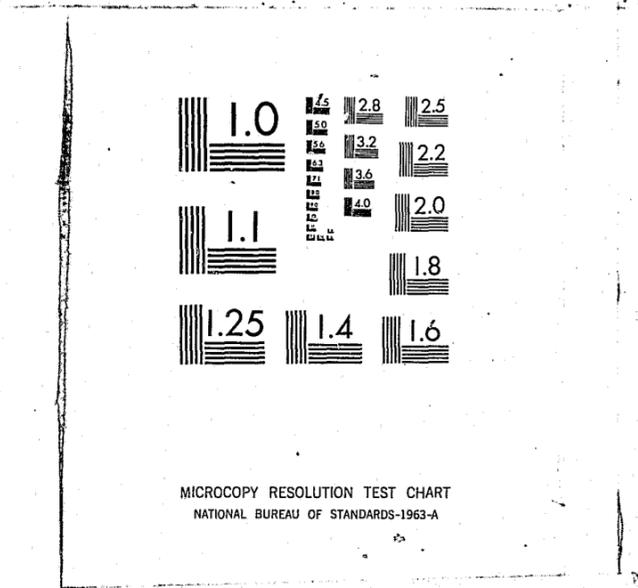


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MINNESOTA COMMUNITY CORRECTIONS ACT EVALUATION

RESEARCH DESIGN

JUNE, 1980

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ACQUISITIONS

MINNESOTA COMMUNITY CORRECTIONS ACT EVALUATION

RESEARCH DESIGN

JUNE, 1980

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I
CONCEPTUAL OVERVIEW

A. the Minnesota Community Corrections Act

In 1973 Minnesota enacted the Community Corrections Act (CCA). The Act, representing the State's most far-reaching criminal justice policy, has restructured Minnesota's correctional services. It addresses four major concerns: (1) increasing institutional costs at the state level, (2) limited local correctional services, (3) overlapping correctional jurisdictions and (4) a lack of uniform standards for delivering correctional services.

The CCA addresses the problem of rising state institutional costs in two ways. First, the CCA provides an incentive for participating counties to deal with certain categories of offenders locally by charging counties to use state institutions for such offenders. Second, the CCA establishes a subsidy which is intended to enable participating counties to develop local correctional services. The subsidy is intended to allow counties to expand existing services and develop new services if a need exists.

The CCA is intended to develop greater organizational coherence in the administration of correctional services in Minnesota. The overlapping of correctional jurisdictions and duplication of corrections services is, in part, a function of different levels of government (city, county, region and state) delivering correctional services. Responsibility for the administration of correctional services also frequently is shared within single jurisdictions by different organizations dealing with adults, juveniles, probation, parole, institutions and community programs. The CCA addresses the problems of overlapping correctional jurisdictions by requiring that advisory boards be created to develop comprehensive plans for the delivery of correctional services in their areas.

Finally, the CCA charges the Department of Corrections (DOC) with the responsibility of developing standards for the delivery of correctional services.

The implementation of the Act has drastically affected corrections in Minnesota. The annual subsidy eligibility for CCA areas is now in excess of thirteen million dollars. Of 87 counties, 27 have joined the Act, accounting for over seventy percent of the state's population. Hundreds of employees are covered by the Act and dozens of criminal justice programs operate primarily on CCA subsidies. Administrative organizations and local advisory boards exist solely for the purpose of administering the Act. Approximately 3,000 new adult felony dispositions and 7,500 juvenile petitions result in CCA county supervision each year. In addition, the CCA areas supervise thousands of misdemeanants and serve thousands of clients prior to adjudication (e.g., prevention and diversion).

B. Purpose of Evaluating the CCA

In spite of the vast resources and personnel involved in and affected by the CCA, systematic information on its operation and impact is lacking. State officials, legislators and county officials who must make decisions on funding

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and on modifying CCA structure and requirements must have information on which to base their decisions. The DOC has investigated the Act's impact on sentencing patterns and continues to monitor court dispositions, but this information is not sufficient to provide a full understanding of the CCA's impact on the Minnesota criminal justice system. Other states have adopted or are considering similar legislation. However, information is not available on the Act's impact in Minnesota to enable informed decisions in these states.

The evaluation will attempt to answer three basic questions: 1) what does the CCA do? 2) how much does the CCA cost? and 3) what is the relationship between results and costs? The purpose of the evaluation is to provide answers to these questions to a variety of audiences. The primary group for whom evaluation results are intended are Minnesota policymakers such as state legislators, the Governor, the Commissioner of Corrections and the Crime Control Planning Board. Results will inform this group whether the goals of the Act have been met, whether they can be met, and why they have or have not been met.

The second recipient of evaluation results is the Department of Corrections (DOC) which is responsible for administering the Act. Findings concerning factors which have helped or hindered the achievement of the Act's goals can contribute to the DOC's role in reviewing local plans, in developing standards, in providing technical assistance, and in making budget requests and policy recommendations to the Governor and the legislature.

County officials who operate the CCA will also benefit from evaluation findings, particularly those that indicate how CCA implementation might be improved. Suggestions as to the types of organizations, policies and service delivery systems that appear to work best can assist county officials in developing more efficient community correctional programs. Findings on where dollars are going and with what effects can lead to better-informed expenditures.

Several other groups will benefit from the CCA evaluation. First, non-participating Minnesota counties can learn whether, how, and under what conditions the CCA appears to be effective and, therefore, whether joining is a wise decision. Second, other states that have adopted or are considering similar community corrections legislation can utilize evaluation results. These results can contribute to decisions on whether to implement community corrections' legislation and also on what combination of elements are likely to create the most effective package.

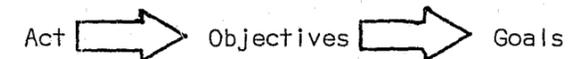
C. General Evaluation Approach

An evaluation of the CCA requires two major steps. First, the researchers must obtain results which describe the outcomes of the CCA. Second, researchers must interpret these results to conclude whether or not the CCA has been effective. Without the second step, there would be no evaluation, only research. The research staff then must arrive at some set of criteria according to which they can interpret results and draw conclusions on the effectiveness of the CCA.

The standard approach to select these criteria is to specify the objectives of the policy or program being evaluated. One compares research results to stated objectives or intentions and then draws conclusions whether the program or policy "works", whether it does what it is "supposed" to do, whether it is "effective" and so forth.

Specifying the objectives of the CCA is the first task of the research staff but it is far from a simple one. The first problem is that the Act itself is very brief and does not spell out for us a set of measurable objectives. One then turns to original testimony and to those involved in the implementation and administration of the Act for suggestions on the Act's purpose. The problem here is that the various parties who sought passage of the CCA and who are currently involved with it may have different interpretations as to what its objectives are. If researchers accept all objectives as equally valid, and collect data to assess whether all objectives are met, resources would be spread much too thin. On the other hand, if researchers accept the objectives of one special interest, other parties can reject the evaluation on the basis that the criteria (i.e. the Act objectives) by which results were evaluated were invalid. Finally, a third problem in specifying objectives is that policies are not unchanging; as conditions change from the CCA's passage, new objectives are likely to develop and old objectives may be dropped.

In addressing these problems, the research staff first made a distinction between objectives and goals. Objectives were conceptualized as the more immediate ends that follow directly from provisions in the Act. Staff viewed these objectives as mechanisms to achieve other goals, rather than as ends in themselves. Goals are the larger purposes of the policy. They are logical results of obtaining the objectives. Goals of the CCA were identified by asking "why" one would pursue the objectives. The research group went through this exercise of asking "why", asked the "why" question of key state and county personnel, and listened to legislative testimony for implicit or explicit answers to the "why" question. The process then was to go from provisions of the Act, to identify objectives, to identify goals:



Thus, if an objective can be traced to the Act and to the pursuit of some larger goal, efforts will be made to include it in the evaluation; if a goal flows logically from objectives, efforts will be made to include it.

This method for identifying goals and objectives has several advantages. First, it provides a justifiable basis to limit the number of issues investigated and, therefore, helps to assure that research resources will not be spread too thin. Second, it avoids the problem of having to select the goals or objectives of any particular group or party. The criteria for selecting goals and objectives are their logical interconnections and relationships with the Act, rather than who or what interest is articulating them. Finally, this approach permits the inclusion of goals that may have developed well after the Act was passed. It does not necessarily tie the evaluation to original objectives which may no longer be relevant.

In addition, this conceptualization avoids the necessity of establishing arbitrary levels of achievement to determine "success". For instance, some would argue that to evaluate whether the CCA has led to the retention of more offenders in the community requires establishing at the beginning some level of increase to indicate when objectives have been met (e.g. retain twenty percent more offenders in the community). Since the objectives are means to other ends in this conceptualization, the research results will help to establish what levels of the objectives appear to contribute to the achievement of the major goals. These levels need not be arbitrarily set at the outset of the evaluation but instead become a research issue on which to report findings.

D. Conceptual Framework

This section specifies the framework that has resulted from the general approach explained in the preceding section. First, three objectives will be identified. Their connections with Act provisions and their inter-relationships will be explained. Second, the goals of the CCA will be identified. The assumptions linking CCA objectives to the attainment of the goals will be articulated. A third level of outcomes is specified, and the possibility that contradictory goals may be being pursued is explained. The conceptual framework is outlined in Figure 1. The interrelationships among Act provisions, objectives and goals which are discussed below are diagrammed in this figure.

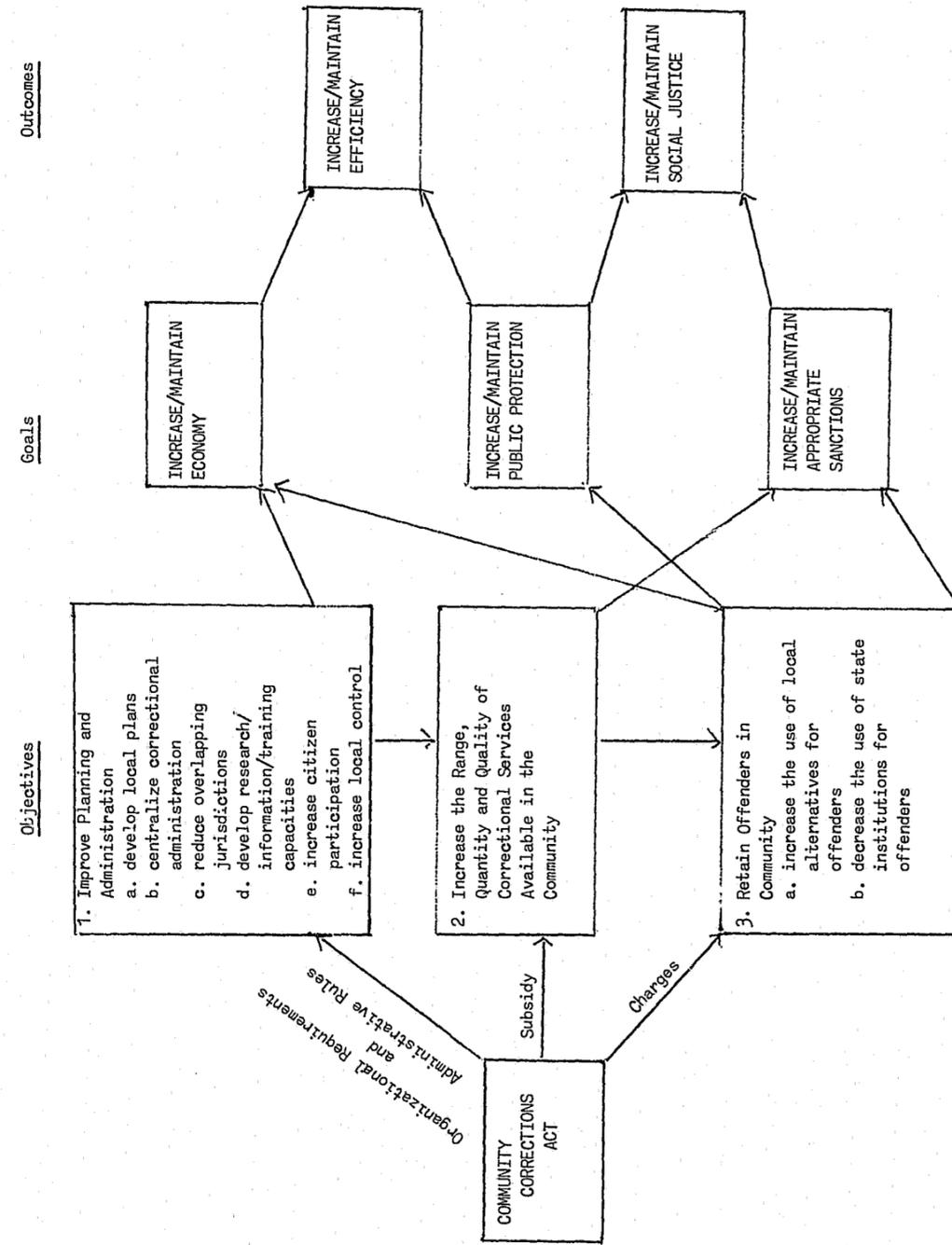
I. Objectives

Objectives are conceptualized as contributing to the goals of the CCA. They flow logically from the Act and can be seen to have a causal relationship to the attainment of the three goals. That is, these objectives are not viewed as ends in themselves, but according to the logic of the CCA, contribute to other purposes. Investigation of these objectives enables researchers to obtain a fuller understanding of what the CCA is doing. Moreover, information on whether the objectives are being accomplished is essential for determining why the final goals are or are not attained and for assessing whether they can be attained through the mechanisms of the CCA.

The first category of objectives is conceptualized as a first step in the implementation of the CCA. The CCA requires that participating areas submit comprehensive annual plans that must be approved before subsidies are allocated. A corrections Advisory Board representing various community and criminal justice sectors is responsible for formulating the plan. Assumptions of the CCA are not only that planning is a prerequisite for efficient service delivery but also that local planning is optimal. The CCA assumes that localities, utilizing a broad spectrum of community interests, are in the best position to define their correctional needs and to develop solutions.

The CCA also alters the administration of correctional services. It encourages the centralization and coordination of local services, intends to reduce overlapping correctional jurisdictions (e.g. state vs. local), and through spending requirements aims to develop capacities for research information and training. It also encourages citizen participation and local control of administration. It is apparent that both the planning and

FIGURE 1 - Conceptual Framework for the Evaluation of the Community Corrections Act



administrative capacities are related (each contributes to the other) and also that the planning and administrative capacities are likely to affect attainment of the next two objectives of actually developing and utilizing local services.

Two categories of objectives are seen to follow from the Act and from the successful development of local planning and administration. First, state subsidies in conjunction with local planning and administration should facilitate the development and improvement of local services. Second, the Act provides disincentives (charges) not to send target offenders to state institutions but to retain them in the community. Also, if local services are developed and improved, they are more likely to be used. Thus, target offenders should use community alternatives to a greater extent and should use state institutions to a lesser extent because of the Act.

2. Goals

Goals of the CCA were developed when the question of why one wants to pursue CCA objectives was asked. It was determined that one might want to pursue the CCA objectives for three possible ends -- to save money, to protect the public, and/or to encourage appropriate treatment of offenders.

a. Public Protection

The goal of public protection is stated explicitly in the Act and is generally accepted as a goal of corrections policy. The Department of Corrections, for example, has as its primary mission, the protection of the public and hence the DOC has an interest in pursuing corrections policies that lead to this end. Public policy that brings significant risk to society is difficult to justify.

Two issues need to be clarified: 1) what is meant by public protection? and 2) what are the assumptions underlying the Act that support the connection between the CCA and the pursuit of public protection. In addressing these issues, it is imperative to remember that discussions relate only to the target group of the Act. The CCA is not a corrections policy for all offenders but instead a policy for less serious offenders. There is no reason to believe that the behavior of more serious offenders should change or that the CCA should in any way be protecting society from more serious offenders, unless, of course, the CCA is found to be diverting serious offenders to the community.

There are several ways to view public protection. First, the Act states that its goal is to protect society more effectively. The implication of this statement is that the less serious offenders treated locally will, overall, be less risk to society than if they were treated elsewhere. Such a view could consider both offender behavior during supervision as well as after release. On the other hand, some testimony surrounding CCA passage was less ambitious and argues that the target group if treated locally would pose no additional threat to the community. That is, the target group need not be incarcerated since they would not be committing additional crimes during their community supervision. In addition, others might even argue that society is not at risk

so long as no major or violent offenses are committed by the target group during their community supervision. Clearly, then, the evaluation of the CCA in terms of providing public protection will depend in part on how stringent a view of protection one takes.

If the Act is either to protect society more effectively or at least bring no more risk to society, there must be some underlying assumptions linking elements of the Act to the achievement of public protection. Again, these assumptions hold for the target group of less serious offenders and need not hold for the treatment of other offenders.

The belief that the CCA would improve levels of public protection is consistent with a philosophy of rehabilitation. Rehabilitation is believed to be facilitated because local correctional services provide more opportunity for maintaining family and community ties and facilitate reintegration into community life. While most accept the need to incapacitate certain offenders or to follow policies aimed at deterrence, the premise guiding the CCA is that the less serious categories of offenders can and should be rehabilitated and that this rehabilitation can best be accomplished in the community. Institutionalization for these persons is viewed as potentially corrosive. The objectives of improving local services and of keeping and treating offenders in the community should contribute to public protection if assumptions of rehabilitation are correct.

