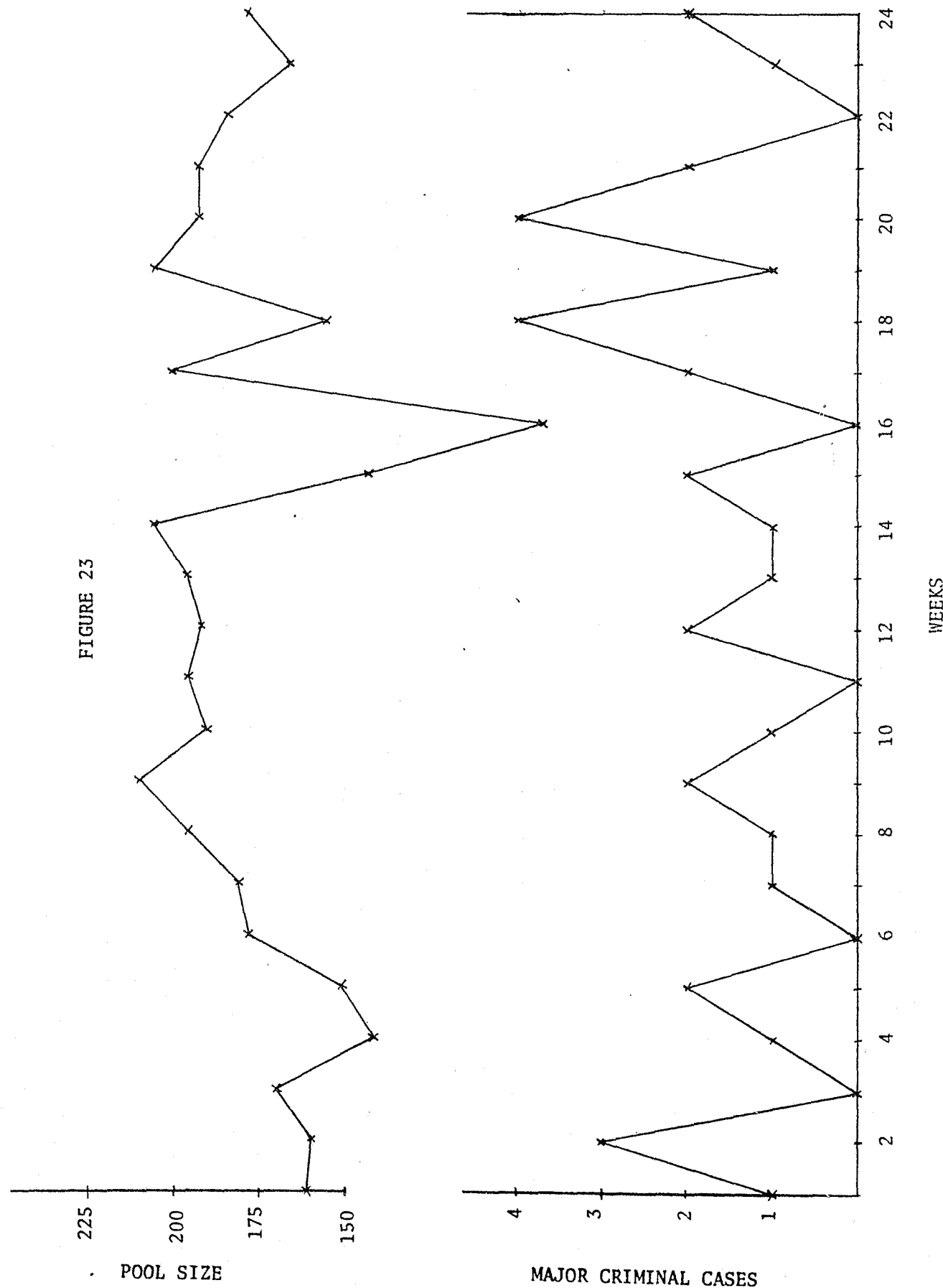
Proposal #5:

There was some discussion in Chapter IV of the problem of very large voir dire panels required in major criminal cases, and how such panel sizes can create extreme peak demands on juror usage. It was also noted that given the nature of criminal cases and keeping the present number of pre-emptory challenges allowed to each party unchanged, not much reduction in the panel size would be possible without increasing unduly the possibility of the initial panel failing to produce a jury and hence causing delays in the voir dire process.

