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811213

Long-Range Planning for Minnesota's
Criminal Justice System

A Feasibility Report

by

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TABLE OF CONTENTS

I. INTRODUCTION

The lack of sound long-range planning and forecasting has had dramatic effects in recent years in fields such as education. As Charles Friel noted so graphically in his address at the Fourth SEARCH International Symposium:

> "Like a snake trying to swallow a grapefruit, the
> baby boom has caused continuous consternation for
> society as it passes from one age to the next.
> When this mass of youngsters simultaneously reached
> school age, they caused a crisis at the school
> house, and when they became of college age, a
> crisis in higher education . . . . When the baby
> boom hit puberty in the early Sixties, there began
> an unprecedented rise in youth crime. Some saw in
> this crime wave a harbinger that the moral fiber
> of America had snapped. Astute demographers saw a
> natural and predictable effect of a change in the
> proportion of young people in society."[1]

The criminal justice system, like other parts of our society, needs to develop the capability to anticipate the effects of various factors (such as population changes, the economy, energy costs, and technological change) on crime and on the system. Such a capability can enable criminal justice practitioners and policy-makers to plan strategies for dealing with future problems, rather than just reacting to crises as they occur. In addition, futures forecasting can stimulate policy-makers to envision alternatives to what is likely to happen in the absence of major changes, and thus encourage efforts to bring about changes that will result in a better future.

The purpose of this report is to review the methodologies and resources that are available for long-range planning and forecasting,

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[1] Friel, pp. 19-20

1

discuss the factors that should be considered in selecting a methodology, summarize the efforts of other organizations in this area, and present several alternative strategies for pursuing long-range planning for Minnesota's criminal and juvenile justice systems.

It is hoped that this report will provide the background information needed in order for the Minnesota Crime Control Planning Board and other interested agencies to implement long-range planning efforts. Such efforts may become increasingly important as agencies are required to provide anticipated budgets based on projected changes in clientele or other significant factors (state agencies in Minnesota must provide 6-year budget supplements as part of the 1981-1983 biennial budget process).

II. FACTORS TO CONSIDER IN SELECTING A METHODOLOGY

Before selecting a methodology and embarking on a long-range planning or forecasting effort it is crucial that the purpose of the project be clearly identified. How will the results be used? What decisions will be based on the results? Who are the users and what are their needs and interests? There should be a systematic plan for identifying the relevant interest groups, determining their specific needs and interests (through interviews, surveys, or other techniques), and securing their commitment to the project. During the course of the project there must be frequent feedback to and participation by the users and others interested in the project.

The purpose of the forecast is a major factor in selecting a methodology. It determines, to a large extent, the degree of accuracy

required. Since forecasting costs and degree of accuracy are related, it is important to specify the degree of accuracy required prior to selecting a methodology in order to avoid unnecessary costs.

In selecting a methodology it is also important to consider the relevance and availability of historical data (to what extent can you assume the past will be like the future?), the time period to be forecast (6 months? 2-5 years? 10-20 years?), the time and resources available for the project, and the existence of reliable data on causal relationships in the area under study.

There are three basic types of forecasting methods: qualitative or subjective techniques, time series or projection techniques, and causal models. The next section will review these methodologies, pointing out their requirements, their strengths and weaknesses, and their appropriateness to various forecasting situations.

A final word on methodology: in situations where measurement is difficult, it is often advisable to employ a variety of methods rather than relying on just one. Since all methods have their limitations, taking an "eclectic" approach and using a variety of techniques minimizes the risk of completely missing the mark. Forecasts based on this approach are known as "amalgamated" forecasts, and this approach deserves serious consideration in any major forecasting effort.

III. REVIEW OF AVAILABLE METHODOLOGIES

A. Qualitative or Subjective Methods

There are a number of qualitative or subjective techniques available for long-range planning and forecasting. Most of these methods rely

on the judgments of "experts" or others, and represent some kind of consensus of their informed opinions or predictions about the future. Among the better known qualitative methods are various kinds of surveys, interviews, meetings, the Delphi technique, and role-playing.

Qualitative techniques have a number of limitations, especially for long-range forecasting. The people whose judgments are solicited may not be representative. Subjective judgments are subject to various types of bias effects (such as anchoring). It is difficult to take unforeseen political and other changes into account (this is a limitation on all forecasting methods). In addition, people have limitations on the amount of information they can actually utilize in any complex task (Miller's famous 7 ± 2 effect), and human judges are particularly poor at handling non-linear situations.