Also, the CCA can be supported simply on the assumption that the target group is unlikely to pose a risk to society during local supervision. One need not necessarily assume that any form of treatment/supervision works better than any other. From this perspective one only assumes that the target group is unlikely to commit any (or any serious) offenses so, for cost, humanitarian or other reasons, it is best to keep them in the community. Thus, the first set of assumptions (rehabilitation) is consistent with a belief that the public will be better protected through the CCA, while the second assumption is consistent with the belief that society will be at no more risk with the CCA. This second position assumes that public protection can be maintained even if the objective of retaining offenders in the community is achieved.

b. Economy

A second major goal of the CCA is to provide the economical delivery of correctional services. Policy that significantly increases costs for given levels of protection is unlikely to be acceptable to the general public. As with public protection, economy requires a clear definition and an explanation of the underlying assumptions that link the Act to the pursuit of this goal.

Economy is taken here to refer to the net costs of a policy. An assessment of the costs of the CCA must control for factors that might affect costs in the absence of the CCA (e.g. inflation, other changes in the criminal justice system). It must also carefully consider reduced costs as well as new costs. Determining the economy of the CCA is an effort to answer the question, "How much does the CCA cost?" As with public protection, however, there is some ambiguity whether the Act's intention was in fact to increase economy

(reduce costs) or to maintain existing spending levels. The language of the Act, "to promote economy", is open to interpretation.

There are a number of reasons why one might expect the CCA to reduce (or, at least, not to increase) costs. It is expected that new costs will be incurred but also that there will be significant savings. One major assumption underlying the Act is that community services are less expensive than state incarceration. It can be argued that if offenders with families can remain in the community (objective #3), the families will not require welfare support. From a rehabilitative perspective, community treatment is expected to reduce offender involvement in the criminal justice system and, therefore, would reduce future criminal justice costs. It is also assumed that the organizational changes that reduce duplication of correctional efforts (objective #1) should, in turn, reduce costs.

An argument frequently heard in discussions of this goal is that economy was never "really" a goal of the CCA. The research group believes that economy should be included for four reasons. First, cost questions were salient factors in CCA testimony, and cost arguments, whether believed or not, were used to sell the Act. Second, while cost questions may not have been primary in 1973, they certainly are in 1979. In the post "proposition 13" era all public policies and programs are increasingly scrutinized in light of costs to the taxpayer. Evaluation results would be outmoded if the research did not incorporate contemporary as well as original concerns. Third, questions received from other states concerning the Minnesota CCA frequently center on what the costs have been. Finally, perhaps some reject economy as a goal because of a belief that the CCA has increased costs. The research staff believes it is an open question. While correctional costs have risen, they certainly would have risen without the CCA. No one has estimated yet what corrections costs would have been without the CCA.

c. Appropriateness of Offender Sanctions

The original conceptual framework for the evaluation stopped with the goals of public protection and economy and the resulting levels of efficiency. The research group and particularly CCA practitioners, however, felt something was missing. This something was variously labelled "humanitarianism", "humanness", "justice", "equity" or "fairness". Although the research group recognized this goal was a salient factor in CCA passage, it was initially eliminated because it appeared unresearchable. However, at the suggestion of the group of persons advising the evaluation effort, staff tried to incorporate it into the framework. It was agreed that while the issue may be difficult to research, its inclusion in the conceptual framework enables a more accurate representation of the CCA.

It became apparent that the missing goal related to offenders. Goals of public protection and costs are societal goals or what the general public hopes to get out of corrections policy. But there is also the perspective of the offender to consider. Assumptions of rehabilitation were originally incorporated but even these are concerned more with protecting society than with doing "right" things for offenders. As one CCA practitioner frequently pointed out -- if all we cared about were costs and safety, we would throw all offenders into a pit. Or, to go one step further, perhaps we would support capital punishment for all offenders.

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There is, then, another corrections goal that incorporates an offender perspective and needs to be considered in the development of corrections policy.¹ After reconstructing arguments surrounding CCA passage, several concerns surfaced. One line of argument was that different types of offenders deserve different sanctions. Serious offenders may deserve institutionalization but less serious offenders do not. While the rehabilitation argument suggested that a prison environment might make less serious offenders worse, this concern is more that it simply is not "right" to subject less serious offenders to the severe sanction of prison. Intertwined with this position are notions of equity. Each type of offender should receive equal treatment. Because some counties lacked alternatives, less serious offenders might receive prison sanctions. In a neighboring county with a wide range of services, the less serious offender might receive non-residential treatment services.

These various lines of argument seem to be summarized in the goal of "appropriateness of sanctions". The CCA was in part designed to improve local services (objective #2) and to encourage the retention of less serious offenders in the community (objective #3) so that offenders not deserving of institutionalization have appropriate sanctions available.

3. Outcomes

In the formulation of policy, some persons do not think beyond the level of objectives. Others have goals in mind, but rarely does one have the time to think through systematically how objectives and goals interrelate. An evaluation requires one to reconstruct a logic that may have been implicit but probably was not articulated at the time of formulation. An evaluation forces one to specify how a policy ought to work.

Although policymakers probably stop with goals, it may be useful for the research to impose one more logical step -- what are the outcomes that result from pursuit of the CCA goals? It will be empirically difficult and perhaps impossible to measure the outcomes, but conceptually it may help to further articulate what the ends of the CCA may be. And this articulation itself may contribute to the more informed formulation of future policy.

Adding another step of outcomes to the conceptual framework appeared particularly useful because it highlights the fact that there may be two sets of assumptions underlying the CCA rather than one. And it highlights the possibility that these assumptions might be contradictory. It clarifies to policymakers that there may be choices or trade-offs to be made.

The two outcomes outlined in Figure 1 are efficiency and social justice. Efficiency represents the taxpayers' perspective. It is the relationship between costs and public protection. How much is the taxpayer getting in terms of safety and how much is the taxpayer paying for it?

An investigation of efficiency would compare levels of public protection resulting from the CCA to the total costs of the CCA. One position is that efficiency should be increased through the CCA. If so, improvement of efficiency requires improvement in at least protection or economy. Efficiency

¹Paul Lerman has noted that this concern remains a societal perspective of what is "right" for offenders. ". . . this is a societal interest in providing 'justice' independent of the offender's perception." Lerman Correspondence, January 7, 1980.

is improved if one receives more protection per dollar spent with the CCA than without the CCA. This situation could result from maintaining public protection for less, from improving public protection at roughly the same cost, or from a variety of other combinations that result in a higher ratio of protection per dollar.

A second position, on the other hand, is that efficiency must only be maintained. That is, both public protection and economy must be maintained but neither has to improve. This position is consistent with the assumption that community corrections is a more just policy and that it should be and can be pursued without threatening public protection and economy. An assessment of this less stringent objective involves a determination that the ratio of protection to costs is no different than prior to the CCA.

Social justice, on the other hand, represents the balance of societal interests (public safety) and offender interests (appropriateness of sanctions). There is a sense that justice is not served if offenders are too forcefully treated while the public experiences very little risk. Similarly, there is a sense justice is not served if offenders receive minimal sanctions while the public is at great risk. This balance of goals will be less straightforward than arriving at a ratio of costs to public protection. While justice will be difficult to assess, including it in the framework forces one to address whether and to what extent there are trade-offs between the public and offenders.

The conceptual framework identifies two outcomes. There is a chain of logic linking the CCA to each outcome. Whether both outcomes can, in fact, be achieved is an open question. If all of the assumptions identified above should hold, then both outcomes should be attainable. There is, however, a position that holds that efficiency and equity (or in this framework, justice) are incompatible. The classic argument can be found in Arthur Okun's Equality and Efficiency: The Big Trade-Off -- where arguments are presented that one generally has to improve one at the expense of the other. Thus, the conceptual framework may represent a single set of assumptions which produce two outcomes or it may identify two sets of assumptions which produce incompatible outcomes. If the outcomes can be assessed in the research, a major contribution will be to suggest whether and to what extent there is an incompatibility in goals and outcomes.

E. Using the Conceptual Framework for Interpreting Results and Developing Recommendations

The conceptual framework not only guides the research but provides the context for interpreting results. After information is gathered on the objectives and goals in each CCA area, researchers must interpret results and build policy recommendations. There are two major reasons to address the interpretation of findings prior to the conduct of research. First, prior specification of which results lead to which conclusions and recommendations contributes to the objective treatment of findings. If criteria are not established early on, there is more leeway to interpret results according to one's own preconceptions and biases. Second, this exercise clarifies for the recipients of this evaluation the types of (though obviously not the content of) conclusions and recommendations that can be expected.

The framework that spells out the logic of the CCA is particularly useful in translating results into recommendations. Researchers cannot simply report a finding. They must explain what this finding means for the effectiveness of the CCA and what policy recommendations would follow from the findings. By fitting results into the conceptual framework, researchers can observe patterns of findings. These patterns can assist in answering the following questions:

1. CAN the CCA be effective corrections policy?
2. IS the CCA effective corrections policy; to what extent?
3. WHY is the CCA effective or ineffective corrections policy?

The basic point to keep in mind throughout this section is that certain patterns of results suggest that the CCA CAN work. Other patterns of results suggest the extent to which the CCA IS working and WHY.

1. CAN the CCA be Effective Corrections Policy?

The evaluation will be able to address adequately only whether the Minnesota CCA can be effective, not whether community corrections in general can be effective. The research cannot probe all the possible variations of community corrections and, therefore, cannot provide adequate information on whether community corrections as a general approach can be effective. Patterns that might indicate the potential effectiveness of community corrections in general, however, will be noted. In particular, the major assumption of a community corrections approach is that retaining target offenders in the community can promote (or does not threaten) protection, economy and/or appropriateness of sanction). The particular Minnesota approach also contains assumptions about the importance of local planning and administration and local correctional services. At a minimum, results that indicate retention of offenders in the community is a prerequisite to improving/maintaining protection, economy and appropriateness of sanctions also suggest that community corrections can be effective policy.

To ask if the CCA can be effective is to ask if the assumptions behind the Act are supported. The Act contains provisions that lead to objectives that have been conceptualized as contributing to the attainment of the primary goals of corrections policy -- public protection, economy and appropriateness of sanctions. Whether the CCA can work depends upon whether the community objectives are in reality associated with the attainment of the major goals. The research will be designed so that findings can be reported in each CCA area. Thus, so long as the assumptions behind the CCA are supported by data from any area, one would conclude that the CCA can be effective policy.

The assumptions of the CCA will be supported if the objectives are found to be related to the goals. One would place findings into the conceptual framework, observe patterns of which objectives have been attained and observe the extent of relationships between the objectives and goals.

By requiring demonstration of a relationship, researchers at an early stage will have to set up criteria to determine in how many of the twelve CCA areas effectiveness has to be established to conclude there is a tendency for the objectives and goals to be related. The problem of digesting findings from twelve areas will be avoided in the discussion below. The explanations that follow focus on the conclusions to be drawn from patterns in a single area (or state-wide). The actual interpretation of findings will be somewhat more complicated, however, because of the need to integrate the twelve patterns. Interpretation of findings will be further complicated because with only twelve CCA areas there is the potential for more patterns of results than there are cases. However, if the CCA is having intended effects, similar patterns of results should be beginning to emerge in at least a subset of areas. Different results in each area would itself be an indication that the CCA is not having intended effects.

¹ However, the type of relationship one is looking for needs to be clarified first. The CCA's objectives could be viewed as necessary causes of the goals, as sufficient causes of the goals, or simply as facilitative of (i.e. contributing to) the goals. According to standard definitions of logic, a necessary cause implies that whenever the goals are present, the objectives have to be (if Y, then X); a sufficient cause implies that whenever the objectives are present, the goals have to be (if X, then Y); a facilitative relationship implies that there is a tendency for objectives to be associated with the goals.

One must ask first what type of relationship is assumed between the CCA and the attainment of the major corrections goals. First, while findings could, in fact, suggest that some elements of the CCA may be necessary to bring about protection, economy and appropriateness of sanctions, there is no reasoning behind the CCA to imply it has to be necessary. The argument is not that the CCA is the only way to achieve the major corrections goals. Instead, the argument simply is that the CCA can bring them about. Thus, to conclude that the CCA is effective does not require one to demonstrate that the CCA is necessary.

One must decide, then, whether attainment of the CCA's objectives must be shown to be sufficient or simply facilitative. To impose a standard of sufficiency (i.e. whenever the objectives are met, the goals have to be) would involve imposing a standard far more stringent than is typical in social science. Because so many factors affect social outcomes and because research can control adequately for only some of them, social science research is satisfied to discover relationships that are greater than those likely to occur by chance. Thus, to conclude that the CCA is effective requires findings that demonstrate a tendency for the attainment of the objectives to be associated with protection, economy and appropriateness of sanctions.

The discussions that follow will be simplified in two additional ways. First, discussions assume that both outcomes are or are not met. The possibility of incompatible outcomes will be discussed in a section below. Second, the diagrams will indicate that all three goals must be met (or not met) for the two outcomes to be achieved (or not achieved). In fact, as the methodology sections will elaborate, a decline in some goals could be offset by gain in others so that the outcomes still could be achieved.

Figure 2 contains hypothetical patterns of results that support community corrections assumptions and, therefore, support the belief that community corrections can be effective. The first pattern suggests that all of the community objectives contribute to the goals and outcomes, while the third pattern suggests that retaining offenders in the community alone contributes. Since all three patterns of results suggest that community corrections is a valid approach, the ensuing policy recommendation would be to continue the policy. If portions of the Minnesota CCA are found to be unnecessary, however, recommendations could also include modifications in the legislation. The fourth pattern does not disconfirm the assumptions of the CCA -- none of the objectives are met and, as one would predict, none of the goals or outcomes are met. We cannot know for certain whether the goals would be met if the objectives had been. Policy recommendations are more difficult to formulate but unless community corrections is found to be effective in at least one Minnesota CCA area, the policy probably should be reconsidered since the assumptions remain uncertain (but not disconfirmed) and the objectives may not be attainable.

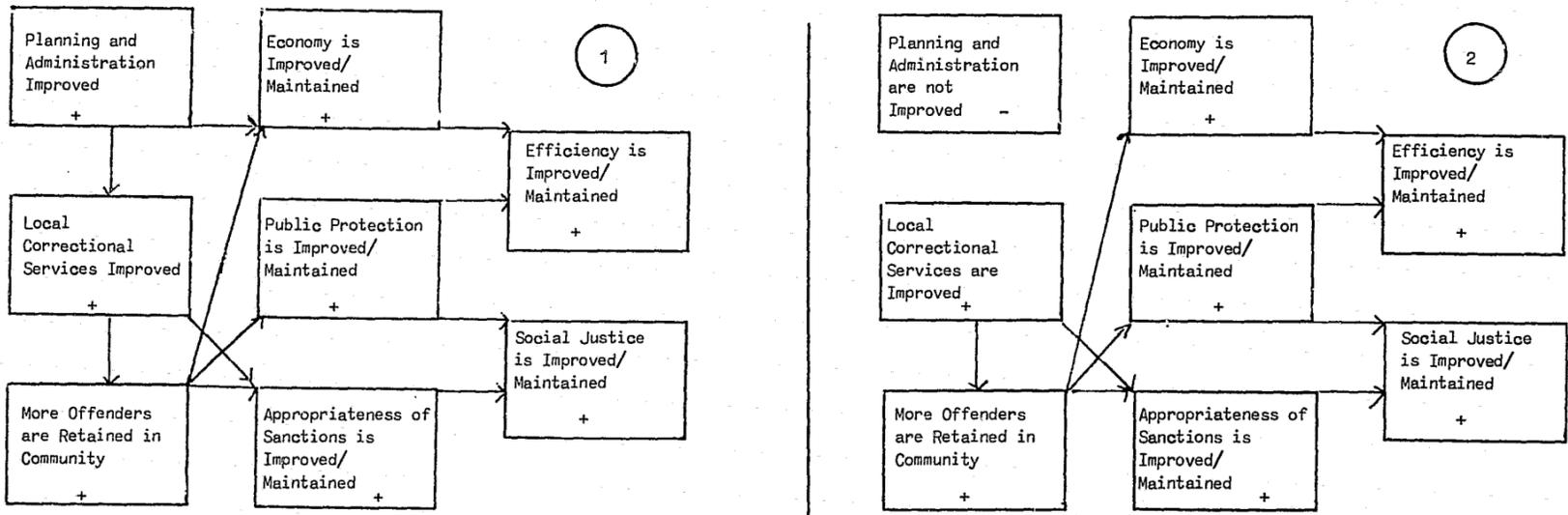
Figure 3 contains hypothetical results that suggest that the logic of community corrections is not valid. Either the objectives have been met and the goals have not, or vice versa. The CCA cannot be found to be effective corrections policy unless the objectives are found to contribute to the attainment of the goals. If the objectives are met but the goals are not, the policy recommendation would be to reconsider a community corrections approach since pursuit of public protection, economy and appropriateness of sanctions is primary. If goals are met but the community objectives are not, it would appear that a community corrections approach does not help nor does it hinder the pursuit of protection, economy and appropriateness of sanctions. So long as no alternative is proposed as more effective, the policy recommendation would be to continue the policy as acceptable in Minnesota but not to promote the policy elsewhere. These results would actually suggest that the major corrections goals are met without regard to the CCA.

Table 1 summarizes the patterns of results that lead to conclusions on the CCA's potential effectiveness in pursuing the goals of public protection, economy and appropriateness of sanctions.