One possible solution would be to try and predict two weeks in advance, when the potential jurors are summoned, the approximate date that the voir dire of a major criminal case is likely to start and then to call a larger pool only on the day of that voir dire. The six months' data were examined to see whether the jury officials of the Monroe County court system do in fact make an effort to predict the start of major criminal cases. Figure 23 is a graph of the 24 work weeks during the six month period showing the Monday morning pool size for each week and the number of major criminal cases requiring panel sizes greater than 30 during that week. From the graph it appears that the jury officials do not predict the start of large panel criminal cases.

Discussion on this subject with the jury officials showed their belief that due to the many uncertainties which plague the judicial system in general and criminal cases in particular, the starting date of a criminal case,

FIGURE 23



especially one involving a major crime, is almost impossible to predict two weeks in advance with any degree of reliability. A case scheduled to start on a particular day may be postponed due to a variety of reasons--either the defense or the prosecution may request more time to prepare their cases, a witness may be unavailable, the judge may be trying another case, the defendant may plead guilty to a lesser charge, etc.

Figure 23 also indicates that as far as the Monroe County court system is concerned the occurrence of major criminal cases is fairly even during the year averaging 1 or 2 cases a week. Of the 24 weeks observed only 3 weeks had 3 or more such cases starting, and only five weeks had no cases starting. Therefore, it would appear that not much savings can be realized from efforts to predict the start of major criminal cases. Nevertheless, it would be useful to determine what the cost savings would be if such cases could be predicted with perfect accuracy.

In order to circumvent the problem of predicting the exact starting date of voir dires, the study suggests that perhaps what is required is not the prediction of the exact date--which is probably impossible as the jury officials maintain. What will suffice to produce substantial savings is to predict a range of days, say a week, during which a major case is likely to begin its voir dire. If this period can be predicted two weeks in advance, then a larger number of potential jurors may be summoned to appear two weeks later on the Monday morning, if one or more major criminal cases are expected to begin during the next week. If no such cases are expected to start, the regular pool size should be called. If one major criminal case is expected

to start, 20 more persons should be called; if two cases have been predicted, 40 more should be called; and so on. When the new jurors report two weeks later on the Monday morning, the closer proximity in time should make it much easier to predict with greater accuracy whether any major criminal cases are expected to start during that week. If no cases are expected to start--in other words, the previous prediction has been wrong--the extra number of persons called should be randomly selected from the panel and excused. In this way, only one day's cost for the extra persons will have been incurred. However, if a case is expected to start sometime during that week, 20 persons should be selected at random from the pool and dismissed for the day, and told to remain on call so that they can be brought back into the pool on the day that the voir dire does actually start. When the voir dire ends later that day (very few voir dire, even for major criminal cases, require more than one day) and the rest of the panel returns, 20 persons should again be randomly selected from the available pool and excused. In this way, the extra persons will need to be called in, and the costs for them incurred, on only two days. The six month's findings show 34 criminal cases which required a panel greater than 30--or about 70 cases annually. Assuming that about one-fifth of such cases will start on Mondays (so that the cost for the extra persons will be incurred for only one day instead of two), one can estimate that 20 extra persons will be required to be called in on approximately 125 days annually, involving an added cost of about \$20,000 to the court system in terms of juror fees.

In order to determine the size of the regular pool, the simulation program was amended slightly to eliminate the possibility of any voir dire

panels of over 30 persons. Such panel sizes were reduced to 30 with the assumption that extra persons would be called in when needed, as outlined above. The assumptions of staggered voir dire starts and reduced panel sizes for civil cases were retained. The resulting distribution of daily maximum usage is shown in Figure 24. The pool size at the level of 95% probability of meeting the maximum usage was found to be 109. The pool size at the level of 90% probability of meeting the maximum usage was 98.