On the other hand, qualitative techniques are quite popular, and people seem to like to participate in them. Although their accuracy is limited, especially for long-range forecasts, if a high degree of accuracy is not required given the purpose of the forecast (see Chapter II, above), qualitative techniques may be appropriate, especially as part of an "amalgamated" forecast. Such techniques can also be helpful in securing the participation and commitment of the project's users and interest groups. And qualitative techniques are quite appropriate for determining the needs and interests of these various groups.

If qualitative methods are to be used, there are a number of ways to improve their effectiveness. The task should be made as meaningful as possible. If the problem is complex, decompose it and get separate forecasts on the parts. Use scenarios to describe alternative futures

and get the judges to predict their likelihood. Reduce extraneous noise so that patterns can be discerned. Since there is no evidence that discussion among judges improves their accuracy, limit judge interaction effects. Finally, use as many methods and judges as possible (no one judge or method is infallible).

B. Time Series and Projection Techniques

> A trend is a trend is a trend,
> But the question is, will it bend?
> Will it alter its course
> Through some unforeseen force
> And come to a premature end?

Cairncross, 1969

Time series and projection techniques are attempts to forecast future events based on data about the past (historical data). These methods are also known as extrapolation. The accuracy of these methods is determined by the availability and accuracy of historical data representative of the event to be forecast, and the extent to which underlying conditions will change in the future.

Extrapolations or projections from historical data are not generally considered to be very accurate for long-range forecasts, particularly if there are measurement errors in the past data (as there probably are in most crime data). There are some techniques that can improve their accuracy, however, such as exponential smoothing, moving averages, or other methods of correcting for seasonal and other "error" factors and weighting the most important observations (e.g., most recent or most typical data).

Depending, again, on the degree of accuracy required given the

5

purpose of the forecasting effort, extrapolation or projection methods may be appropriate, especially as part of an "amalgamated" forecast. Particularly if good data on causal variables are lacking (see next section), projections based on time-series data may be called for. However, if these methods are used for long-range forecasts the results must be interpreted with caution and with proper emphasis on margins of error, uncontrolled variables, etc.

C. Causal Models

These methods, which include the use of econometric models and regression analysis, require good information on causal relationships. Causal variables can be selected based on past research, expert opinion, or a priori grounds, but their relationship to the outcome variable should be established using objective data. These relationships are then used to forecast changes in the outcome variable. In order to do so, it must be possible to forecast changes in the predictor or causal variables with a fair degree of accuracy.

These methods tend to be expensive and their accuracy for long-range forecasting has not been established. It is unclear to what extent the "causes" of crime can be specified and measured accurately. However, despite their problems these methods have become popular in recent years, and if their costs are not prohibitive they may be able to make a significant contribution, particularly if used in conjunction with other methods. They should certainly be considered when substantial changes in underlying conditions are anticipated.

There are several even more complicated methods (such as segmentation) that involve making separate forecasts for various segments of the

population under study (for example, for repeat vs. non-offenders).
These methods avoid some of the more questionable assumptions underlying econometric models, but it is unclear if their results are worth the added costs. As usual, the determining factor would have to be the purpose of the forecast and the degree of accuracy required.

IV. FORECASTING EFFORTS OF OTHER ORGANIZATIONS

A. Minnesota

This section provides a brief overview of some of the current forecasting efforts in Minnesota, with an emphasis on state agencies and the criminal justice area. It should be noted, however, that data on forecasting efforts have not been systematically collected from all organizations in the state, which should probably be done prior to undertaking a formal forecasting project. The next issue of the Crime Control Planning Board's newsletter Network will include an article on long-range planning and a request for information on other agencies' efforts and interests in this area.

In Minnesota the Office of the State Demographer in the State Planning Agency is responsible for making demographic or population projections for the state as a whole and for various geographic areas and subgroups of the population (e.g., labor force, school enrollment, etc.). This office periodically publishes age group estimates for each county in the state (the latest report contains 1977 estimates, which will be up-dated after the 1980 census). These data have been used in the past in conjunction with arrest by age group data to project future arrest rates (see Faces of the Future). The Office of the State Demographer has no current plans to do further forecasting in the criminal justice

area, but is available for technical assistance in such efforts and to provide access to census and other relevant data. The Metropolitan Council does its own population projections for the 7-county metro area.

Several other state agencies (such as Housing, Finance, Revenue, and Economic Security) engage in forecasting efforts, mostly of the short-range variety. The Department of Finance will be providing state agencies with data on certain factors (e.g., inflation rate, population change) to be used in preparing 6-year budget supplements (covering 1982-1987). The state legislature has the capability to project the impact of changes in state-aid formulas on local governmental units.