2. IS the Minnesota CCA Effective Corrections Policy; to What Extent?

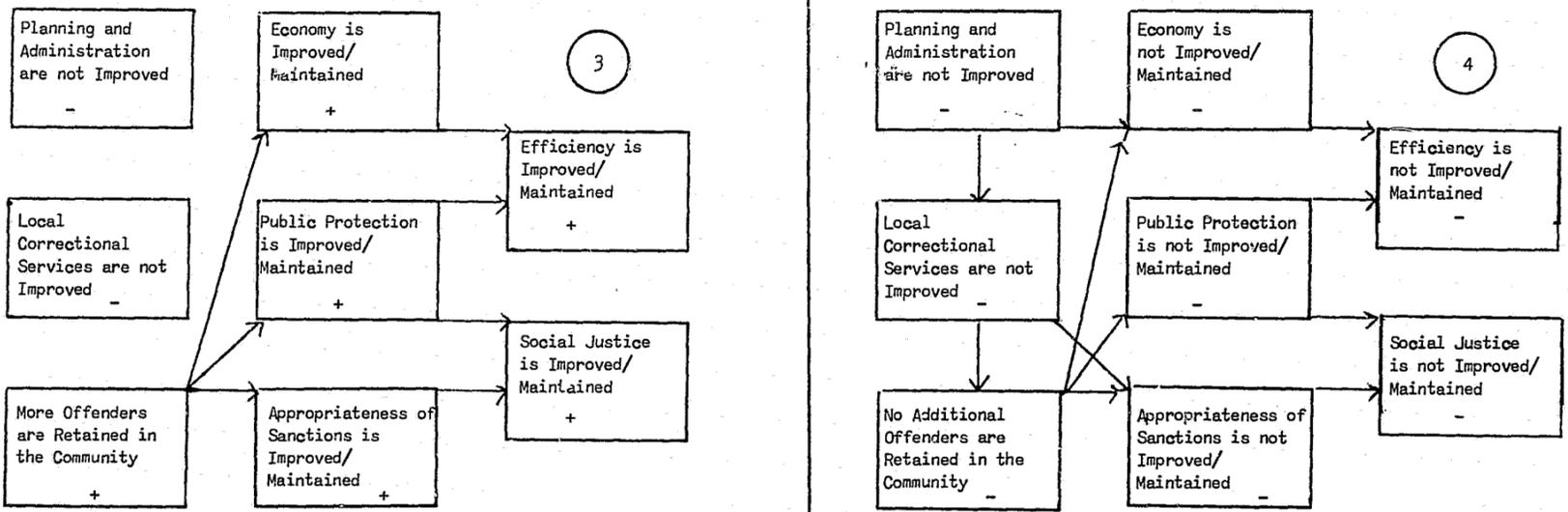
This second question is concerned with an assessment of the current accomplishments of the Minnesota CCA. How is it actually working? If there are definitive findings that indicate that the CCA cannot work (the question above), then this second question is moot -- it does not work if it cannot work.

FIGURE 2 - Hypothetical Results Suggesting that the Assumptions Behind the CCA are Supported



All three community objectives contribute.

Two community objectives contribute.

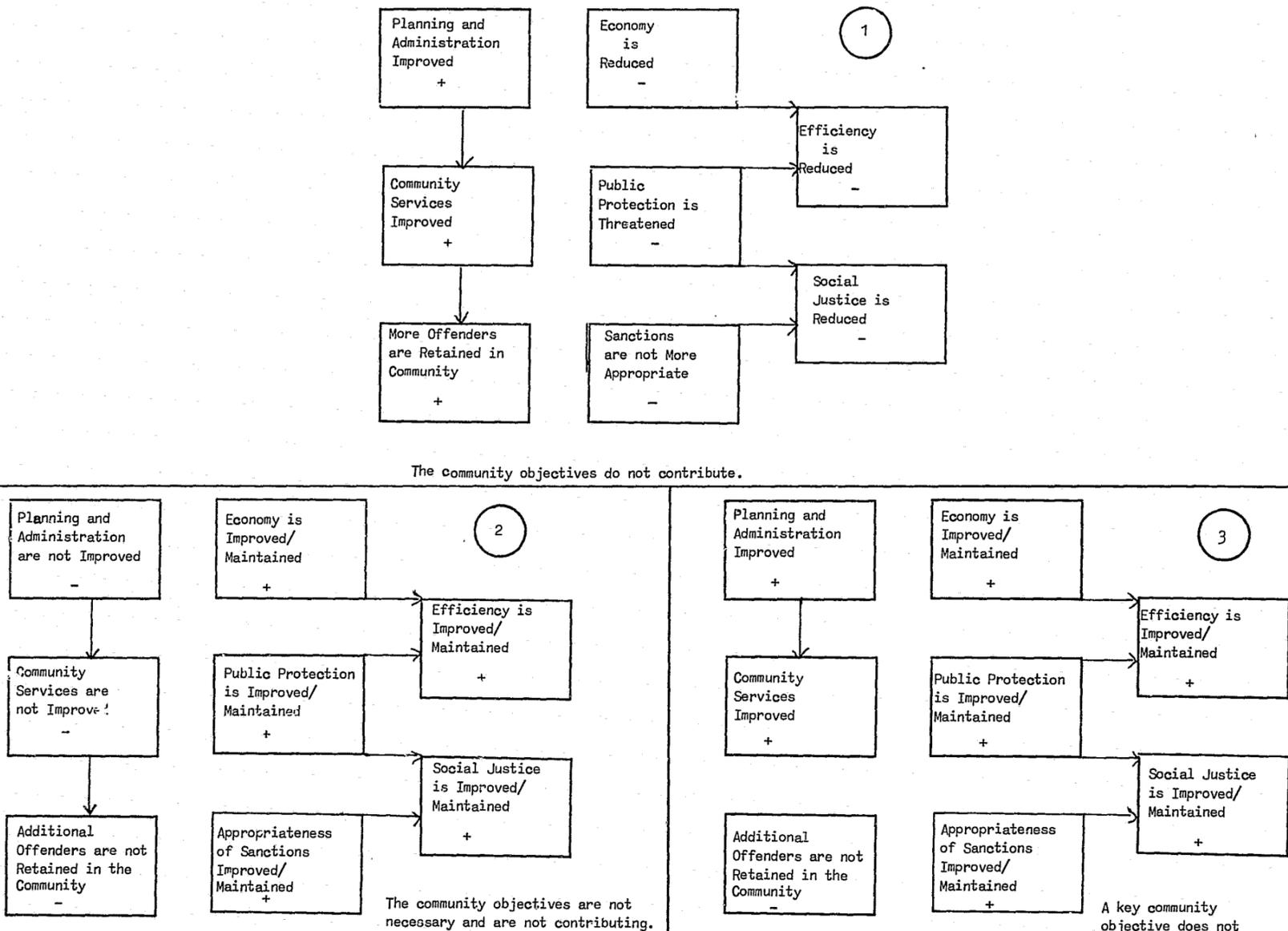


One community objective contributes.

At least some community objectives may contribute but the potential contribution is not known.

14.

FIGURE 3 - Hypothetical Results Suggesting that the Assumptions of Community Corrections are not Supported



The community objectives do not contribute.

The community objectives are not necessary and are not contributing.

A key community objective does not contribute.

15.

TABLE 1 - Hypothetical Findings and Conclusions Related to Whether the CCA Can Be Effective Corrections Policy

<u>Are Objectives Met?</u>	<u>Are Goals Met?</u>	<u>Can the CCA Be Effective?</u>	<u>Why?</u>
YES	YES	YES	The objectives are found to contribute to the goals.
NO	NO	UNKNOWN	The objectives may or may not contribute but with no positive results anywhere one cannot know for certain.
YES	NO	NO	The objectives do not contribute to the goals.
NO	YES	NO	The goals are met without regard to the CCA.

However, if there is evidence that the CCA can work, even in only one county, then it is worthwhile to ask further to what extent the Minnesota CCA works. This section describes findings that support conclusions on whether the Minnesota CCA is effective policy.

Affirmative answers would be obtained if the goals and objectives all are met. Positive findings in a single county would lead to conclusions that the Minnesota CCA is at least partially effective. The extent to which the CCA works will depend upon three factors. First, the greater the level of improvement in the goals, the more effective the CCA. Second, the more counties in which the CCA is working, the more effective the policy. Third, the more objectives that are found to contribute, the more effective is the Minnesota variation of community corrections.

If the goals are not met while only some of the objectives are met,¹ the conclusions would be that the CCA is not effective. The degree to which the CCA is not working depends upon the extent to which the goals are not met; the number of objectives that are not met; and the number of counties in which it is not working.

3. WHY is the Minnesota CCA Effective or Ineffective Policy?

Evaluation results cannot stop with answering if the Minnesota CCA is or is not effective in achieving protection, economy and appropriateness of sanctions. Policy recommendations cannot be developed without knowing why or why not it has been effective. The strategy to probe the reasons for (in)effectiveness takes advantage of having results for eleven or twelve areas. If the policy is working in some areas but not in others, one can investigate what differs across the areas that might explain differences in effectiveness. This comparative approach may shed light on which objectives are most important for goal achievement; whether combinations (interactions) of objectives are important; and whether certain county characteristics may help or hinder goal achievement.

If it is found that the CCA is effective in most areas, then the recommendation would be to continue the policy and to promote the Minnesota model elsewhere. For the areas in which the policy may not be working, results from the successful areas should provide the basis for recommending changes. If it should be found that some objectives may not be necessary for the attainment of the major goals, recommendations could contain suggestions for modifying the legislation to reduce unnecessary portions, at least ones that carry added costs.

Situations in which the goals are not met will be more difficult to interpret. The strategy will be to look for the objectives that are missing

¹ If none of the objectives are met, the pattern fits into conclusions on whether the CCA can be effective. Similarly, if goals are met but the objectives are not, the pattern suggests that the goals are met without regard to the CCA. One cannot conclude that the CCA is effective since it is found to be unnecessary. See the previous section for the interpretation of these patterns.

for a clue as to why the major goals may not be attained. Figure 4 provides an example of how comparative analysis will assist in discovering reasons for CCA (in)effectiveness. Pattern #1 in that figure suggests that in CCA area A, planning and administration have been improved and offenders have been retained but services have not been improved. As a result, public protection has been found to be threatened. One might conjecture that the subsidy provided the area has been insufficient to improve services or perhaps the DOC's rules and technical assistance have been inadequate. Patterns in other counties can contribute to probing why area A's services have not improved and to supporting the link between improvement of services and maintaining public protection. Pattern #2 in the figure indicates that in CCA area B services were improved and that in fact protection, efficiency and justice also were not threatened. What then would be the policy recommendation to try to make the CCA work in area A? Since the subsidy for area B was sufficient to improve its local services, one could compare A's and B's subsidy levels to see if A might need more. If not, the likely recommendation would focus more on DOC rules and assistance to bring A's services up to standards necessary for the attainment of the state's correctional goals.

There are obviously numerous patterns of results that could emerge,¹ especially when each CCA area is investigated separately. The recommendations that will be developed will depend in part on the number of areas in which CCA effectiveness can be found, the number of objectives that are found difficult to attain, and revised estimates of costs (i.e. economy and efficiency) associated with proposed CCA modifications to achieve the objectives.

A summary of the types of recommendations that can follow from this research is contained in Table 2. By asking "can the CCA work?", "is the CCA working?" and "why does or does not the CCA work?", the evaluation will provide findings that can lead to policies of continuation, modification, or reconsideration of the Act. The conceptual framework that guides the evaluation will help to interpret findings and suggest logical recommendations. By outlining at the start what types of findings lead to what types of conclusions, the research group can ensure the more objective development of policy recommendations once the results are obtained.

4. The Potential Incompatibility of Corrections Goals and Outcomes

The conceptual framework indicates that the logic behind the CCA leads to the pursuit of three goals and two outcomes. The balance between goals results in the outcomes. That is, the relationship between costs and public protection produces efficiency, while the relationship between public protection and appropriateness of offender sanctions produces social justice. If both outcomes are achieved, then the CCA is effective. If neither outcome is achieved, then the CCA is not effective. What is one to conclude, however, if one outcome is achieved at the expense of the other?

¹As noted on page 12, a flaw in this approach is that there are more potential patterns of results than there are cases.

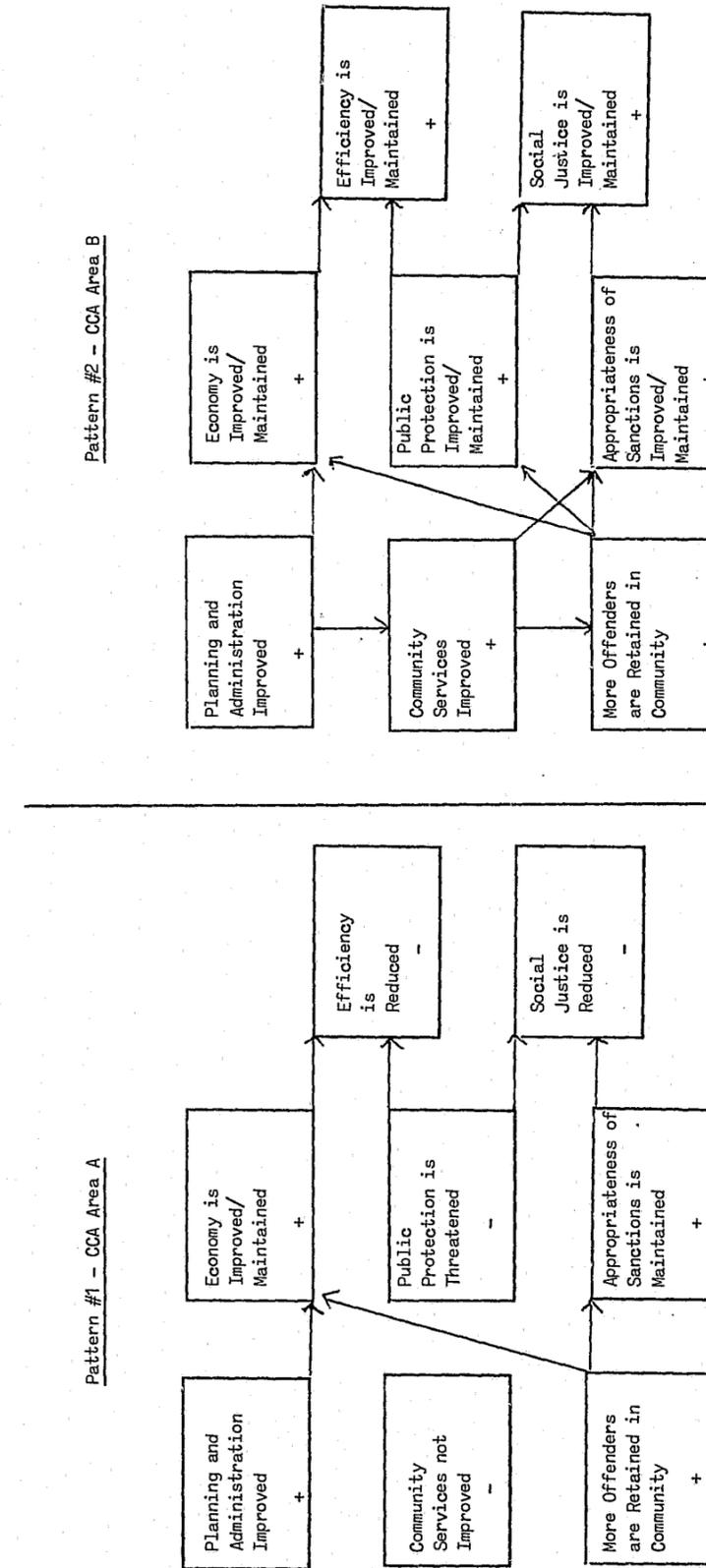


FIGURE 4 - Hypothetical Results Suggesting the Importance of Improving Community Services

If inspection of patterns of results indicates that only one set of assumptions is supported (i.e. either assumptions producing efficiency or assumptions producing social justice), researchers will be limited in their ability to answer whether the CCA can be or is effective policy. Research cannot answer this question because the answer depends upon how each individual weights the values of efficiency and social justice. Findings that social justice is improved considerably but for a great loss of efficiency would indicate CCA effectiveness for the person who values greatly social justice. The same findings would indicate ineffectiveness for the person who values efficiency. Since, in the language of economists, personal utilities (values) are noncomparable, the two outcomes cannot be compared to arrive at definitive conclusions on CCA effectiveness.

If there appears to be a trade-off between efficiency and social justice, the role of research will be to identify whether there is a trade-off. Research may also try to indicate how much of a trade-off there may be. For example, is social justice improved with a small or large decrease in efficiency, or vice versa? At that point, however, researchers can contribute little to policy debates. Deliberations over which values (outcomes) to maximize in the formulation of corrections policy are not factual arguments. These are normative debates which must be left solely to those who influence and shape policy. Research can clarify to policymakers whether and, perhaps, to what extent there are trade-offs in outcomes but can contribute little to the ensuing value debate.

F. Conclusions

The previous sections have described the conceptual framework developed for evaluating the CCA. The framework identifies three major corrections goals (economy, efficiency and appropriateness of sanctions). These goals result in the outcomes of efficiency and social justice. It then isolates elements of the CCA that are assumed to contribute to the major goals (local planning and administration, improved corrections services and retention of more offenders in the community). The framework organizes the research but also has other uses. It assists in interpreting what types of results lead to what types of conclusions on the effectiveness of the CCA. In addition, it can assist one in developing recommendations that follow logically from these conclusions.

A final point should be stressed, particularly for the CCA county personnel who have an obvious interest in this evaluation. The research will, whenever possible, provide data and findings at the county or CCA area level. Conclusions will be drawn not only on the effectiveness of the CCA state-wide but also at the local level. Areas in which the CCA may operate well will not be masked by those in which it may not.

There are two reasons for highlighting and utilizing county variation. First, useful policy recommendations cannot be made unless we can understand why the CCA is or is not effective. One way to probe this question is to look at county variations to discover what elements are present (or absent) in the areas in which the CCA is most (or least) effective. In addition, one audience for this evaluation consists of the county personnel involved in the CCA. State-wide data and findings are of less use to county personnel who must make local decisions than are county-level data and findings.