Using the pool size of 109, the annual delay time decreased to 33 hours. The number of cases delayed was 13.4, or 5.6% of the total. From the resultant gross annual savings, the amount of \$20,000 has to be deducted to obtain a net annual savings in jury fee costs alone of \$71,600, which is \$26,000 more than the corresponding saving under Proposal 4. The net saving in costs to the community would be \$358,000 or \$130,000 more than that under Proposal 4. Using the pool size of 98 the annual delay time was 98.7 hours, an increase of 48.9 hours, while the number of cases delayed increased to 32.6, or 13.5% of the total. The net annual savings in jury fee costs in this case would be \$93,600 which is \$18,000 more than the corresponding saving under Proposal 4, whereas the net saving in costs to the community would be \$468,000, or \$90,000 more than that under Proposal 4.

The results of this proposal are summarized in Figure 25:

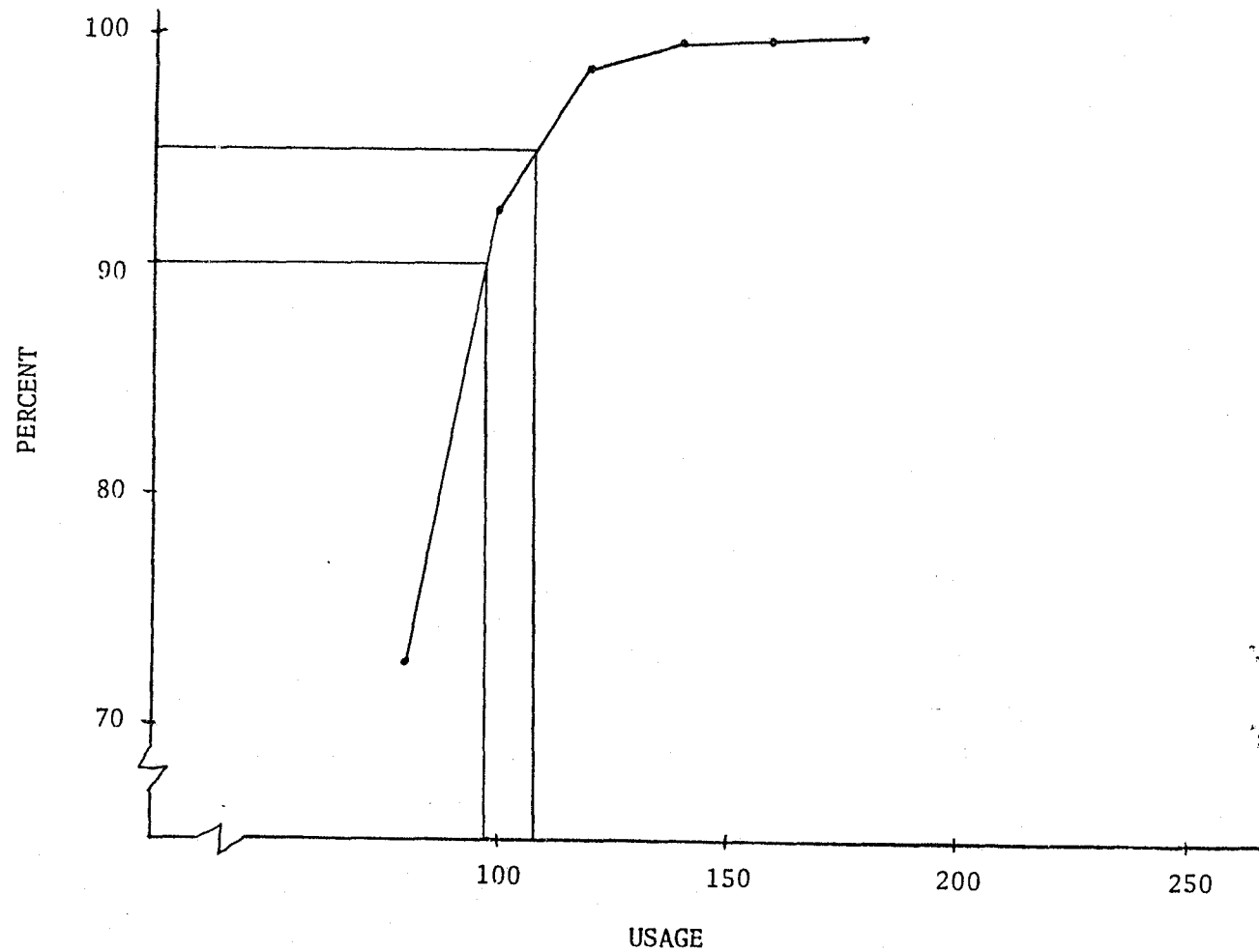
FIGURE 24

PROPOSAL NO. 5

DISTRIBUTION OF SIMULATED DAILY MAXIMUM USAGE

Usage	Frequency of Occurrence	Cumulative Percentage
61- 80		72.81
81-100	510	92.42
101-120	161	98.62
121-140	31	99.81
141-160	4	99.96
161-180	1	100.00

90% = 97.53
95% = 108.32



	Monday	Tuesday	Wednesday	Thursday	Friday	Annual delay time (hours)	Percentage of cases delayed	Annual savings in jury fee costs	Annual savings in costs to community
Actual Pool	182	173	167	143	109	49.8	6.1	---	---
95% Pool	109	109	109	109	109	33.0	5.6	\$71,600	\$358,000
90% Pool	98	98	98	98	98	98.7	13.5	\$93,600	\$468,000

FIGURE 25

The extent of these cost savings indicates that perhaps some efforts may be made towards predicting the start of major criminal cases even if such predictions cannot be completely reliable at all times. However, in order to implement such a policy even in part will necessitate good communication and co-ordination between the various branches of the court system--in particular between the assignment clerks and the office of the Commissioner of Jurors. The latter will need to be kept constantly informed of the progress in the preparation of large panel cases coming to trial, so that the starting date of the voir dire can be effectively predicted. Both the prosecution and the defense attorneys will have to be required to report any anticipated delays to the Commissioner's office. Any continuances granted by the judge will need to be reported to the Commissioner's office. These measures will, of course, impose added costs, and it may well be that for the Monroe County court system the gains from predicting the start of major cases may be insufficient to justify the costs of implementing such a policy.