In the criminal justice area, the Department of Corrections does short-term projections of prison populations, and the Sentencing Guidelines Commission will be monitoring the effects of Minnesota's new sentencing guidelines on such populations (a model for this purpose has been developed). The State Court Administrator's Office will be utilizing its new court information systems (SJIS and TCIS) to forecast future needs for judges and other court personnel. The Crime Control Planning Board has produced projections of future police manpower needs in the state through the year 2,000, which have been used by the Board of Police Officers Standards and Training in planning for law enforcement education and training. The Crime Board provided 3-year crime projections in its 1978 Comprehensive Plan, and has done some work in the area of projecting police salaries and the impact of energy costs on criminal justice agencies. The Crime Control Planning Board also provided material for the State Planning Agency's Community Development Report, including a summary of the crime situation today, issues for the 1980s, and

recommendations for local community action.

There is, of course, a great deal of interest in forecasting in the private sector. Recently the Minnesota Council on Foundations initiated a series of presentations on various factors that will influence Minnesota in the 1980s (such as demographics, energy, inflation, and the economy). And large corporations (such as 3M, Control Data, and Honeywell) are involved in various kinds of forecasting efforts, especially with regard to the impact of changing technology on information systems (Honeywell, 1980).

B. Elsewhere

Several other states and Canada have recently initiated long-range planning or forecasting efforts that could serve as possible models for future Minnesota efforts. Depending on the purpose for which Minnesota undertakes its efforts, the following projects should be viewed as potential prototypes.

1. South Carolina

During 1979 the College of Criminal Justice at the University of South Carolina initiated a South Carolina Criminal Justice Futures Group. The group is composed of criminal justice professionals and others interested in identifying and dealing with major problems that will confront the state's criminal justice system in the future.

The initial meetings of the group were devoted to improving cross-system communication and to identifying and prioritizing problems. The group plans to develop action plans for high priority problems, review pertinent futures literature and research techniques, and analyze proposed

legislation. The overall goals of the group are to improve agency operations and service delivery and provide new public policy initiatives in the criminal justice area.

2. Maryland

The Governor's Commission on Law Enforcement and Administration of Justice has produced several reports in the past few years that look at certain conditions, trends, and projections which may impact on criminal and juvenile justice processing in the State of Maryland. Their approach is quite straight-forward and utilizes data that should also be available in Minnesota. In addition, they have developed computer programs for their projections that could be made available at minimal cost to Minnesota should this approach be selected.

Maryland's analysis begins with a brief presentation of trends in certain social and other conditions that could impact on crime incidence and its costs. Table 1 shows the factors that were considered.

| TABLE 1 | | |
| FACTORS CONSIDERED IN MARYLAND'S OVERALL ANALYSIS | | |
Factor	Data Presented	Time Period Covered
Population	Absolute Population Population Density Age and Race Breakdowns	1960 – 1990
Economic Conditions	Number and Percent Unemployed Inflation Rate (national)	1970 – 1978 1970 – 1979
Education	School Attendance	1972 – 1978
Family	Number and Percent Change in Divorces	1972 – 1977

State-wide trends in these factors are presented, with a brief discussion of their possible implications for crime. No formal, statistical analysis of these factors is presented, however.

Maryland's analysis then presents trends in the resources and workloads of the state's criminal and juvenile justice systems. Table 2 summarizes the data presented.

TABLE 2 DATA USED IN MARYLAND'S CRIMINAL JUSTICE SYSTEM ANALYSIS		
Factor	Data Presented	Time Period Covered
Crime Incidence	Number, Percent Change, and Rate of Index Crimes	1974 - 1978
Arrests	Total, Adult, and Juvenile Reported Arrests and Percent Change	1975 - 1978
Law Enforcement Resources	Number Sworn Officers	1975 - 1978
Court Workload	Number District Court Defendants Disposed	1975 - 1978
	Number Circuit Court Filings, Terminations, and Pending Cases	1976 - 1978
Corrections Workload	Jail and Prison Populations Parole and Probation Caseloads	1976 - 1978 1976 - 1978
Juvenile Resources and Workload	Juvenile Services Personnel Intakes and Commitments	1973 - 1978 1973 - 1978
Defense Resources and Workload	Positions Cases	1973 - 1978 1973 - 1978

A descriptive analysis of these data is presented, pointing out increases, decreases, etc. Again, no formal analysis is undertaken.

The final part of Maryland's analysis, and probably the most relevant to long-range planning, is a projection of the number of arrests

the state can expect given recent arrest and demographic relationships.
These arrest projections are then used to estimate their potential impact
on the rest of the system.

Arrests of adults and juveniles in 1980, 1985, and 1990 were
projected using actual 1975, 1976, 1977, and 1978 arrest and demographic
data. Several "smoothing" options were used to minimize the effects of
random and other kinds of data variability.