TABLE 2 - Summary of Hypothetical Findings and Resulting Policy Recommendations

		CAN THE CCA BE EFFECTIVE POLICY?	
		YES	NO
IS THE CCA EFFECTIVE POLICY?	HYPOTHETICAL FINDINGS	CONTINUE CCA or elements that are effective	(logically impossible combination)
	HYPOTHETICAL FINDINGS	IMPROVE the CCA based on the findings on WHY the CCA is not effective OR RECONSIDER the CCA if it is not effective in most areas or if it has not been successful in attaining most of the objectives* *The actual criteria to distinguish findings that lead to policies of improvement or reconsideration must be established prior to obtaining results.	RECONSIDER the CCA

II METHODOLOGY

A. Introduction

The methodology sections that follow spell out the details of the research that will be conducted to assess the extent to which the objectives and goals of the CCA have been met. The conceptual framework outlined in the previous section identified the important objectives and goals to study and hypothesized how they should relate according to the assumptions of the CCA. Before one can proceed to assess whether the CCA is effective corrections policy (that is, whether and to what extent the logic of the CCA outlined in the conceptual framework is supported), each of the objectives and goals must be studied separately. The methodology sections below address whether the individual objectives and goals have been attained. The final step will be to inspect the results to determine whether the relationships hypothesized in the conceptual framework obtain.

The key to studying each of the objectives and goals is to identify change that has occurred and to determine whether that change can be attributed to the CCA. For instance, in evaluating whether the CCA has led to improved corrections services in the community, one must grapple with two issues. First, one must be able to measure how much change has occurred. Second, one must determine whether and to what extent the change can be attributed to the CCA. This latter issue has to do with controlling for factors other than the CCA that might be affecting our measures of objectives. If one finds that services have increased, one cannot validly conclude that the CCA has been effective until it can be demonstrated with some confidence that other factors have not caused the increase.

One adopts a research design to control for known and unknown factors that may be influencing outcomes. An experimental design is the strongest in that it can control for the most factors. Experimental designs incorporate observations on groups or individuals that receive a treatment (experimental group) and on those that do not (control group) both before and after treatment. Random assignment to the experimental and control groups assures that changes observed in the experimental group but not in the control group can be attributed to the treatment rather than to characteristics of or other factors influencing the experimental group. The standard notation of an experimental design is:

Experimental Group R O₁ X O₂

Control Group R O₁ O₂

- where,
 R = random assignment
 O₁ = pre-test
 O₂ = post-test
 X = treatment about which one wants to infer an effect

Because random assignment is rarely feasible in social science research, experimental designs generally are not feasible. For example, we cannot randomly assign Minnesota counties into groups of CCA participants and non-participants. Instead, counties have chosen whether or not to join the CCA. The research must deal with the pre-determined groups of CCA participants and non-participants. The strategy, then, is to adopt a design that is the strongest feasible given the questions being asked, the data available and resource constraints.¹

There are three basic designs that will be employed in the evaluation of the CCA. These designs are chosen explicitly to achieve as much control as possible over non-CCA variables given the data and resources available to the research group. These three types of design are explained here so that details of the designs need not be repeated in the sections that follow.

1. Multiple Time-Series Design

One of the strongest designs that can be used with data available on the CCA is a multiple time-series design. One plots observations on a variable for a series of periods before and after CCA entry. If a change occurs and is maintained after CCA entry, one can infer that the change is due to the CCA and not to a general trend that has been occurring or to a deviant year before or after entry.

Unless one has a comparison or control group, however, there remain several possibilities that could explain the change other than the CCA. One rival explanation is that some other event occurring at the same time causes changes in the series rather than the CCA itself (history). Another possibility is that changes would have occurred anyway in normal development at the county level (maturation). Also, one might argue that it is characteristics of the counties that join CCA or characteristics in interaction with the CCA that causes changes that have been observed (selection and selection-maturation). If one can incorporate a control or comparison group, these rival explanations can be controlled and the inferences on the effects of the CCA, therefore, would be stronger.

Two strategies will be employed to incorporate comparison county data. First, for some issues on which data are available for all counties (e.g. commitment rates, arrests), each CCA county will be compared to pooled non-CCA counties to control for the effects of non-CCA variables. An alternative would be to match each CCA area to a similar non-CCA county(ies) to assess whether changes occurring in the CCA area are also occurring in the matched areas. A matching process, however, assumes that the researcher can identify the variables that require control and hence the variables on which one would match.

¹Standard discussions of research designs can be found in Donald T. Campbell and Julian T. Stanley, Experimental and Quasi-Experimental Designs for Research, Chicago: Rand McNally, 1963; Thomas D. Cook and Donald T. Campbell, "The Design and Conduct of Quasi-Experiments and True Experiments in Field Settings," in M. D. Dunnette, ed., Handbook of Industrial and Organizational Psychology, Chicago: Rand McNally, 1976, pp. 223-326.

Because there is likely to be error in identifying these variables as well as imperfections in the matching, it was decided that pooled non-CCA data would provide a better reference point for judging what is happening state-wide without the CCA. Pooling the data will, of course, wash out the effects of extreme or deviant counties. In general, this effect is desirable. However, if a subset of counties most similar to the CCA area being studied consistently exhibit extreme values the pooling process would lose this information. To the extent possible, analysts will inspect individual non-CCA county data that appear intuitively similar to CCA counties to assess the possibility that the pooling of non-CCA data is providing an inaccurate comparison.

Sixty counties have not joined the CCA as of 1979. Data on these sixty counties would be pooled and plotted and would serve as a reference point to judge trends occurring in a CCA area. Consider the example in Figure 5. The time series of CCA area A is compared to the time series of all non-CCA areas. If a change occurs between 03 and 04 (CCA entry date) in CCA area A but not in the non-CCA counties, one would infer that the CCA has caused the change. Similarly, for CCA area B one looks for changes between 05 and 06 to assess whether the CCA or other factors are bringing about a change. These comparisons would be done for each CCA area except Ramsey and Hennepin for which non-CCA counties are entirely non-comparable. Ramsey and Hennepin would be compared to each other following the second strategy discussed below.

FIGURE 5: Strategy for Comparing CCA Counties to Pooled Non-CCA Counties

CCA Area A	0 ₁	0 ₂	0 ₃	X	0 ₄	0 ₅	0 ₆	0 ₇
Pooled Non-CCA Counties	0 ₁	0 ₂	0 ₃		0 ₄	0 ₅	0 ₆	0 ₇
CCA Area B	0 ₁	0 ₂	0 ₃	0 ₄	0 ₅	X	0 ₆	0 ₇
Pooled Non-CCA Counties	0 ₁	0 ₂	0 ₃	0 ₄	0 ₅		0 ₆	0 ₇

where 0 = observations
X = CCA entry

Most of the data for this evaluation are not readily available and will require special data collection. It would be much too costly to collect data on all counties and generally would be too costly to collect data even for a few non-CCA counties. Resources will be consumed obtaining information only on CCA counties. However, because counties join the CCA over a period of five years, some comparisons can be incorporated into the design. The second basic strategy to incorporate comparison county data, then, is to utilize other CCA counties with differing entry dates.

Differing entry dates can be utilized in a couple of ways. First, one can simply plot the various CCA area time series to see if there is a tendency for changes to occur after entry rather than after specific years (see Figure 6). It is unlikely that some event other than CCA that might affect the series would occur simultaneously with CCA entry in all counties. For example, one might argue that a change in philosophy supporting the use of local rehabilitation rather than the CCA itself has increased the use of local alternatives. If this philosophy changes around 1974-75, the change might confound the effect

of the CCA for those counties joining in 1974-75, but would cause a change in the time series of the remaining counties prior to their entry dates. Thus, differing entry dates help to control for the rival explanations of history and maturation.

In addition, one can compare each CCA area to a set of areas joining at other times to assess whether changes are likely due to the CCA or to other state-wide trends. This procedure is outlined in Figure 7. In these comparisons, Ramsey and Hennepin will be treated separately. Since their entry dates differ by four years, the pre-entry series of Hennepin can be used as a comparison for Ramsey, while the post-entry series of Ramsey can be used as a comparison for Hennepin. These comparisons will suggest whether factors other than CCA might be affecting the time series of large metropolitan counties. Comparisons would be made as follows:

Ramsey (early entrant)	$O_1 O_2 O_3$	X	$O_4 O_5 O_6$	$O_7 O_8$
Hennepin (late entrant)	$O_1 O_2 O_3$		$O_4 O_5 O_6$	X $O_7 O_8$

where X = CCA entry date
and O = observations

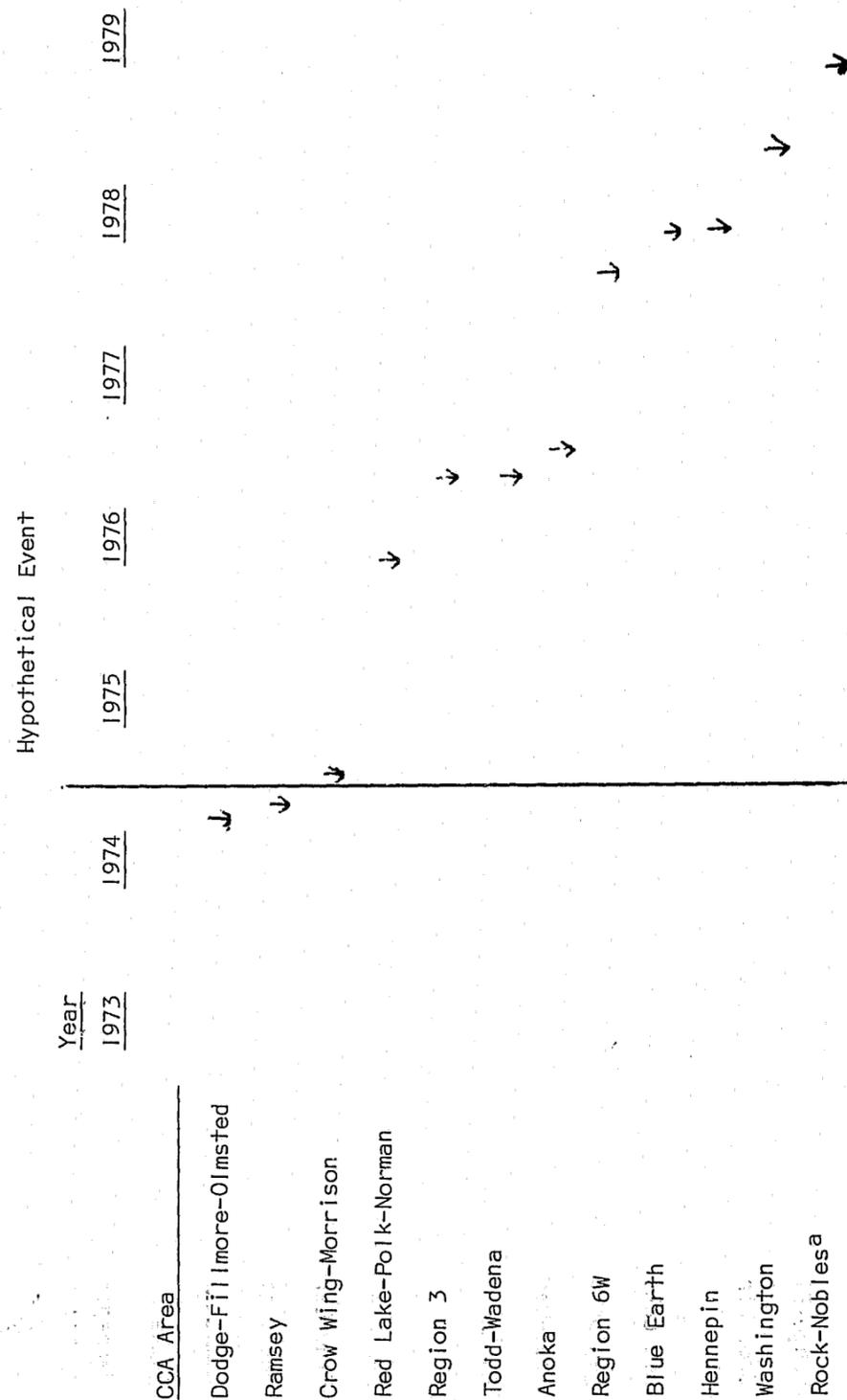
Both counties join the CCA but entry dates differ. The pre-entry series of the late entrant (Hennepin) serves as a control county for the early entrant (Ramsey). If Ramsey's time series changes with CCA entry but no comparable change occurs for Hennepin between O_3 and O_4 , then one can infer that CCA entry stimulated the change. Similarly, the post-entry observations of Ramsey serve as controls for assessing the impact of CCA entry on Hennepin.

The next step is to choose comparisons for the remaining CCA areas. For reasons mentioned above, it was decided not to match counties on an individual basis. Sets of counties emerge in Figure 7, however, as logical comparisons. Three sets of counties stand out -- early joiners (about 1974), middle joiners (about 1976) and late joiners (about 1978). One could break the time series of the three late joiners at 1974 and use their pooled data as a comparison for Dodge-Fillmore-Olmsted and Crow Wing-Morrison. Similarly, one could break the time series of the early joiners at 1978 and use their pooled data as a comparison for the late joiners. The comparison counties, while not meant to be ideal matches, provide a reference point to judge whether changes found in a CCA county appear to be occurring in another set of non-CCA counties.

The middle-joiners are somewhat problematic. Comparisons to either the early or late joiners are more open to interpretation because entry dates are fairly close. For example, if a change found at CCA entry in the middle joiners is also found in the late joiners at approximately the same time (i.e. about 1976), one would want to infer that the change found in the CCA area is in fact not due to the CCA. However, one might argue that since 1976 is so close to the actual entry of the late joiners, that the change found in the latter group are anticipatory changes. In other words, preparing for CCA entry has stimulated changes so, in fact, CCA is causing the changes discovered. The

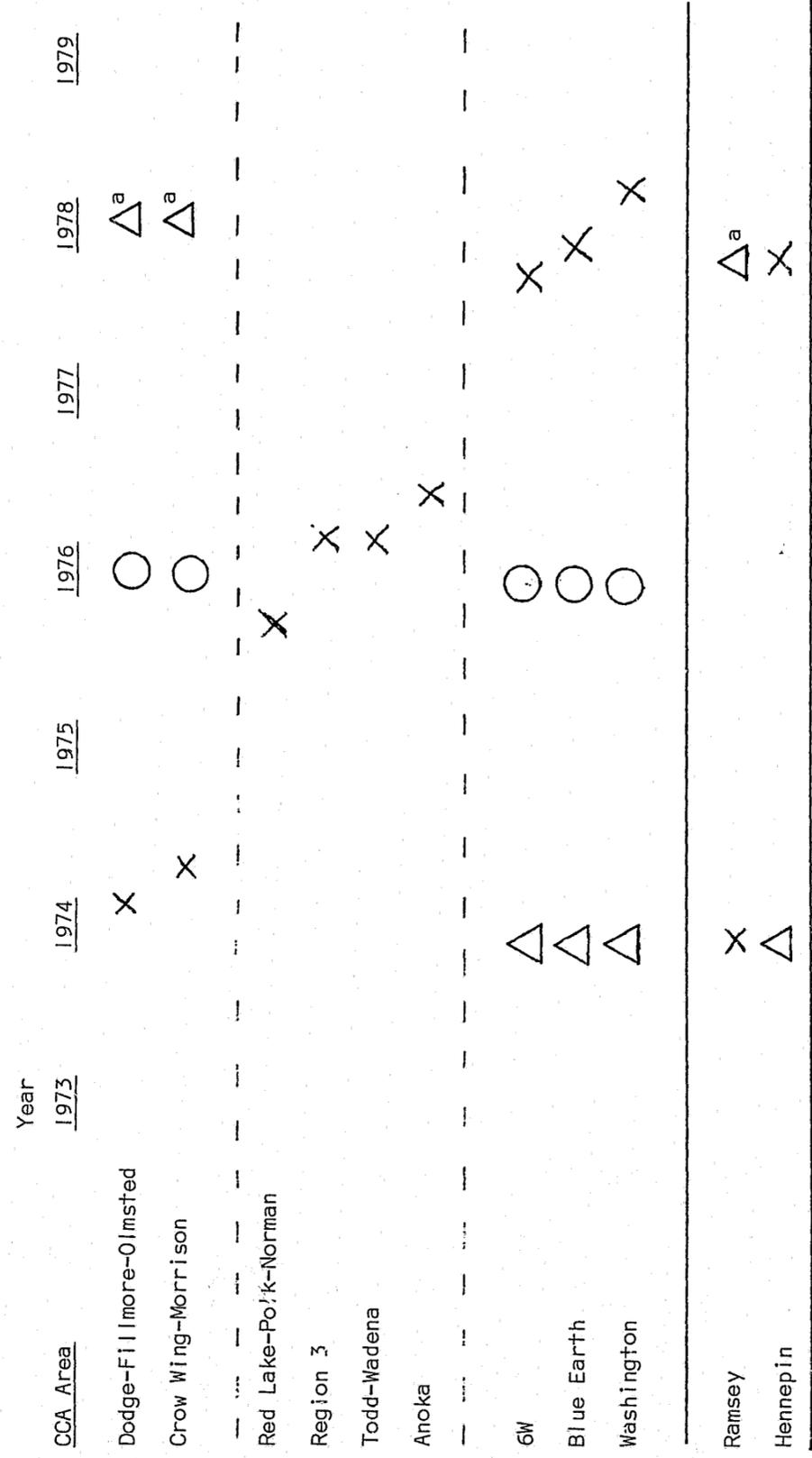


FIGURE 6
ENTRY DATES FOR CCA AREAS WITH A HYPOTHETICAL
EVENT IN 1974 AFFECTING THE TIME SERIES



a. Rock-Nobles will not be included in some portions of the evaluation. Its recent entry permits only one year for effects to emerge.