FIGURE 26

PROPOSAL NO. 6

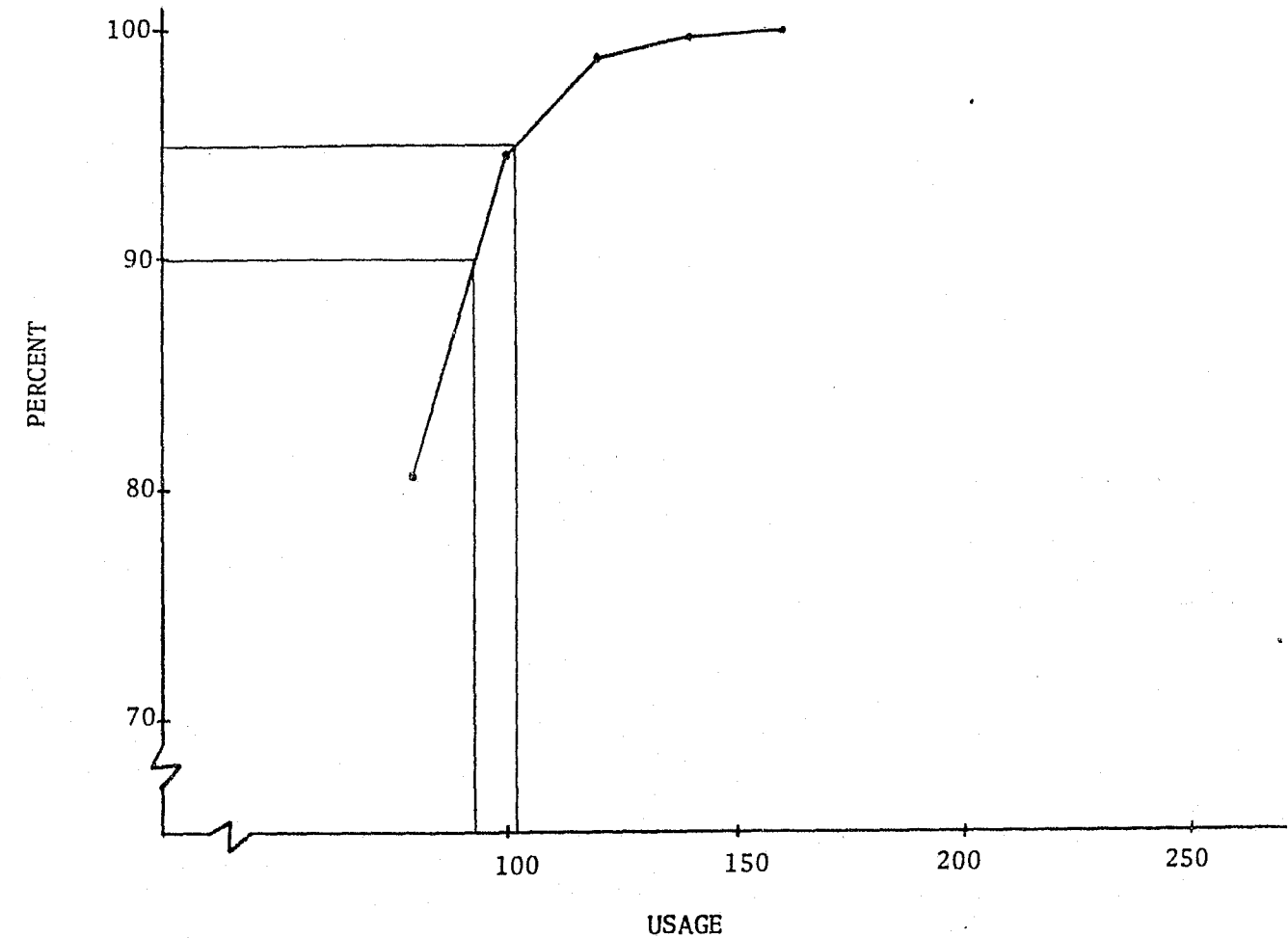
DISTRIBUTION OF SIMULATED DAILY MAXIMUM USAGE

Proposal #6:

Another way to deal with the problem of very large panels is to reduce the size of the jury for criminal cases in the Supreme and County Courts to 6 plus two alternates. This proposal is put forward to reflect the growing feeling in the judicial system that there is nothing magic or divine about the number 12, that a jury of 6 should be able to render as responsible and "just" a verdict as a jury of 12. In the Monroe County court system the City Court already uses juries of 6 members for its criminal cases. If the Supreme and County Courts also reduce the size of their criminal juries to 6 plus two alternates, the size of the voir dire panel required can perhaps be reduced by 25%. The decrease in panel size will probably not be proportional to the decrease in jury size since a smaller jury may cause lawyers to become more careful in selecting jurors and to reject a larger proportion of them. Assuming that the number of peremptory challenges allowed remains the same, the panel size required to pick a jury of 8 may in some cases be even greater than that necessary to pick a jury of 14. However, on the average, a reduction in the size of juries for all criminal cases to 8 should enable a corresponding reduction in the voir dire panel size by about 25%.

To show the effects of this proposal the simulation program was further adjusted. Panel sizes in the Supreme and County Court criminal cases were reduced by 25% and the jury size was reduced to 8. The distribution of daily maximum usages thus obtained is given in Figure 26. The pool size at the level of 95% probability of meeting the maximum usage was found to be 102. The pool size at the level of 90% probability of meeting the maximum usage was 94.