These arrest projections were then used to make normative
projections of offender flows through the system and their associated re-
source demands. Again, several smoothing options were utilized, resulting
in a range of projected figures for each factor.

Table 3 is an example of the results of this type of anal-
ysis. The costs of the projected processing flows were also estimated,
as shown in Table 4.

As will be discussed in the next chapter, Minnesota has
data available that could be used for this type of analysis. It is not
so clear, however, who the users are for this type of analysis, and what
their specific needs and interests are. In addition, as pointed out in
chapter III, this type of analysis assumes that the future will be like
the past, and does not take into account the influence of factors other
than population.

3. Canada

Since 1970 the Canadian government has engaged in a variety
of criminological forecasting efforts, reviewed recently by Hasenpusch

Table 3

TABLE 20c: CORRECTIONS/TREATMENT CRIMINAL PROCESSING, ACTUAL YEARS 1976-1978 AND PROJECTED 1985

13

YEAR (CY)	LOCAL JAILS *			DIVISION OF CORRECTION *				DIVISION OF PAROLE AND PROBATION			
	TOTAL ACTIVE INMATE POPULATION END OF YEAR	ACTIVE PRE-TRIAL INMATES END OF YEAR	ACTIVE LOCAL JAIL SENTENCED INMATES END OF YEAR	DOC INMATES IN LOCAL JAILS AT END OF YEAR	DOC INMATES IN STATE FACILITIES AT END OF YEAR	TOTAL DOC INMATES AT END OF YEAR	TOTAL DOC INMATE INTAKE FOR THE YEAR	PROBATION INTAKE FOR THE YEAR	PAROLE INTAKE FOR THE YEAR	ACTIVELY SUPERVISED CASELOAD	NUMBER OF SUPERVISORY AGENTS AT END OF YEAR
Actual:											
1976	3,558	1,857	479	1,081	6,831	7,912	5,719	18,308	2,718	25,953	201
1977	3,492	1,869	553	921	7,227	8,148	4,896	19,278	2,793	26,203	238
1978	3,320	1,953	711	394	7,572	7,966	4,899	21,932	2,813	30,280	293
Projections for 1985:											
Option 1 (1.0,.0,.0)	3,758	2,211	807	446	8,571	9,017	5,545	24,825	3,184	34,274	332
Option 2 (.6,.3,.1)	3,873	2,188	732	708	8,435	9,144	5,681	23,699	3,192	32,656	305
Option 3 (.33,.33,.33)	3,981	2,180	670	920	8,302	9,222	5,954	22,845	3,195	31,642	281
Option 4 (∝=.3)	3,918	2,202	714	521	8,400	9,156	5,778	23,434	3,190	32,358	297

◯ = Low projected value given the four options.
▭ = High projected value given the four options.

*It should be noted that the actual population of residential programs is limited to the capacity of the facilities.

Table 4

TABLE 21c: NORMATIVE PROJECTION OF CRIMINAL JUSTICE PROCESSING FLOWS AND COSTS FOR CY 1985

CRIMINAL JUSTICE PROCESSING FLOW PROJECTED 1985 (CY)

Law Enforcement	
Number of Juvenile Arrests	55,700
Number of Adult Arrests	128,191
District Court	
Total Defendants Disposed	124,921
Number Defendants Disposed Represented by Public Defender	31,954
Circuit Court	
Total Defendants Disposed	23,063
Number Defendants Disposed Represented by Public Defender	10,141
Local Jail & Division of Corrections	
Total Active Inmates–Local Jail (June 30, 1985)	3,918
Pre-Trial Inmates (June 30, 1985)	2,202
Local Jail Sentenced (June 30, 1985)	714
DOC and in Local Jail (June 30, 1985)	521
Total Active Inmates State Institutions (June 30, 1985)	8,400
Division of Parole and Probation, Parole Commission	
Total Actively Supervised (June 30, 1985)	32,358
Parole and Probation Intake	26,630