FIGURE 7: Use of CCA Counties with Different Entry Dates as Comparison Counties



X = CCA Entry

△ = Break in time series for comparison purposes

O = Possible break in time series for comparison purposes although comparisons may be confounded by anticipatory or delayed effects

a. The post-entry series will probably be used only for assessing impact on variables that should not be "contaminated" by CCA entry; that is, further change should be possible in spite of prior CCA entry.



inference of no CCA effect would have been incorrect. Similarly, if comparable changes are found in the middle and early joiners about 1976, the changes in the early joiners might be delayed CCA effects. The general problem of anticipatory and delayed effects is discussed shortly. It is mentioned here as a special problem to consider when comparing the middle joiners to either the early or late joiners.

These two strategies of incorporating comparison counties rely on pooled data because of likely imperfections in matching. In all cases, however, the counties whose data are pooled will be investigated separately to ensure that a few extreme counties are not creating or masking differences. Also, Ramsey and Hennepin will always be treated separately. Since these two counties are unique in their size and urban nature, there are no adequate comparisons for them. Also, if Ramsey and Hennepin data were pooled with other county data, their large size would determine results.

When interpreting multiple time-series designs, researchers must be attentive to two phenomena. First, it is possible that CCA entry has delayed effects. The first few years after entry may be consumed by reorganizations and reorientation so that effects may not show up for several years. Researchers should scrutinize carefully the time series of the early joiners to see if there is evidence of delayed effects. If so, any findings of no effect in the late joining counties should be qualified. Given more time, effects may well begin to emerge.

An opposite phenomenon relates to anticipatory effects. The argument here is that counties begin to change prior to entry as they prepare for entry. If such a phenomenon were occurring it would reduce the utility of late joiners as comparisons and would reduce the magnitude of post-entry effects in all CCA counties. While the time series should be looked at carefully to discern such a phenomenon, there are problems in accepting it as a confounding factor masking "real" CCA effects. This is an evaluation of the CCA which contains provisions (e.g. charges and subsidies) to bring about changes. While some anticipatory activity may commence prior to entry, to argue that changes occur prior to entry is to argue that the CCA provisions (e.g. charges and subsidies) are unnecessary to promote community corrections.

A final point related to the use of the multiple time-series design concerns the use of statistical tests to infer whether changes occurring after CCA entry are "significant", i.e. likely to have occurred by chance. The research designs below will indicate if statistical tests are appropriate. In general, there will be too few observations before and after entry to support tests of significance. A visual inspection of the time series, however, remains a powerful tool to detect changes brought about by the CCA:

We want to advocate the use of time-series designs even when no statistical test of the hypothesis can be carried out. In such a case, we consider it useful to plot the data and to "eye-ball" whether there is a discontinuity in the time trend that cannot be readily explained in terms of the continuation of trends that are observable in the pretest time series, or in terms of statistical

regression following from a deviantly low score just before the treatment is introduced. The most important feature of time-series designs is that there be a sufficient number of pretest data points covering a sufficiently extended time period so that all plausible patterns of variation can be ascertained. While it is undoubtedly advantageous also to be able to test whether an observed discontinuity at the time of treatment can or cannot be plausibly attributed to chance, it should not be forgotten that chance is only one of many alternative interpretations that has to be ruled out. It would be a shame if time-series designs were not used because of "too few observations for sensitive statistical analysis." Even without tests of significance, they represent a powerful gain over designs with only one pre-treatment observation.¹

2. Pre-Test, Post-Test Design

For some variables it is impossible to collect data at a series of intervals. Instead, we often have available only summary measures before and after CCA entry or single observations before and after entry. A comparison of pre- and post-CCA measures still enables one to pick up changes that are occurring, but the design is somewhat weaker than the time-series design. In particular, it is not possible to know if the changes before and after entry are due to some trend that has been occurring independently of the CCA. Also, if the pre-CCA or post-CCA observation is based on one year, one cannot know if this single observation is deviantly high or low. If other pre- or post-CCA years had been selected, different patterns might have emerged.

Just as the time-series design can be strengthened by incorporating comparison counties, so can the basic pre-test post-test design. Comparison counties will be utilized in this design as explained for the time-series design.² The use of comparison data helps to rule out the possibility that the changes observed in CCA areas are due to factors other than CCA, i.e. that the changes would have occurred anyway without the CCA. The standard pre-test post-test design, with a comparison group is depicted as follows:

CCA County	O_1	X	O_2
Non-CCA County	O_1		O_2

where O = observations
and X = entry

¹ Cook and Campbell, *Op. Cit.*, pp. 275-276.

² When aggregating pre/post observations, one should eliminate post-CCA observations of the late joiners when used as comparisons and the pre-CCA observations of the early joiners when used as comparisons to ensure that changes due to the CCA are not included in the comparison county data. In other words, for the comparison data to serve as accurate controls, they should not be contaminated by the comparison county's CCA entry.

If a change occurs in the CCA county between time 1 and time 2 but not in the non-CCA counties, one would infer that the CCA has brought about the change.

3. Statistical Controls

The purpose of a research design is to enable one to infer that some factor (e.g. CCA) causes a change. A design can strengthen this inference to the degree it can rule out the plausibility that other factors are causing the observed change. An alternative approach is to control these "other" variables statistically. That is, does one variable relate to another variable when others are statistically controlled. The basic procedure is to isolate a set of independent variables and assess the extent to which they relate to a dependent variable one is trying to explain. For example, consider a regression model:

$$a + b_1 X_1 + b_2 X_2 + b_3 X_3 + e = Y$$

where X_n = the independent variables that affect Y

Y = the dependent variable being explained

b_n = the coefficient that indicates how much X contributes to Y

e = error term

Suppose we want to assess whether the CCA affects the type of sanctions ordered. We want to control for the possibility that changes in sanctions are actually being affected by the nature of the offender population. Assuming these variables could be measured and that we could have enough observations, the equation might appear as follows:

$$a + b_1 \text{CCA/Non-CCA} + b_2 \text{seriousness of past history} \\ + b_3 \text{seriousness of current offenses} + e = \text{type of sanction}$$

If the CCA incentives to retain offenders in the community are affecting sanctions, then the coefficient associated with the CCA variable (X_1) would indicate this. The coefficient would be insignificant, however, if sanctions are affected primarily by characteristics of the offenders (X_2 and X_3).

There are many statistical techniques of this basic genre that could be developed to achieve controls. Several problems limit their utility for this evaluation, however. First, one must be able to identify the relevant factors that need to be controlled. These may not always be obvious. Second, one must be able to measure these variables. Resource limitations preclude the possibility of collecting data on many of these control variables. Third, statistical analyses require many cases. When the units of analysis are twelve CCA areas, or perhaps several years pre- and post-CCA entry, statistical analyses are not feasible. For these reasons, then, statistical controls can only be used in portions of the evaluation that utilize large samples of offenders on whom we are able to measure relevant control variables.

B. Evaluation of Improved Corrections Planning and Administration

1. Introduction

The conceptual overview for this evaluation effort identifies three objectives of the CCA. The relationships among objectives are such that attainment of one objective contributes both to attainment of other objectives and to the attainment of the goals of the Community Corrections Act (Figure 1). The objective "to improve planning and administration" derives from the organizational requirements of the Act. Thus, the term "administration", in the broadest sense, refers to that set of coordinated and collaborative actions, centralized at the local level, that yields the effective and efficient implementation of the CCA. Specifically, the objective aims to effect the emergence of local corrections organizations that manage implementation of the CCA. Consequently, an evaluation of attainment of the CCA objective must appraise aspects or dimensions of local corrections organizations.

Within the literature on formal organizations, the aspects of organizations which are employed to define and evaluate those organizations are quite varied. In the main, however, the aspects are categorically related to structure and function.¹ The organizational functions of research, training, planning, and budgeting have been selected as subject matter for evaluation of local community corrections organizations because their conduct is delineated within the CCA rules promulgated. With respect to organizational structure, many aspects of corrections organization might have been examined; however, because of its commonality across the literature pertaining to formal organizations, organizational interaction has been selected as the aspect of organizational structure that will be scrutinized. To elaborate, with respect to organizational interaction, behavior patterns among group members define functional roles and responsibilities. Relatively stable patterns of roles and responsibilities in turn dictate the structure of organizations. Measures which reflect behavior patterns among group members are valid indicators of organizational structure; and analysis and evaluation of such measures constitutes one type of appraisal of organizational structure. Here, evaluation of the organizational structure of local community corrections organizations will involve examination of constructs representing patterns of behavior among individuals involved in community corrections organizations at the local level.

In total, then, the first section of the evaluation of the Community Corrections Act will address local corrections organization, specifically, the organizational functions of research, training, planning and budgeting; and organizational structure as represented by patterns of behavior among individuals involved in local community corrections organizations.

¹Richard H. Hall, Organizations: Structure and Process, Second edition, Prentice-Hall, Inc., (Englewood Cliffs, N. J.: 1977); James Thompson, Organizations in Action, McGraw-Hill (New York: 1967); Shirley Terreberry, "The Evolution of Organizational Environments," Administrative Science Quarterly 12, (March, 1969).

2. Strategies for Evaluation of Local Corrections Organization

In choosing an evaluation strategy, a primary consideration is information need. Within a policy-making context, attention is directed to the kinds of information most useful to decision makers in their appraisal of the Community Corrections Act as a component of public corrections policy. The criteria of effort and effectiveness are commonly utilized in evaluation of public policy.¹ For the evaluation of structure and functions within local corrections organizations, three strategies will be adopted which will utilize these evaluation criteria:

1. First, the quantity and quality of the activity that has taken place with respect to the organizational functions of research, training, planning and budgeting will be assessed. Evaluation of quantity and quality of the CCA functions delineated represents appraisal of organizational effort or input.
2. Second, the products and results observed through the execution of these functions will be explored. Evaluation of products/results attained is evaluation of organizational effectiveness--organizational output, or what the local corrections organizations have accomplished.
3. Finally, constructs reflecting behavior patterns representative of local CCA organizational structure will be examined. Evaluation of organizational structure, as indicated by construct measurement and appraisal, also is evaluation of organizational output. It is assessment of organizational output because it will judge the extent or degree to which organizations, defined in terms of structure, have evolved to manage implementation of the CCA.

Factors affecting either the number of or quality of the organizational functions outlined will be explored as aspects of the first two evaluation strategies. This is the case because such factors maintain the potential either to facilitate or hinder the execution of the functions, ultimately affecting organizational input as well as output. Consequently, in order to describe or explain functional input and output in a comprehensive manner, the following question will be answered: What problems or issues exist with respect to the organizational functions of research, training, planning and budgeting? Further, in an attempt to identify actions that might be undertaken to improve levels of effort expended or effectiveness achieved, another question

¹Edward A. Suchman, Evaluative Research, Principles and Practices in Public Service and Social Action Programs, Russell Sage Foundation (New York: 1967), pp. 61-63.

will be explored: What recommendations for change in these four organizational functions can be made?

With respect to the third evaluation strategy, it must be pointed out that, although the literature on organizational theory abounds with anecdotal description or explanation, few empirical methods have been applied to yield objective measures of organizational structure. In a doctoral dissertation, McCann has derived constructs representing the structure of organizations that are based upon the perceptions of the behavior of significant individuals in those organizations.¹ Although the constructs will not be fully described here, they include dimensions such as coordination satisfaction, organizational legitimacy and organizational viability.² McCann's work was, in part, done using individuals in the local corrections organizations that comprise Minnesota's community corrections network. Consequently, it will be possible in the third evaluation strategy to attempt to replicate and further utilize McCann's original work (using an expanded data set, however). Assessment of where local community corrections organizations fall on the constructs examined relative to the maximum value of the constructs will constitute appraisal of organizational performance, or organizational output. Finally, taking a given corrections organization as an entity, it follows that the same types of questions posed about organizational functions can be directly applied. It is, for example, logical to ask what the accomplishments or achievements of a local corrections organization are; what problems or issues exist with respect to the organizations, and what changes can be recommended to improve the functioning of an organization. These kinds of information will augment appraisal of organizational structure within the third evaluation strategy.

3. Methods of Data Collection and Data Sources

All data collected will involve two data sources: 1) comprehensive plans; and/or 2) individuals involved in the CCA at the local levels (CCA administrators and staff, advisory board members, probation and parole officers, and CCA specialists).

¹ Joseph McCann, "Developing Interorganizational Domains: Concepts and Practice," Unpublished Doctoral Dissertation, University of Pennsylvania, Philadelphia, August, 1980.

² Coordination satisfaction refers to extent of satisfaction with collaborative efforts undertaken by individuals involved in CCA at the local level.

Organizational legitimacy refers to the degree of consensus about organizational responsibilities, clarity of incentives, importance of the situation, and agreement about what constitutes an ideal situation for an organization.

Organizational viability refers to degree of consensus that an organization is able to accomplish what it sets out to accomplish, that individuals involved in the organization are willing to create shared strategies, and agreement that a current course of action is appropriate.

A survey methodology will be employed to secure the judgments and attitudes of individuals involved in the CCA at the local level. The first of the data collection instruments used will include structured items related to: 1) functions of local corrections organizations (research, training, planning, budgeting); 2) qualitative aspects of these functions (e.g., timeliness, overall quality, clarity); and 3) constructs representing organizational structure (e.g., organizational legitimacy and viability). Form A will be administered by mail survey to CCA administrators, CCA staff, advisory board members, CCA specialists and probation and parole officers.

Form B is the second questionnaire that will be used and will also be administered as a mail survey. Form B will consist of open-ended items pertaining to: 1) accomplishments and achievements observed across research, training, planning and budgeting functions, and observed within the local CCA organization; 2) changes occurring within the functions since a county joined the Community Corrections Act; 3) problems and issues pertaining to the functions or facing the local organization; and 4) recommendations for change in the functions and in the local CCA organization. Form B will be administered to CCA administrators and staff, CCA specialists, and some advisory board members. Form B will not be administered to all advisory board members because the items in it are open-ended and the instrument will take approximately two hours to complete. It was thought that the response rate to Form B would be unacceptably low given the time requirement for completion. Thus, Form B will be administered to a subset of advisory board members. The advisory board members to whom Form B will be sent will be nominated by CCA administrators and CCA specialists, either because they represent divergent viewpoints of individuals involved in local CCA organizations, or because they are thoroughly knowledgeable about the functioning of the local CCA organizations. The set of items comprising Form A and Form B and information in the comprehensive plans will provide all data necessary to implement the evaluation strategies delineated.

4. Evaluation Design

As previously discussed, a multiple time-series design will be appropriate to much of the analysis that will be carried out in the evaluation of the Community Corrections Act. For this section of the evaluation, however, it is a posttest (only) design that is appropriate for the analysis of local CCA organizations. The rationale for employing a posttest design is straightforward. Local CCA organizations evolve only after a county or multi-county unit enters the Community Corrections Act. The organizational structures of corrections organizations and groups that existed prior to and contemporaneously with the local CCA organizations are not relevant. What is of interest is the extent to which local community corrections organizations have evolved, that is to say, the extent to which organization structures measured in terms of organizational functions and structure have developed subsequent to CCA entry.

5. Analytical Scheme and Reporting Format

For the evaluation strategies as a whole, the analyses employed will yield estimates of effort and/or effectiveness for: 1) the organizational functions of research, training, planning and budgeting; and 2) organizational structure measured in terms of constructs such as coordination satisfaction, organizational legitimacy and organizational viability.

Measures of effort will include the numbers of and kinds of activities that take place within each organizational function. Other measures of effort will be ratings of: 1) quality of organizational functions based on 5-point Likert-type items (for example, items A2f, A3d); 2) usefulness of organizational functions (items A2b, A3b, A4b); and 3) comprehensiveness of the organizational functions/related products (items A1c, A1d, A1e).¹ The measures of effectiveness of organizational functions will be the numbers by types of achievements and accomplishments of the organizational functions (items B1, B5, B9, B13).² Additional qualitative measures of effectiveness or performance are the numbers and kinds of: 1) problems and issues pertaining to organizational functions (items B3, B7, B11, B15); 2) changes in the functions observed subsequent to CCA entry (items B2, B6, B10, B14); and 3) recommended changes in the functions (items B4, B8, B12, B16).

For the most part, only descriptive statistics such as means, standard deviations, and frequency distributions, will be employed in analyzing data pertaining to organizational functions.

The reporting format that will be used with respect to the organizational functions examined is as follows:

1. Enumeration of accomplishments and achievements, and changes since CCA entry including pertinent frequency distributions and noteworthy examples.
2. Ratings of effectiveness and quality, presented in tabular form, and reported either by or across local CCA organizations.³
3. Enumeration and discussion of problems and issues, including frequency distributions of the same if applicable.
4. Enumeration and discussion of recommended changes with respect to implementation of the functions; frequency distributions of recommended changes by function will be prepared as warranted.

All of the above types of information and data will be integrated into a single narrative addressing functions of local CCA organizations.

¹ Items prefixed with the letter "A" refer to items in Form A of the survey instruments.

² Items prefixed with the letter "B" refer to items in Form B of the survey instruments.

³ Mean rating scores, variances, standard deviations and response distributions will be incorporated in the tables, as warranted.