<u>Usage</u>	<u>Frequency of Occurrence</u>	<u>Cumulative Percentage</u>	
61- 80		80.62	90% = 93.30
81-100	367	94.73	95% = 101.29
101-120	109	98.92	
121-140	24	99.85	
141-160	4	100.00	



Using the pool size of 102, the annual delay time decreased to 36.1 hours. The number of cases delayed was 14.5, or 6% of the total. The annual saving in jury fee costs in this case would be \$105,600, which is \$60,000 more than the corresponding saving under Proposal 4. The saving in costs to the community would be \$528,000, or \$300,000 more than that under Proposal 4. With the pool size of 94, the annual delay time was 80 hours. The number of cases delayed was 29.2 or 12.1% of the total. The annual saving in jury fee costs would be \$121,600, which is \$46,000 more than the corresponding saving under Proposal 4, whereas the saving in costs to the community would be \$608,000, or \$230,000 more than that under Proposal 4.

Figure 27 summarizes the results of this proposal:

	Monday	Tuesday	Wednesday	Thursday	Friday	Annual delay time (hours)	Percentage of cases delayed	Annual saving in jury fee costs	Annual saving in costs to community
Actual Pool	182	173	167	143	109	49.8	6.1	---	---
95% Pool	102	102	102	102	102	36.1	6.0	\$105,600	\$528,000
90% Pool	94	94	94	94	94	80.0	12.1	\$121,600	\$608,000

FIGURE 27

Summary and Conclusion

The costs and benefits of the six proposals examined in this study are presented in a summary form in Figure 28. The costs should be calculated as increases in total delay time and the percentage of cases delayed, over the actual pool size operation. In all cases where the pool is reduced to the level of 95% probability of meeting the maximum usage the simulated delays are either approximately the same or are lower than the simulated delays at the current level. Reduction of pool size to the 90% level increases the simulated delay time. The study has not attempted to assign a dollar value to the changes in delay time and percentage of cases delayed; this has been left to the judgment of the individual decision maker.

As regards the benefits to the court system, it should be emphasized that the amounts shown represent the annual saving in jury fee costs alone based on \$8 a day. In addition there will be cost savings to the court in travel expenses which average about \$2.00 per person per day. The fact that fewer potential jurors will need to be summoned every week may result in further savings in other areas of jury administration.

The benefits to the community from the fact that a fewer number of people will be spending on the average less time sitting idle in jury lounges are, of course, much greater as shown. These have been calculated based on the average daily income of about \$40 of the labor force above 16 years of age in Monroe County.

FIGURE 28
SUMMARY OF RESULTS

	Annual delay time (hours)	Percentage of cases delayed	Annual saving in jury fee costs	Annual saving in costs to community
Actual pool size	49.8	6.1	---	---
Proposal #1: 95% pool	46.2	7.1	\$ 6,400	\$ 32,000
90% pool	127.0	14.6	43,200	216,000
Proposal #2: 95% pool	47.5	6.7	16,400	82,000
90% pool	140.1	14.5	54,000	270,000
Proposal #3: 95% pool	36.4	5.9	37,600	188,000
90% pool	112.2	13.2	69,600	348,000
Proposal #4: 95% pool	36.2	5.3	45,600	228,000
90% pool	103.6	12.0	75,600	378,000
Proposal #5: 95% pool	33.0	5.6	71,600	358,000
90% pool	98.7	13.5	93,600	468,000
Proposal #6: 95% pool	36.1	6.0	105,600	528,000
90% pool	80.0	12.1	121,600	608,000

This study has concentrated on the demand side of the problem of how to achieve greater efficiency in juror usage. The law requires that an accused must be tried before "a jury of his peers". Along with the increasing concern regarding wastage of juror time, more and more questions are being raised in recent years as to whether juries are truly representative of their community. It was the original aim of this study to carry out a comprehensive analysis of juror utilization in Monroe County and to study both the problem of reducing wastage of juror time, as well as examine whether or not persons called for jury service are representative of the population of Monroe County and how far the exemptions and excuses allowed under present judiciary laws affect the representation. But, unfortunately, due to various problems which arose, this section of the study could not be carried out.

The study ends with a strong recommendation that an analysis of the "representativeness" of juries in the Monroe County court system be carried out.

END