ESTIMATED CRIMINAL JUSTICE COSTS – PROJECTED 1985 (CY)*

	1985 Cost in FY 1977 $	1985 Cost w/6% Annual Inflation
Law Enforcement	$153,611,142	$252,177,8??
Juvenile Costs	$ 43,405,339	$ 71,256,9??
Adult Costs	$110,205,803	$180,920,8??
District Court	$ 14,354,438	$ 23,565,15?
Judicial	$ 9,240,406	$ 15,169,6??
Prosecution	$ 2,532,149	$ 4,156,93?
Public Defense	$ 2,581,883	$ 4,238,59?
Circuit Court	$ 17,335,556	$ 28,459,15?
Judicial	$ 9,502,879	$ 15,600,52?
Prosecution	$ 5,317,405	$ 8,729,39?
Public Defense	$ 2,515,272	$ 4,129,23?
Local Jail & Division of Correction	$ 74,644,793	$122,541,63?
Total Local Jail	$ 20,731,157	$ 34,033,?
Pre-Trial	$ 11,651,355	$ 19,127,6??
Local Jail Sentence	$ 3,777,960	$ 6,202,13?
DOC and in Local Jail	$ 2,756,746	$ 4,525,65?
Total State Institutions	$ 53,913,636	$ 88,508,04?
Division of Parole and Probation, Parole Commission	$ 13,174,104	$ 21,627,44?
Total Supervision	$ 10,179,827	$ 16,711,85?
Total Investigations, Parole Commission	$ 2,994,277	$ 4,915,59?
Total Criminal (Adult) Justice Processing	$229,714,694	$377,114,23?
% Change CY 1985 / FY 1977	+12.2%	+84.1%

*These costs are based on the assumption of a direct relationship between the average costs per processing flow (from Table 21a) and the projected processing flow for 1985. In fact, costs may not change proportionately with the processing flow. In addition, residential program costs are largely limited by the physical size of the facilities and the resulting bed space available.

(1978). These include projections of arrest, indictment, and conviction rates, as well as qualitative forecasts. The Hasenpusch (1978) article reports in detail a method used for forecasting the number of crimes known to the Canadian police from 1977-1982.

This effort, part of a larger project analyzing probable developments in Canadian policing, used previous data from 1963-1972 to establish the relationships between the predictor and criterion variables, 1973-1976 data to assess the accuracy with which the known statistics could be estimated by the forecasting procedure, and 1977-1982 as the actual forecast period. The predictor variables chosen were Total Population, Percentage of Males Aged 15-24, and Percentage of Persons Living in Metropolitan Areas. A proxy variable for development and inertia of the social and crime control systems was also included.

Stepwise multiple regression analysis was used to fit the data to a historical trend and extrapolate that trend, but not to explain the variation in the historical data. The 1973-1976 data were used to assess the validity of the relationships found in the earlier data. Offenses which could not be predicted with less than a 20 percent error were excluded from the actual forecast. (The errors ranged from 3.3 percent to 29.5 percent, with an average of 15.6 percent.) For all other offenses projections through 1982 were made by applying new regression equations based on the 1963-1976 data to demographic projections for 1977-1982. Figure 1 illustrates the type of results produced.

In addition to presenting the results of the above analysis, the article also discusses the probable effects of other variables (such
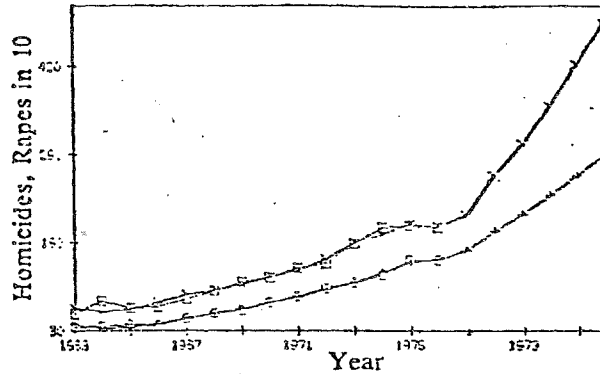
15

Figure 1

FIGURE 2

CRIMINAL CODE OFFENCES AND ALL
OFFENCES IN CANADA 1963-1982 IN 1000
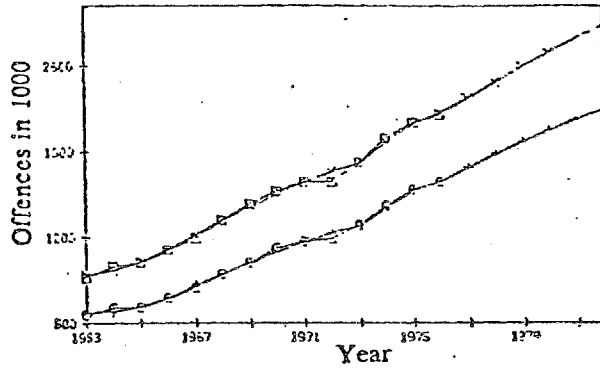
-c- Actual number of Criminal Code Offences
-+- Predicted number of Criminal Code Offences
-c- Actual number of All Offences
-+- Predicted number of All Offences

FIGURE 2a

HOMICIDE AND RAPE IN CANADA
1963-1982 IN 10

-=- Actual number of Homicides
-+- Predicted number of Homicides
-c- Actual number of Rapes
-+- Predicted number of Rapes