The analysis of organizational structure will be a two-step process. First, responses to or ratings based upon the Form A items having to do with McCann's structural dimensions (items A5-A21) will be factor analyzed to determine the reliability of that researcher's initial constructs. The correlation matrix from the data set will be factor analyzed by the basic-structure-successive factor method with varimax rotation,¹ using squared multiple correlation communality estimates.² An adaptation of the X^2 goodness of fit test for the factor model will be computed for the factors extracted in the analysis.

If results indicate that the factors McCann observed are stable,³ then, as a second stage of the analysis, computed variables based upon the individual questionnaire items comprising each construct will be derived to yield performance measures. Other measures of organizational structure will be computed from ratio variables defined as the ratio of the observed combined rating on each construct/factor to the maximum possible combined rating on each construct.⁴ These ratio variables will be used to yield performance measures or measures of effectiveness since they can range from zero to one -- an undefined level of the dimension examined to the maximum possible level of the dimension. Ratios approximately 1.00 are closer to the maximum possible level of the dimension and, hence, will be interpreted as representing the highest level of organizational structure possible.

Data and information about the achievements of local CCA organizations, problems and issues, and recommendations for change will be added measures of effectiveness and will be combined with data from the computed variables and the ratio variables.

Descriptive statistics such as means and standard deviations will be calculated for each construct (dimension), as will ratios or proportions representing the extent to which each dimension has been achieved within local community corrections organizations.

The reporting format that will be employed will consist of:

1. Enumeration of achievements and accomplishments of local corrections organizations, including frequency distributions as needed.

¹ Paul Horst, Factor Analysis of Data Matrices, Holt, Rinehart and Winston, (New York: 1965).

² H. H. Harman, Modern Factor Analysis, Revised Second Edition, University of Chicago Press (Chicago: 1969).

³ There is indication that McCann's factors may not be stable because of a systematic bias in the data set that was attributable to the use of a possibly non-representative sample of CCA stakeholders.

⁴ A combined rating is the sum of individual ratings across the variables or items that comprise each factor, or construct.

2. Combined ratings across variables or items comprising each factor, or construct.
3. Ratio measures of performance across the variables or items comprising each factor, or construct.
4. Enumeration and discussion of problems, issues, and recommended changes in relation to organizational structure.

The end product will be a narrative that deals with local community corrections organizations primarily in terms of performance ratings that define organizational structure as organizational constructs.

To backtrack, if factors similar to those McCann found are not observed at the end of the first stage, a new factor model will be derived. One half of the sample of Form A respondents will be randomly drawn from the total sample, the other half of the sample will be withheld. Form A data, specifically, items A5-A21, from the randomly drawn subsample will be factor analyzed using the technique identified above. The factor model obtained will subsequently be used to define the constructs that represent the structure of local CCA organizations. Then, the data from the second half of the sample will be used to compute appropriate statistics descriptive of the constructs based upon the factors. (The projected number of cases is large enough -- approximately 400 cases -- to permit the use of this sampling method to derive and test the factor model for reliability.) The results will be combined with the data and information on local CCA organizations that has just been described to form a narrative on organizational structure based on a new set of constructs (factor model).

Lastly, summary measures representing organizational structure and function will be computed for each local community corrections organization. These measures will either represent the status of the organizations at the time this evaluation was conducted or extent of change observed within the organizations over time. It can be seen that such summary measures can readily be utilized to assess attainment of the CCA objective pertaining to planning and administration.

C. Evaluation of Improvement of Local Correctional Services

1. Introduction

As explained in the conceptual overview, when a county area enters the CCA it is expected that the subsidy funds and the improved planning and administration demanded by the original legislation and subsequent departmental rules and policies will result in an increase in the range, quantity and quality of correctional programming available in the county area.

The purpose of the research design presented in this section is to allow the research group to establish if the CCA has indeed resulted in changes in correction programming as explained above. It is essential to articulate one caveat. It appears to us that there is no way to develop a design that would permit inferences as to changes in the quality of correctional services. This is primarily due to the fact that the quality of correctional services cannot be conceptually defined in a way that would permit operational measures to be developed for use in such a diverse area of programming in twenty-seven different counties. However, if increases in the quality of correctional services result in more effective rehabilitative programming, there will be an increase in public protection which we are able to measure.

Of interest then, are changes or the lack of changes in the range and quantity of correctional programming in the CCA counties. Correctional programming is defined in a very broad sense. Any program whose purpose involves dealing with offenders or potential offenders is, for the purpose of this research, a correctional program. There are also two categories of programming on which limited descriptive information will be sought. One category of programming involves persons who are neither offenders nor potential offenders but whose lives have been affected by offenders or potential offenders. An example of this kind of programming are victim services programs and rape crisis programs. Another category of non-offender programming sometimes included in a local correctional system involves clients who have no relationship whatsoever to the criminal justice system. An example of this kind of program is the services provided to individuals involved in divorce courts.

Each county area will, of course, provide a different set of correctional programs. In the larger county areas we will find programming that will include prevention, diversion, victim services, probation and parole, restitution, therapy and education for a variety of client types.

2. Classifying Local Correctional Programming

Given the diversity of programming at the local level, it is useful to classify programs into categories in order to achieve greater conceptual clarity in the research design and the subsequent analysis. Classifying programs will also contribute to an organized data collection effort.

Figure 8 allows us to classify local correctional programming by the type of client served with the type of programming services provided. We intend to use this classification device to focus on both juvenile and adult programming.

Figure 8 - Local Correctional Programming

40.

Client Type

Type of Service	Pre-Offender	Pre-Adjudication	Post-Adjudication	Victims	Non-Criminal Justice Clients	Total Client Capacity/Use
Education (acad. & voca.)	Number of Programs =					
	Capacity =					
	Use =					
	Staff Comp. =					
Employment & Living Skills						
Chemical Dependency						
Mental Health						
Supervision						
Treatment						
Incarceration						
Total Service Types						

The purpose of organizing data collection in the context of this classification device, is to address the quantity of clients served and the range of services provided to clients before and after the CCA. This method of collecting data will also allow us to measure the relative use (as opposed to capacity) of programming services as well as program effort, as indicated by each program's staff complement.

a. Service Types

Nearly all of the program services listed in Figure 8 are offered because it is thought that they will rehabilitate offenders and potential offenders. The exceptions to this rule will be discussed below. Both academic and vocational education are offered in the belief that individuals are or will become offenders because they lack the skills or credentials that result from education. Similarly, chemical dependency programs are offered because of the belief that individuals commit crimes or will commit crimes because they are chemically dependent. Of course, some persons are dependent on or users of chemicals that are illegal to possess and participate in this kind of programming for that reason. Mental health services are provided because of the belief that some individuals with personality or psychological disorders cannot live their lives in a normal law-abiding way.

Supervision is thought to contribute to the rehabilitation of offenders not only by making the offender accountable to a field agent, but also because the agent can provide counseling and referral services. Treatment programs focus more directly on criminality or potential criminality. While chemical dependency or mental health problems may be a more indirect factor in contributing to criminality, treatment programs attempt to deal with what some believe to be more direct causes of criminality. The program service we intend to cover in this category of our classification includes a variety of treatment modalities with quite different theoretical or philosophical underpinnings.

Incarceration is a type of service usually intended to control, punish, or incapacitate clients or to deter other potential offenders. However, in many secure facilities other services are provided in the belief that rehabilitation can take place in a secure facility.

Diagnosis and referral is a service which is intended to identify specific problems of correctional clients and to refer the client to an agency whose purpose is to address those problems. These problems could include chemical dependency, marital or family problems and unemployment. The rationale for this kind of service is the kind of problems mentioned above may contribute to unlawful behavior and that without diagnosis and referral the client would not have the opportunity for his/her problems to be addressed.

b. Client Types

Community corrections systems provide services to a variety of client types. The types listed in Figure 8 differ primarily in how the clients in each type relate to the criminal justice system. Pre-offenders are persons who have not been arrested for an offense but because of their behavior in the community, are either referred or encouraged to become involved with programs

that are intended to prevent criminal behavior. These programs intend to prevent criminality by either offering information on the consequences of committing a crime or by providing settings for social interaction as an alternative to criminal activity, particularly in crisis situations. Most programming activity in the area of pre-offenders focuses on juveniles.

Pre-adjudication clients are individuals who have been arrested for an offense but have not been convicted. The police, prosecutors, or the courts may refer arrested persons to programs before or in lieu of conviction. Programming services for this kind of client are offered in the belief that some individuals are more likely to be rehabilitated if they do not suffer the stigma of being convicted and labeled an offender.

Post-adjudication clients are individuals who have been arrested and convicted. Programming services are provided to this type of client because the offense is not serious enough to warrant incarceration in a state correctional facility and/or because of the belief that the offender can be rehabilitated, without endangering the public, at the community level.

Some community corrections systems provide services to victims of criminal behavior. These programs, of course, are not offered with the intention of rehabilitating anyone. They are part of corrections systems primarily because of administrative convenience.

A final category of clients served by programs in some local correctional systems are totally unrelated to the criminal justice system. Program services for domestic court clients are an example of this kind of programming activity. While including such activity as part of a local corrections system is unusual, it may also be administratively convenient to do so.

3. Measuring Improvement of Local Correctional Services

The method of classifying program activity as described above will allow us to measure the quantity of programming activity and the range of program services. We intend to measure the quantity of programming activity in four ways: number of programs offered, program capacity, program use and program effort. A program is any organized activity which is part of a county's local correctional system that deals with any of the client types included in Figure 8. All correctional programs will fit into one or more of the cells of Figure 8. While many local programs will be put into more than one cell because they offer more than one service, data on capacity, use and effort will be counted only once. For each program then, we will establish the program's capacity as indicated by client bedspace, the relative use of program as indicated by average daily population or by clients served, and programming effort as indicated by the total number of staff in each program. It is appropriate to measure program capacity in that one way local corrections systems can improve service is by expanding capacity to meet local community needs. An increase in the relative use of programs can also indicate improvement. If, for example, the programming capacity of a local system stays the same, but the number of clients going through the system increases, the county may be more adequately addressing their particular local needs. Program effort will be

measured by the number of staff associated with each program. We would consider a local system to have improved if greater programming effort is made even if programming capacity and program use stays the same. In the context of Figure 8 the capacity, use and staff complement of each program in every row will be accumulated. The totals for each row will be summed in order to arrive at grand totals for measures of the quantity of programming services.

The range of programming services refers to the kinds of services available to clients in a local corrections system. Because one program can and often does provide more than one service to clients, we will, in order to assess range, count the number of services available in each column of Figure 8 irrespective of the number of programs represented in the rows. These services will be summed by column and a grand total of services will be calculated. In addition to distinguishing between adult and juvenile programming activity, we shall also distinguish between programming for males and females.

4. Design

The design we intend to use to assess the impact of the CCA on the range and quantity of local correctional services, is a multiple time-series design. This design calls for measuring the range and quantity of local correctional services for several time periods before and after a county enters the CCA. The design also calls for using other CCA areas with different entry dates as comparisons (see introductory methodology section). If the data collected shows an improvement in local correctional services after a county has entered the CCA that is greater than the improvement (if any) in the comparison counties, it will be inferred that the improvement in the participating counties is a result of the CCA.

Improvement will be inferred if any one of the measures of quantity increases or if the range of service types provided increases. It is important to remember that no specific level or combination of improvement is hypothesized. Rather, we are interested in patterns of improvement or the lack thereof in the context of the overall theory of the CCA as diagramed in the conceptual overview section.

This design has two important advantages over other possible designs. First, measuring the range and quantity of local correctional services at several points before and after the CCA allows us to compare before and after trends. Thus, one unusual period can be more easily identified and controlled. The second advantage of this design is the use of a comparison group. Even though the participating and non-participating counties are naturally assembled collectives and do not have pre-experimental sampling equivalence, the comparison counties do help control for some threats to validity that could otherwise confound the analysis. Events other than the CCA that could have resulted in an improvement in local correctional services can be controlled by the comparison counties. If it is found that data on correctional services is difficult to obtain in the pre-CCA period, a design which calls for measurement in only one period before and after the CCA will be used. However, with this design we would not be able to compare trends.

5. Data Sources

The primary data source for this aspect of the CCA evaluation will be the comprehensive plans submitted by the participating counties. Data in the pre-CCA period may be more difficult to obtain, in that comprehensive plans are not available. In this case, data will have to be obtained from county documents such as budgets and program records.

6. Summary

In summary, this design calls for obtaining data for each cell of Figure 8 on the number of programs, the capacity of the programs, the relative use of the programs, programming effort, and the range of program services. This data will be collected in the period both prior to and after a county has entered the CCA. This data used in the context of this design will permit us to infer whether or not the CCA has increased the range and quantity of local correctional services.



D. Evaluation of Retaining Offenders in Community

One objective of the Act is to retain offenders in the community by increasing the use of local alternatives and by decreasing the use of state institutions. The legislation provides incentives for the counties to do this by imposing a charge per diem for certain non-serious offenders committed to state institutions and by providing a subsidy to help counties create correctional alternatives and programs for all offenders.

The estimation of the impact of CCA on adult and juvenile commitments requires several steps. The Systems Rate Study data base (district court dispositions in CCA and selected non-CCA counties) will be used to determine the expected adult commitments had CCA not been enacted and a juvenile commitment rate will be used to determine expected juvenile commitments. Adult commitment rates will also be calculated for CCA and non-CCA counties and used to estimate state commitments. This analysis will provide corroboration of the estimate based on court dispositions and will also provide a broader base from which to analyze trends because the commitment rate data will include all counties.

The design strategy of this segment of the evaluation, then, is to determine how many of these offenders who might otherwise have been committed to state institutions were retained in the community as a result of the incentives offered and how many other offenders who might otherwise have been committed were retained due to the availability of additional correctional services.

The following distinct analyses will be conducted:

- 1. Impact of the CCA on adult commitments to state institutions.
- 2. Impact of the CCA on juvenile commitments to state institutions.

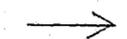
1. Impact of the CCA on Adult Commitments to State Institutions

a. General Approach

The approach to be used to estimate the impact of the CCA on adult commitments is presented below.

I. Retention of chargeable offenders

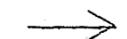
Expected number of chargeable offenders committed to state institutions



Actual number of chargeable offenders committed to state institutions

II. Retention of non-chargeable offenders

Expected number of non-chargeable offenders committed to state if CCA had not been enacted

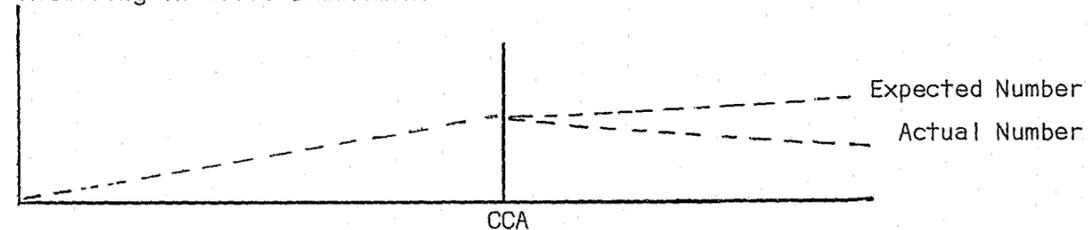


Actual number of non-chargeable offenders committed to state after CCA enacted

The multiple time-series design described in the introduction will be used to plot observations (court dispositions) over a period of time before and after CCA entry. If a change occurs after CCA entry, we can infer that this change is due to the CCA, particularly if such changes do not occur at the same time in other counties. In this case, however, we need to do more than simply infer that the change is due to CCA participation. We need to be able to estimate the number of offenders who were retained in the community as a result of the CCA.

The expected number of offenders will be calculated using the Systems Rate Study data base. For example, the proportion of chargeable offenders committed to a state institution during each of eight or more quarters prior to CCA entry will be calculated and used to project expected commitments after entry. The difference between the expected number and the actual number represents the decrease attributable to CCA.

Proportion of Dispositions
Resulting in State Commitment



This type of analysis will be done for both chargeable and non-chargeable offenders, as defined above; for each of the CCA counties or groups of counties to give an indication of the impact of the CCA on individual counties.

To eliminate the impact of increased court activity and the accompanying increase in commitments, commitments as a proportion of total court dispositions will be used. One would expect, for example, that under the CCA the proportion of chargeables committed to state institutions would decline although there may not be a decline in the actual number of chargeables committed.

To reduce the likelihood that changes are due to other external factors, a comparison can be made with court dispositions of non-CCA counties. Since entry dates differ so widely, other CCA counties can be used to control for rival explanations, as explained in the introductory methodology section.

b. Choice of Forecasting Techniques

Three basic types of forecasting techniques exist -- qualitative techniques, time series analysis and projection and causal models. Qualitative techniques may be used when data are scarce or when judgmental factors or rating methods are appropriate. Time series analysis and projection are used when historical data is available and when trends and relationships are known and relatively stable. This technique is based on the assumption that existing patterns will continue into the future. Although the various methods of time series analysis prove relatively accurate in the short run, problems may arise when forecasts are made far into the future. Time series analysis cannot generally predict turning points or points at which a trend will change significantly.

The third major type of technique is causal modeling. These models are the most sophisticated type of forecasting and take into account relevant causal relationships and known dynamics of the system and related events. Causal models require a wide variety of historical data and are generally best for predicting turning points and for long term forecasts. This technique is generally costly and time consuming to develop and its reliability depends on the strength of known relationships and assumptions. In the case of early joining counties, the forecast period is relatively long and causal modeling may be more appropriate. However, for these counties sufficient historical data to construct a model is not available. For late joining counties there is sufficient historical data but in such cases time series analysis is equally accurate and certainly less costly.

In this evaluation we will not be forecasting in the usual sense because the turning point is already defined and what happened after the turning point is already known. The forecast, then, will be used to predict what would have happened if CCA had not been enacted. Because we do not need to identify a turning point or in most cases forecast for long periods of time, time series analysis appears to be most applicable to the type of forecasting needed and the historical data available. The specific time series analysis method to be used in each instance will depend on the nature of the historical data. Whenever possible, various methods will be tested for fit by dividing either the pre or post data points into two parts and using the first series of points to forecast expected events in the second series. This forecast can then be compared with actual events and the method that best represents the data, chosen to estimate the number of offenders retained in the community as a result of CCA. The primary methods to be tested for fit singly or in combination are moving averages, pre-post statistics, linear regression and trend analysis. In some cases where data elements are too small or unstable judgmental factors may also be considered.

The historical data to be used for these forecasts are the quarterly court dispositions of participating counties. Because of the strong seasonal character of court dispositions, a four-period moving average will be calculated for all data points, for chargeable and non-chargeable offenses. This moving average will tend to smooth out seasonal variation and will also reduce the effect of random variation. What variation remains may be considered as a trend or cyclical variation. Cyclical variations are those variations that occur on a regular basis generally every two to four years. They may, however, occur at longer or shorter intervals. While there does appear to be some evidence of cyclical patterns in commitment data, these phenomena may be considered largely random rather than cyclical. These variations in the past have been largely due to fluctuating economic conditions and are not cyclical in the usual sense. Changing numbers of population-at-risk also has an impact on court dispositions, but these patterns are more properly considered as part of a trend which rises and falls relatively slowly over a relatively long period of time. It is this trend as well as other simultaneous trends that will determine what could have been expected if CCA had not been enacted.

The methods described above will be used for both chargeable and non-chargeable offenders. The possible outcomes and conclusions are presented below.

Reduction in number of chargeable offenders committed to the state	→	Incentives offered by CCA were sufficient to change sentencing patterns
No reduction in number of chargeable offenders committed to the state	→	Incentives offered by CCA had no impact on sentencing patterns
Reduction in number of non-chargeable offenders committed to the state	→	The increased community alternatives were sufficient to change sentencing patterns
No reduction in number of non-chargeable offenders committed to the state	→	Increased community alternatives were not sufficient to change sentencing patterns

c. Commitment Rate Analysis

Because of differing time periods and the lack of adequately matched counties and because court dispositions do not take into account probation revocations, the Systems Rate Study alone cannot answer the questions posed by this evaluation. Thus, some other means of estimating the number of offenders retained in the community who would have been committed had the CCA not been enacted will serve to corroborate the findings.

It was decided that a commitment rate study could best answer these questions by incorporating population-at-risk. Commitment rates will also be investigated using a time-series design.

The first step in the analysis is to develop a measure of commitment rate that will provide a more realistic estimate of the CCA's impact for those counties that are experiencing a rapid rate of growth of population-at-risk. The population-at-risk for adults includes all persons from the ages of 18 through 29. This age group encompasses approximately seventy-five percent of commitments to state institutions. While expanding the upper age limits to 39 would result in the inclusion of ninety-five percent of adult commitments, it would at the same time mask the year-to-year changes and make the rate analysis less sensitive to change.

Age estimates are based on recent estimates by the State Planning Agency and are used to revise previous estimates of expected county population in 1980. Projected population for other years is simply extrapolated using three points in time: the 1970 census, the 1975 estimated population and the corrected 1980 projections.

To add credence to the analysis of court dispositions the same type of analysis will be done for those CCA counties that have a sufficient number of data points prior to CCA entry. A trend line will be projected and the number of expected commitments calculated. These figures will be compared with similar calculations using court disposition data. If these two sets of figures are compatible, the confidence placed in the original trend analysis is enhanced.

In addition to the analysis of individual CCA counties, an overall assessment of the impact of the CCA legislation on commitment patterns throughout the state will be made. Commitment rate data over time will be plotted for three groups of counties: Hennepin and Ramsey, sixty non-CCA counties, all current CCA counties excluding Hennepin and Ramsey. In each case, the pre-post point will be the date of the enactment of the CCA legislation.

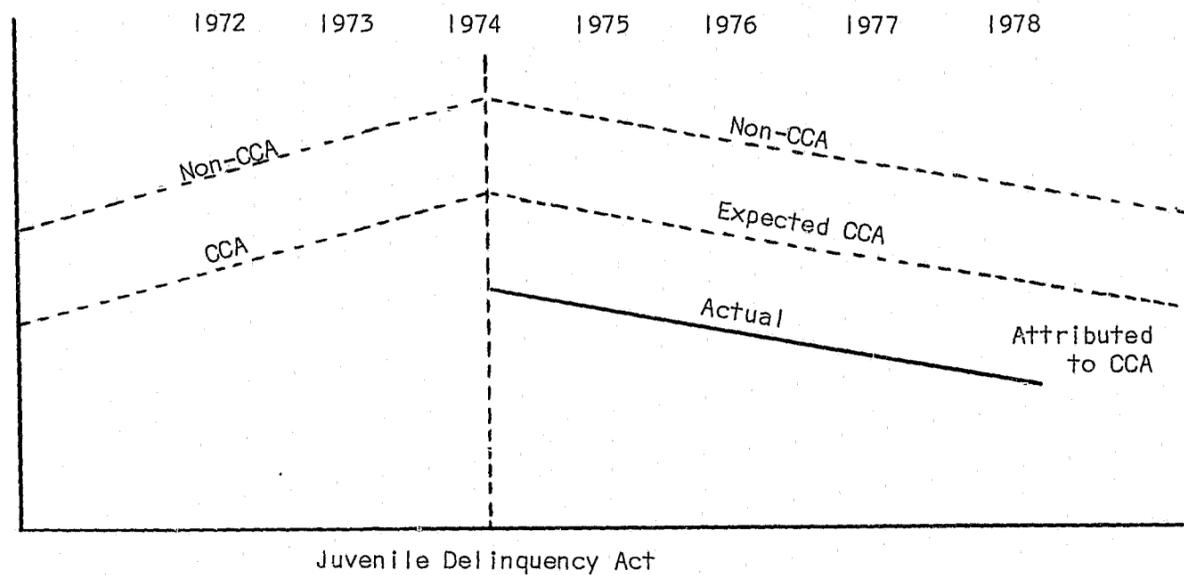
2. Impact of CCA on Juvenile Commitments to State Institutions

The CCA requires that counties participating in the Act pay a per diem charge for every juvenile committed to a state institution (except the Serious Juvenile Offender Program). Thus, the same kind of rationale used for estimating the impact of CCA on adult state commitments, applies to this analysis. However, because court data is not available for juveniles, only a commitment rate study will be done.

In the case of juveniles, an expected commitment rate will be calculated in a similar manner to that used for calculating expected adult commitments. For juveniles, however, the results of such an analysis are less clear because of concurrent trends and policy changes as a result of the Juvenile Justice and Delinquency Act of 1974. This Act requires that states receiving federal grants must comply with certain provisions. ...that juveniles who are charged with or who have committed offenses that would not be criminal if committed by an adult, shall not be placed in juvenile detention or correctional facilities...

Thus, the process of deinstitutionalization of juvenile status offenders began about the same time as the Community Corrections Act became effective. Nevertheless, commitment rates can be plotted for CCA counties three years prior to entry and three to four years after entry. Similar rates can be developed for non-CCA counties. The differences in expected and actual commitments may be attributed to CCA.

The expected number of commitments will be derived by applying the rate change of non-CCA counties to CCA counties. For example, if non-CCA counties experienced a ten percent reduction in commitments after 1974, we would expect the CCA counties to have a similar decrease for reasons not associated with CCA. Thus, the difference in actual and expected can be attributed to CCA.



E. Evaluation of Appropriateness of Sanctions

1. Introduction

The conceptual framework has identified three goals of the CCA. Two goals -- economy and public protection -- are concerned with the public good. The goal of appropriateness of sanctions, on the other hand, is more concerned with offenders.

Appropriateness of sanctions will be evaluated primarily in terms of commitment/noncommitment. A prevalent belief behind the CCA was that less serious offenders did not deserve the severe sanction of prison; rather, a less severe community sanction was believed to be more appropriate. The CCA was in part designed to provide incentives to divert less serious offenders from institutionalization. The conceptual framework suggests that this goal can be achieved through two mechanisms. First, the charge for committing offenders with 0-5 year sentences or less is intended not only to keep more offenders in the community (objective #3), but also to keep the appropriate ones in the community (i.e. less serious). Moreover, the subsidy should encourage the development of more services and a wider range of services so that resources are available in the community for less serious offenders. An increase in sentencing alternatives should result in the imposition of more appropriate sanctions. The key issue in the evaluation will be to determine whether sanctions become more appropriate after CCA entry. Do a larger proportion of offenders who "ought" not be institutionalized receive community alternatives; do a larger proportion of offenders who "ought" to be committed receive prison sanctions?

A related concern behind the CCA was that similar types of offenders ought to receive similar sanctions. Of particular concern was sentencing disparity across counties. While an offender in a county with many resources might be given a community sanction, a similar offender in another county with few alternatives might have to be committed. If the (dis)incentives of the CCA operate as intended, then making sanctions more appropriate in participating counties should at the same time reduce disparity, at least across participating counties.

2. Measurement of Sanctions

a. Adults

1. A Standard for Appropriate Sanctions

This evaluation requires a standard of appropriateness to which the actual sanction can be compared. Two efforts have been made in Minnesota to define the kind of offender for whom a specific sanction might be appropriate. The first such effort was the development of a parole release matrix designed to help the Minnesota Corrections Board (Parole Board) treat offenders more equitably in determining release dates. This matrix combines an offense severity level with a predicted risk of failure to determine the appropriate time to be served for each offender. This instrument was designed to assign length of stay for offenders already incarcerated in state institutions and, therefore, has limited value when applied to all offenders.

A more current and germane attempt to define the type of offender who should be committed and the type of offender who should not be, is the grid developed by the Sentencing Guidelines Commission. The sentencing guidelines represent a concerted effort to define appropriate sanctions applicable for all felons. They were approved by the 1980 Minnesota Legislature and became effective May 1, 1980. Although sentencing guidelines were developed later, they have much the same intent as the CCA. They, therefore, provide a useful, independent standard by which to assess the CCA.

The Sentencing Guidelines grid (Table 3) has two bases: offense severity and prior criminal history. The criminal history index is based on the extent of one's prior offenses and one's custodial status at the time of the current offense. Offenses are categorized into ten groups which have been ranked from lowest to highest severity. The boxes in the grid indicate the number of months to be served. Offenders whose grid placement is above and to the left of the dark line should be kept in the community, while those below and to the right should be incarcerated. These guidelines provide a standard for appropriate sanctions, according to correctional values prevalent in Minnesota.

2. A Measure of Sanctions Received

To assess the appropriateness of sanctions for this evaluation one needs only to determine if an offender was sent to prison or kept in the community. However, additional information on community sanctions will be recorded. A seven point ordered scale was constructed and includes:

- 1) unsupervised probation/diversion
- 2) fine
- 3) supervised probation/diversion with no additional conditions
- 4) probation/diversion with additional conditions
- 5) probation/diversion with the condition of residential treatment
- 6) jail/workhouse
- 7) state incarceration

Only court-ordered sanctions will be studied. If an offender receives more than one sanction (e.g., fine, probation and jail time), coders will record up to three sanctions. The more extensive information on court-ordered sanctions will be used to describe community sanctions used both before and after CCA entry, and to explore linkages between this section and others. For example, when relationships among objectives and goals are probed, one might investigate whether expansion of local services results in the use of a wider range of sentencing alternatives. These sanction measures will also be available to explore equity of sanctions within county areas and social control issues. These last two questions have not been identified as major goals of the Act, and therefore, are beyond the scope of this evaluation. However, the data will be available for investigating other outcomes of the Act at a later date.

The original and two subsequent court-ordered sanctions will be recorded. If more than two sanction changes occur, the first and last sanction changes will be recorded.

TABLE 3: Sentencing Guidelines Grid

Presumptive Sentence Lengths in Months

Italicized numbers within the grid denote the range within which a judge may sentence without the sentence being deemed a departure.

SEVERITY LEVELS OF CONVICTION OFFENSE	CRIMINAL HISTORY SCORE						
	0	1	2	3	4	5	6 or more
<i>Unauthorized Use of Motor Vehicle</i> I	12*	12*	12*	15	18	21	24
<i>Theft Related Crimes (\$150-\$2500)</i> II	12*	12*	14	17	20	23	27 25-29
<i>Theft Crimes (\$150-\$2500)</i> III	12*	13	16	19	22 21-23	27 25-29	32 30-34
<i>Burglary - Felony Intent Receiving Stolen Goods (\$150-\$2500)</i> IV	12*	15	18	21	25 24-26	32 30-34	41 37-45
<i>Simple Robbery</i> V	18	23	27	30 29-31	38 36-40	46 43-49	54 50-58
<i>Assault, 2nd Degree</i> VI	21	26	30	34 33-35	44 42-46	54 50-58	65 60-70
<i>Aggravated Robbery</i> VII	24 23-25	32 30-34	41 38-44	49 45-53	65 60-70	81 75-87	97 90-104
<i>Assault, 1st Degree Criminal Sexual Conduct, 1st Degree</i> VIII	43 41-45	54 50-58	65 60-70	76 71-81	95 89-101	113 106-120	132 124-140
<i>Murder, 3rd Degree</i> IX	97 94-100	119 116-122	127 124-130	149 143-155	176 168-184	205 195-215	230 218-242
<i>Murder, 2nd Degree</i> X	116 111-121	140 133-147	162 153-171	203 192-214	243 231-255	284 270-298	324 309-339

1st Degree Murder is excluded from the guidelines by law and continues to have a mandatory life sentence.

*one year and one day

3. A Measure of Appropriate Sanctions

The appropriateness of a sanction will be determined by comparing the sanction received by an offender with his placement on the Sentencing Guidelines grid. If a sanction change moves an offender from the community to prison, the appropriateness of that sanction will change too. Therefore, two measures of appropriateness of sanctions will be computed. The first measure will be for the time of sentencing. The second will include the highest sanction received within two years after sentencing. The time limit is necessary so that pre and post CCA entry cases will have an equal time for sanction changes to occur.

b. Juveniles

Appropriateness of sanctions for juveniles as implied by the Act is relatively easy to assess. The incentive to retain lower severity adults in the community (chargebacks) applies to all but a small number of serious, adjudicated juveniles. The Act, therefore, implies that the appropriate sanction for the vast majority of all adjudicated juveniles is a community sanction. The evaluation of appropriate sanctions for juveniles will utilize results from Retaining Offenders in the Community. That is, an increase in the proportion of juveniles retained in the community would indicate an increase in appropriateness of juvenile sanctions.

3. Sampling and Data Sources

Assessing the goal of appropriate sanctions requires knowledge of what type of offender receives what type of sanction and information on whether sanctions change when a county joins the CCA. The above discussion of the goal indicates that it may be only adults for whom additional analyses will be required for an assessment of these issues. If we can safely assume that, according to the values behind the CCA, any community placement is more appropriate than state commitment for juveniles, the information obtained in evaluating objective number three (Retaining Offenders) will be sufficient to draw conclusions on changes in appropriateness of juvenile sanctions. The issue for adults is more complex and requires data collection on the criminal backgrounds of and sanctions received by a sample of adult offenders.

A data base is not available that includes the needed variables for this analysis. Since it will not be possible to collect data for the population, random samples will be drawn to determine accurate estimates of the variables in the population. In addition, the sample will be used to obtain information to assess the other two goals in the evaluation -- public protection and economy.

The populations from which samples need to be drawn are identified in Table 4. The largest population to which we wish to generalize is all adult offenders treated in the community or incarcerated by the state before and after CCA. This population includes all adults convicted in District Court of felony offenses as well as all adults who have been arrested for felonies and diverted to a recognized diversion program during this period. The evaluation of public protection may focus on some subsets of this population, but a sample representative of the larger population must be drawn to evaluate sanctions and some economy issues.

TABLE 4: Development of Samples and Data Collection on Adult Felons for Evaluating the Three CCA Goals

CCA Goal	Type of Analysis	Population of Relevance	Variables	Primary Data Source
Appropriateness of Sanctions	What type of offender receives what type/level of sanctions; are sanctions more appropriate post-CCA? What is the correspondence between chargeable and appropriateness?	All community placements and state commitments	Offense Past History Sanction received	Court records Probation files DOC base files
Public Protection	Do offenders placed in the community commit offenses during their supervision; are offenses committed by appropriate or inappropriate community placements? Are offenders placed in the community better rehabilitated than state commitments; what is the relationship between extent of rehabilitation and type/level of sanction?	All community placements All community placements and inappropriate state commitments	New felonies during supervision New felonies after supervision	BCA BCA
Economy	What are the estimated savings of retaining offenders in the community due to continued employment and reduction in welfare dependence	All community placements and inappropriate state commitments	Employment Welfare dependence	Court records Probation files DOC base files

The population of adult offenders is restricted to persons diverted for or convicted of felony offenses for two reasons. First, it is believed that the primary target for the CCA is offenders who might but should not be committed to state institutions. Only felony offenses carry the potential of a sentence of state commitment. The goal of appropriateness of sanctions is concerned with keeping the "right" offenders in and the "right" offenders out of prison; the goal of public protection is concerned with protecting society from felony-type offenses; and the economy issues to be probed with these sample data relate to the savings that result from diverting offenders from state institutions. Persons committing misdemeanor or gross misdemeanor offenses cannot be committed to a state institution and, therefore, do not appear to be part of the relevant population for these goals. The second reason is entirely practical. This evaluation lacks the resources to include these other categories of offenders, data are far more difficult to locate on these lesser offenders, and data are much less complete.