FIGURE 2b

ASSAULT AND BREAKING AND ENTERING
IN CANADA 1963-1982 IN 100
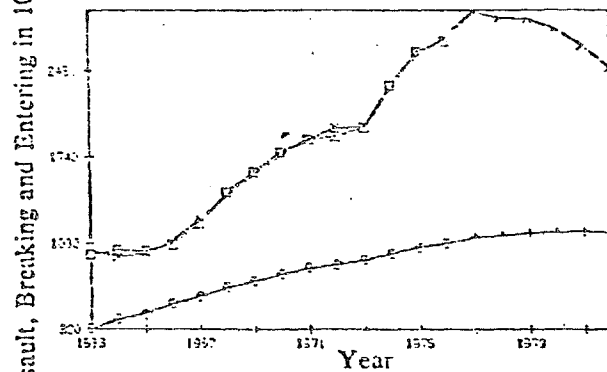
-=- Actual number of Assaults
-+- Predicted number of Assaults
-c- Actual number of Breaking and Entering
-+- Predicted number of Breaking and Entering

16

as industrialization, the economy, etc.) which were not included because they were either too unreliable or too complex for this type of analysis, but which nevertheless may have a significant impact on crime. Thus this approach represents an "amalgamated" forecast, combining both quantitative and qualitative techniques.

V. RESOURCES AVAILABLE OR NEEDED

A. Data

Minnesota is fortunate in having a good deal of existing data on crime and the criminal justice system which could be used in long-range planning or forecasting efforts. Data on crimes reported to the police and persons arrested for crimes are available from the Bureau of Criminal Apprehension (BCA)'s UCR system going back to 1936. These data are published in summary form annually in Crime in Minnesota, and are also available on printouts at the Crime Control Planning Board (1970-1979). These data can be broken down by type of crime, jurisdiction, and type of offender (age, sex, and race).

The BCA also collects data for Minnesota's Offender Based Transaction Statistics (OBTS) system, through the statewide Criminal Justice Reporting System (CJRS). This system has been operational since 1972, and includes data on the processing of felony and gross misdemeanor offenders in the state. There have been some reporting problems with this system in the past, but with the recent development of the State Judicial Reporting System (SJIS) improved reporting is anticipated. The Crime Control Planning Board, through its Statistical Analysis Center (SAC), is responsible for the analysis of Minnesota's OBTS data. A report

describing this data base was published in 1978. Because of recent changes in OBTS reporting and coding, the Crime Control Planning Board has not performed any recent analysis. However, OBTS data are available to the Crime Control Planning Board on computer tape upon request. Because of the complexity of the OBTS data base it must be simplified for statistical analysis purposes, as described in the 1978 report. This requires a fairly substantial investment in personnel and other resources.

Data on the personnel and financing of Minnesota's criminal justice system are available in the Census Bureau's Employment and Expenditure data, collected annually since 1971. These data, reported for all state and local criminal justice agencies serving over 10,000 people, and for a sample of those under 10,000, are available in summary reports, printouts, and on computer tape. The Crime Control Planning Board currently has E and E data covering 1971 through 1978.

The State Court Administrator's Office is currently developing two major court information systems: State Judicial Information System (SJIS) and Trial Court Information System (TCIS). SJIS is a case-tracking system for all of the state's courts. TCIS is a case management and financial information system for Minnesota's trial courts.

The Department of Corrections has developed a Corrections Management Information System over the past few years. It includes detailed information on all persons committed to the Department of Corrections as well as information on local jails and community corrections counties.

Some data are also available in the Annual Reports of various criminal justice agencies, such as the County Attorney's Council, State

Public Defender's Office, Crime Victim Reparations Board, etc. A number

of local criminal justice information systems also exist in Minnesota

(reviewed in the Crime Control Planning Board publication Planning an In-

formation System: A Handbook for Criminal Justice Agencies). And, of

course, one-time research or evaluation studies are also sources of data.

Data on the juvenile justice system are more limited than on the

adult criminal justice system in Minnesota. The BCA has data on the num-

ber of juveniles arrested for various types of crimes, but juvenile of-

fenders are not included in the rest of the CJRS/OBTS system because of

the lack of positive identification (i.e., fingerprints). The State Court

Administrator's Office is developing a juvenile component to SJIS, which

will collect information on all juveniles processed through the state's

juvenile courts. And the Department of Corrections collects information

on those juveniles committed to the state. Data on the resources of the

juvenile justice system are not systematically reported (they are not

included in the Census Bureau's Employment and Expenditure data), nor are

there reliable data on juvenile services statewide (although the current

Crime Control Planning Board's Juvenile Justice Delivery System Analysis

should help alleviate this problem).

Finally, the Office of the State Demographer has access to census

related data, and acts as a Data Center for making such data available

to other agencies. It should be noted that data from the 1980 census

will not be available for analysis until at least mid - 1981.

Thus, it would appear that data per se should not be a major

problem in pursuing long-range planning or forecasting efforts in Minne-

sota. Depending on the purpose of the forecast, of course, existing data

may not be adequate, and original data collection may be necessary.

B. Personnel

Depending upon the type of long-range planning or forecasting effort undertaken, personnel with the required training and experience will be needed. If existing staff are not appropriate, it might be possible to contract with an academic or private consultant. Staff continuity in such an effort is important, however, in order to maintain the users interest, provide feedback, and maximize the use of results. The Office of the State Demographer can provide some consulting services free of charge to other state agencies. However, in order to carry out any of the quantitative forecasting techniques described in chapter III the services of at least one full-time research analyst with a background in forecasting would probably be necessary. The duration of the effort and the other resources required would depend on the specific purpose of the forecast and the degree of accuracy required.

The more qualitative approaches to long-range planning would not require personnel with as much research background. Existing staff with planning or other backgrounds could be used, with some training in appropriate qualitative techniques. Consultants are also available to implement such techniques, although the advantages and disadvantages of using consultants should be seriously considered (in terms of continuity, follow-up, use of results, cost, etc.).

C. Other Resources

It might be possible to obtain grants or other types of assistance in pursuing long-range planning or forecasting efforts in Minnesota.

Some of the larger Minnesota foundations (McKnight, Bush, Northwest Area)
might be interested, although they generally prefer to fund direct services
as opposed to research. Some of the well-known Minnesota corporations
(such as Control Data, 3M, or Honeywell) might be willing to provide some
support, either in terms of staff expertise or as a community service pro-
ject. The new Bureau of Justice Statistics might be interested in funding
such an effort as a "demonstration" of a methodology that other states
could use. And, of course, it should be possible to pursue some of the
options listed in the next chapter with existing resources, if long-range
planning is deemed a high priority.

VI. ALTERNATIVE APPROACHES TO LONG-RANGE PLANNING IN MINNESOTA

Before selecting and implementing an approach to long-range planning
or forecasting it is absolutely essential that the purpose of the project
be clearly identified, as pointed out in chapter II. There must be a
systematic effort made to identify the potential users of the project,
determine their specific needs and interests, and secure their commitment
to the project. In Minnesota the potential users of long-range planning
for the criminal justice system are quite diverse. They could include
the major state criminal justice agencies themselves, the legislature,
the Governor, the Department of Finance, the State Planning Agency, the
Crime Control Planning Board, criminal justice professional organizations,
local and regional planning bodies, public interest groups, the media,
local elected officials, and others.

The first step in any long-range planning effort should be a system-
atic assessment of the needs and interests of such potential users in
order to clearly identify the purpose of the project and the relevant

21

interest groups. As part of this feasibility study the staff of several

major state criminal justice agencies were interviewed as to their cur-

rent forecasting efforts and their future interests in this area. There

appeared to be some interest in participating in a "working futures

group" (see below). There was also some interest in planning for future

physical facilities (courthouses, jails, etc.), especially with regard to

the implications of energy problems for the location of such facilities.

However, the number of people interviewed for this report was quite lim-

ited, and a broader and more systematic assessment of user needs is

clearly needed.

Once this has been done, a number of alternative approaches may be

appropriate, depending on the needs and interests of the users. It

should be remembered that some combination of the following approaches

may also be appropriate.

A. <u>Establish a Minnesota Criminal Justice Futures Group</u>

A group similar to that recently established in South Carolina

(see chapter IV) could be set up in Minnesota. Its composition would

depend, again, on the interests of the various groups surveyed as poten-

tial users. At a minimum the major state criminal justice agencies should

probably be included. They should be particularly interested in such a

group given the state's new requirements for 6-year budget supplements.

It might be possible to use an existing group for such an effort,

such as the Justice System Improvement Study Task Force, a committee of

the Crime Control Planning Board, or one of the sub-cabinet groups. The

group that was brought together to kick-off the JSIS in December, 1979,

might also be appropriate (consisting of state agency and legislative representatives). However, the creation of a new group would have certain advantages in terms of visibility, focus, commitment, etc. High-level (e.g., Governor's office and agency head) support for such a group would be essential for its success.

Such a group would probably use primarily qualitative techniques to identify future problems for Minnesota's criminal justice system and propose ways to deal with those problems. They might want to consider quantitative data as part of this process, but a large-scale quantitative analysis would probably not be their primary focus. They might want to invite "experts" in various fields (such as energy, the economy, demographics, computer technology, etc.) to meet with them to present forecasts from other areas that might impact on criminal justice. Such a group could be established fairly quickly, probably using existing resources. Staff support (at least ½ time if not full-time) would be needed to provide appropriate materials and techniques.

B. Produce Demographic - Based Projections of Crime and its Impact
on the System

Data currently exist to produce arrest projections in Minnesota, utilizing a methodology similar to those used in Maryland or Canada (see chapter IV). Decisions would have to be made concerning the time period to be projected (demographic projections are not generally considered to be very accurate beyond 3-5 years), the crime categories to be used (Part I, violent, property, other), the jurisdictions to be included (the state as a whole, counties, regions, other), etc. The advantages and disadvantages of waiting until 1980 census data are available would also have

to be weighed. Once arrest projections were available, data on the exist-
ing resources and workload of the system could be used to estimate the
changes needed to accommodate the expected arrest patterns.

Some assessment of user needs would have to precede such an ef-
fort, with some commitment to the use of the results, etc. Once decisions
were made as to the specifics of this approach, a research analyst trained
in projection techniques (with some computer and intern support) should be
able to produce the basic arrest projections in 3-6 months. The analysis
of impact on the system might be a little more difficult due to data prob-
lems, but should be possible within a year. The results of such an anal-
ysis would have to be presented with appropriate cautions as to their
limitations, and with a discussion of the possible role of factors not
included in such projections.

C.   Produce Projections Based on a Causal Model

This approach would involve building a causal model of factors
related to the occurrence of crime, collecting data to establish the caus-
al relationships, and projecting those relationships into the future.
Again, the needs of the users would have to determine the specific varia-
bles to be forecast (crimes reported, arrests, convictions, commitments,
etc.), the jurisdictions included, the time period covered, etc. This
approach would most likely suffer from data problems and questionable
assumptions. It would take a research analyst trained in econometric or
other models and familiar with criminal justice data 6-12 months to com-
plete such a project, assuming intern and computer support. Again, the
results would have to be presented with appropriate caveats regarding
assumptions, etc.

24

It should be noted that the Crime Control Planning Board has previously completed several studies analyzing the relationships between crime, demographic, socioeconomic, and criminal justice system variables (e.g., Costs and Performance of Criminal Justice: A Statistical Analysis of Minnesota Counties, and The Identification of Target Areas for Criminal Justice Planning), including one projecting the need for police manpower based on an econometric model (Technical Considerations in Projecting Police Training Needs). Table 5 illustrates some of the results of these efforts. It may be possible to utilize some of the data and/or results from these previous analyses in developing this approach.

D. Hold a Conference on the Future of Minnesota's Criminal Justice System

This approach would involve planning and holding a statewide conference on future trends and problems for Minnesota's criminal justice system. There are a number of ways such a conference could be organized, including outside speakers on trends in other areas affecting criminal justice (demography, economics, energy, technology, etc.), presentations by those criminal justice agencies already engaged in forecasting (DOC, State Court Administrator's Office, Sentencing Guidelines Commission, Crime Control Planning Board), workshops on anticipated problems and proposed solutions, or some combination of the above. A keynote speaker such as Dr. Charles Friel could probably be arranged.

The audience for such a conference could include many of the potential users mentioned previously. The proceedings from such a conference could be published and distributed widely throughout the state. Media coverage should be possible, and the Governor's office should be asked to help plan and sponsor such a conference if possible. Such a conference could probably be planned in several months with existing

TABLE 5

CORRELATION MATRIX FOR REGRESSIONS INCLUDING ALL COUNTIES

	PART I CRIME RATE	POPU-LATION	GOV EXP/ CAPITA	JUV. % OF POPU-LATION	% OF POP.WITH 8TH GR. EDUC. OR LESS	(POPU-LATION)^2	UNEM-PLOY-MENT RATE
Population	.327						
Gov. Exp/Capita	.187	-.157					
Juv. % of Population	-.229	-.219	.215				
% Population with 8th grade education or less	-.427	-.441	.002	.267			
(Population)^2	.210	.931	.012	-.119	-.328		
Unemployment Rate	.129	-.198	.153	.215	.351	.125	
Police Exp/Crime	-.533	-.052	-.136	.028	.145	-.006	-.018
Court Exp/Crime	-.610	-.184	-.023	.104	.369	-.090	.082
Corrections Exp/Crime	-.426	.058	-.167	.055	.153	.135	.061
Total Exp/Crime	-.612	-.117	-.091	.074	.278	-.038	.041
Arrests/Crimes	-.382	-.123	-.244	.021	.267	-.141	-.007
Cases/Arrests	.055	.007	.279	.292	-.068	.124	.337

resources, although a small grant to cover the expenses of participants, printing, mailing, etc., would be helpful.

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