The population of all District Court dispositions in all CCA counties (except Rock-Nobles) from July, 1972 through 1978 is readily available from the Systems Rate Study.¹ Although some 1979 dispositions are available, they are not included because of the need for a follow-up period. The evaluation of sanctions, economy and particularly public protection requires some follow-up period for data collection. For example, not only will the original sanction be coded, but changes in sanctions (e.g. revocations) will also be recorded. At least a year is required to enable changes to occur. Cases sampled in 1979 would not have the follow-up period to code. Thus, while data will be coded on these cases into 1980, the sample itself must terminate in 1978.

The population of adult diversions has been more difficult to define. If an offender has committed and is likely to be convicted of a felony offense, the offender is a potential state commitment and, therefore, should be part of our population and samples, even though the offender may be diverted prior to prosecution. Informal diversion occurs in most areas at the arrest and pre-prosecution stages. Because of the informal nature of this diversion, it is impossible to identify and, therefore, to include in our samples offenders who are informally diverted. On the other hand, some counties have formal mechanisms to divert offenders prior to conviction. Each CCA area has been contacted to identify formal diversion programs operating in CCA areas during 1972 through 1978. A formal program is one which keeps a record of the individuals diverted. These records enable us to develop a population list of offenders diverted for felony offenses. Four formal diversion programs were identified in this search:

1. Dodge-Fillmore-Olmsted: from 1974 through 1978, diversions were assigned to a corrections worker in court services
2. Ramsey: diversions were sent to Project Remand from 1974 through 1978

¹ Some persons with felony offenses who receive misdemeanor sentences may not have been coded and included in the Systems Rate Study. This portion of the population may be somewhat underrepresented in this population list and, therefore, in the samples. All felony offenders with gross misdemeanor sentences are included.

3. Anoka: from 1972 to 1975 diversions were supervised by probation staff
4. Hennepin: diversions were referred to Project DeNovo from before 1972 through 1978

Lists of all diversions charged with felony offenses in these four programs were created to define the diversion population in CCA areas.

The sampling plan became complicated because of the several uses to which the samples will be put. The primary use of the sample will be to compare cases before and after CCA entry. One, thus, requires samples of cases drawn before and after CCA entry date. For example, for Hennepin County we will require samples drawn before and after its entry date of January 1, 1978. Second, some counties with later entry dates will be used as comparisons for early joiners. We will require that samples in these comparison counties be drawn before and after the entry date of the early joiner. If Hennepin County is used as a comparison for Ramsey, we will require samples drawn before and after July 1, 1974. Third, because of the need for a follow-up period of at least twenty-four months for the public protection evaluation, the post-CCA period has to be cut off earlier for sampling than it does in the evaluation of sanctions. In summary, the sampling plan has to provide samples that can meet three requirements:

- Pre X Post, where X = CCA entry date
- Pre Δ Post, where Δ = CCA entry date of a comparison county
- Pre X Post_a, where Post_a = shortened follow-up for public protection

Researchers have made decisions on several elements of a sampling formula used to select a sample size needed to estimate population proportions: the confidence level desired, the level of precision desired and some estimates about the distribution of the variables to be measured. Without knowing the distribution of one of the major variables (appropriateness of sanctions), researchers selected the proportion that generates the largest sample size (.5). The higher the levels of confidence and precision, the larger the sample size.

The problem in developing a sampling plan, then, was to establish samples in each CCA area that 1) can meet the three requirements identified above, 2) are sufficiently small to be manageable samples with given resources and 3) are sufficiently large to enable acceptable levels of confidence and precision. It was decided to utilize confidence levels of ninety percent and precision levels of $\pm .05$. Higher confidence and precision levels result in sample sizes well beyond our resources. While a level of $\pm .05$ will stretch resources, it was felt that higher levels of sampling error should not be permitted.

The second decision was that the most convenient initial plan to meet the three sample variations was to sample by year. The yearly samples, with appropriate weights, could be aggregated into the three pre- and post-periods identified above. If one samples yearly, at a precision level of $\pm .05$, the total sample size would be more than twice as large as resources could manage. However, if one samples yearly at $\pm .10$, the aggregated samples generally meet precision levels of $\pm .05$. This occurs because the larger the population, the smaller the sample can become as a proportion of the population.

The first procedure was to choose independent, random samples for each year (1972 through 1978) for each CCA area at confidence levels of ninety percent, precision levels of $\pm .10$. Second, the population sizes for the three uses of the sample were determined. For example, in Hennepin County, population sizes before and after January 1, 1978 (CCA entry) were calculated. Also, population sizes before and after July 1, 1974 (Ramsey's entry) were calculated for Hennepin's use as a comparison county. The necessary sample sizes to meet ninety percent confidence and $\pm .05$ precision for the three population variations was determined. Next, the yearly sample sizes were aggregated for the three population variations to determine whether the aggregated samples did, in fact, reach precision levels of $\pm .05$. In those cases where levels of $\pm .05$ were not met, the additional cases required were calculated and added to the sample. These additional cases were evenly distributed over the relevant years. Finally, the number of diversions in the population was determined. The sampling fraction for each year was used to select the number of diversion cases for each year. The product of these procedures is independent, random samples representative of adults convicted of or diverted for felony offenses in each CCA area for various pre/post-CCA periods. The samples enable research results in which we can be ninety percent confident and which are estimated to fall within $\pm .05$ of the actual population value. Table 5 contains the final sample sizes for each CCA area.

Data are being collected on the sample of adult offenders from a variety of sources. The variables relevant for the evaluation of sanctions relate to the offender's commitment offense, past history and sanction received. Information on these variables is available in court records, probation files and DOC base files. Additional data will be collected from these and other sources for evaluating protection and costs (see Table 4).

Although the major questions in this section relate to the appropriateness of state commitment, evaluation recipients will be particularly interested in the types of community alternatives utilized. If the CCA is found to divert more offenders who are appropriate for the community to the community, questions are certain to follow on what sanctions these persons are receiving instead of incarceration. Therefore, descriptive information will be collected on the types, levels and ranges of community sanctions given before and after CCA entry.

TABLE 5: Sample Sizes for Adult Offenders in each CCA Area

AREA	YEAR							Total
	1972	1973	1974	1975	1976	1977	1978	
<u>DODGE-FILLMORE-OLMSTED</u>								
Felony Dispositions	28	42	39	43	39	41	75	307
Diversions	-	-	4	7	10	5	7	33
Total	28	42	43	50	49	46	82	340
<u>RAMSEY</u>								
Felony Dispositions	68	95	83	68	68	69	202	653
Diversions	-	-	2	8	5	7	14	36
Total	68	95	85	76	73	76	216	689
<u>CROW WING-MORRISON</u>								
Felony Dispositions	23	41	40	44	43	40	73	304
<u>RED LAKE-POLK-NORMAN</u>								
Felony Dispositions	11	27	24	37	50	49	46	244
<u>TODD-WADENA</u>								
Felony Dispositions	5	21	7	18	23	27	19	120
<u>REGION 3</u>								
Felony Dispositions	50	53	55	57	86	116	97	514
<u>ANOKA</u>								
Felony Dispositions	24	37	43	50	69	106	88	417
Diversions	7	15	14	5	-	-	-	41
Total	31	52	57	55	69	106	88	458

TABLE 5: Sample Sizes for Adult Offenders in each CCA Area - continued

AREA	YEAR								Total
	1972	1973	1974	1975	1976	1977	1978		
<u>REGION 6W</u>									
Felony Dispositions	17	18	18	28	22	30	26	159	
<u>BLUE EARTH</u>									
Felony Dispositions	17	36	33	36	34	23	33	212	
<u>HENNEPIN</u>									
Felony Dispositions	83	108	91	73	73	73	223	724	
Diversions	9	12	10	13	16	15	40	115	
Total	92	120	101	86	89	88	263	839	
<u>WASHINGTON</u>									
Felony Dispositions	31	49	47	45	47	51	84	354	
TOTAL								4,233	

4. Methods of Analysis

The basic question to be probed for evaluating this goal is whether the proportion of appropriate sanctions increases after CCA entry. The analysis for adults will be based on the sample of state and community placements before and after CCA entry. Each case will be coded on actual sanction received. The appropriate sanction will be determined by the placement of each case on the sentencing guidelines grid. Whether the actual sanction is appropriate can then be determined by comparing the two.

The design for assessing this question will be a pre-test, post-test design with CCA counties that join at different times serving as comparison groups (see discussion in Part A above). Proportions of appropriate sanctions would be calculated before and after CCA entry. This will be done for both the original sanction, and for the highest sanction received during the following year. The difference of difference in proportions test could be used to assess whether the changes occurring in the CCA area are significant or are likely to have occurred by chance. The community and state cases will also be analyzed separately to assess in which category the largest proportion of (in)appropriate placements occurs.

Sanction changes for offenders kept in the community will be examined for two groups -- those for whom state commitment is appropriate and those for whom community placement is appropriate. It is expected that community-appropriate people who receive sanction changes will experience a wider range of community alternatives, while state-appropriate people will take a more direct route to prison. Except for those offenders who have been convicted of a new, more severe felony, it is expected that many community offenders will not be committed to prison.

An important supporting analysis will examine the relationship of chargeable offenses and appropriate sanctions. The chargeback provision of the Act is the mechanism to encourage CCA areas to retain low severity offenders in the community. It requires CCA counties to pay for the incarceration of adult offenders with maximum sentences of five years or less. Although the chargeback provision will be repealed to bring the Act in line with the Sentencing Guidelines, to date it has been the primary incentive to retain appropriate offenders in the community. To the extent that offenders who are appropriate community placements are also chargeable, the Act provision facilitated goal achievement. To the extent that appropriate community placements are non-chargeable or that inappropriate community placements are chargeable, the Act provision hindered goal achievement.

The analysis for juveniles will be no different than the analysis for retaining juveniles in the community. If the assumption is correct that any community placement for a juvenile is more appropriate, any increase already found in the retention of juveniles in the community will indicate an increase in appropriateness of sanctions.

F. Evaluation of Public Protection

A major responsibility of corrections policy is to protect the public from offender behaviors that pose a threat to society. The discussion of the conceptual framework noted two alternative interpretations of the expected contribution of the CCA to public protection. One possibility is that the CCA can maintain public protection because the type of offender retained in the community will not commit crimes that threaten society. Another possibility is that the CCA can increase public protection because community programs can better rehabilitate less serious offenders than can a prison environment. Both of these possibilities need to be explored in the research.

1. Introduction

Offender behaviors that threaten society originate in a number of groups. To investigate the effects of the CCA on public protection requires that one isolate first the groups that could potentially be affected by the CCA. Figure 9 depicts the portions of potential threats that could be affected by implementation of the CCA and those that would not be.

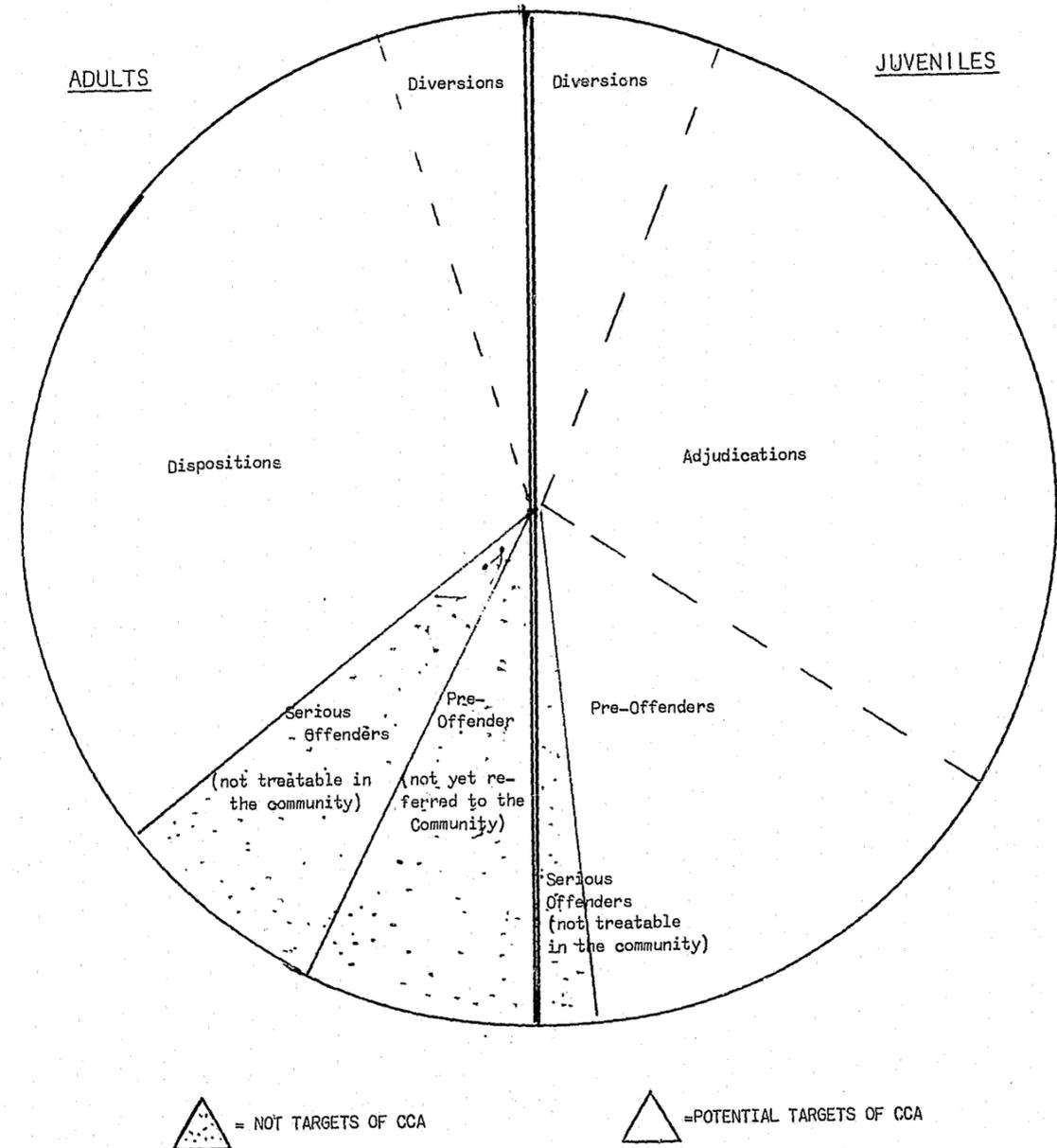
Two categories of offenders appear to be unaffected by the CCA. First, serious adult offenders who are inappropriate community placements should not be influenced by CCA programs or services. These institutional candidates are expected to be committed to prison and treated there even with the CCA. It would be unreasonable, in other words, to conclude that the CCA is ineffective because serious offenders continue to commit crimes in the community. It is not the responsibility of the CCA to deal with these offenders.¹ Second, first-time adult offenders generally would be uninfluenced by the CCA. The CCA has not spawned programs to touch the adult pre-offender, although juvenile prevention programs are common. Again, one cannot judge CCA effectiveness in terms of the number of adult first offenders (i.e. those coming directly from the pre-offender pool).

The implication drawn from Figure 9 is that it is inappropriate to assess CCA effectiveness by investigating aggregate crime rates. A portion of potential crimes or threats to society are accounted for by offenders who are not expected to be influenced by the CCA. Two major categories of potential offenders, however, could be influenced by the CCA and should legitimately be investigated to see if threats by these groups have been reduced/maintained/increased.²

¹The research will not be able to assess whether CCA parole supervision is more effective than non-CCA parole supervision.

²This line of argument avoids one important question that we may wish to probe. What proportion of crimes are committed by target and non-target groups of the CCA? If a large proportion of crimes is committed by non-target groups, do we want to discuss the inability of the CCA as a state corrections policy to deal with these groups? Or, if we find that a large proportion of crimes is committed by target groups, do we want to discuss the "effectiveness" of the CCA in at least dealing with the problem groups?

FIGURE 9 - SOURCES OF POTENTIAL THREATS TO THE PUBLIC



The first group includes the 1) adult offenders treated in the community. Adult offenders are referred to the community in two stages. Many go through the formal court process and receive community dispositions. Others are formally diverted to community programs prior to prosecution, although most of these diversions have been charged with offenses that could result in felony dispositions. Offenders treated in the community are a source of potential threat to the public both during and after their supervision. Thus, an evaluation of the CCA must probe whether adults referred to the community are more or less risk to society while they are treated locally and whether they are more or less likely to be "rehabilitated" after their local supervision/treatment.

The second group includes 2) juvenile offenders treated in the community. As with adults, juveniles may receive community dispositions or they may be diverted to community programs prior to adjudication. The behavior of these juveniles during and after their community supervision must be investigated to assess the impact of the CCA on public protection.

Two differences are apparent between juveniles and adults. First, most serious juveniles appear to be assumed to be treatable in the community. Charges are levied for all juveniles committed to state institutions, with only one minor exception -- the state's Serious Juvenile Offender Program (SJO). Although the presumption of the CCA appears to be that all juveniles are treatable in the community, the DOC's development of the SJO and agreement not to charge per diems for its use is a recognition that some juveniles may be more appropriately placed in a state institution. The fact that this program served only thirty-one clients in 1978 and that the program had difficulty in finding candidates who met their original placement criteria suggests that this one program is but a minor exception to the statement that all juvenile offenders are assumed to be treatable in the community.

A second difference is that juvenile pre-offenders, unlike adult pre-offenders, are targets of the CCA. A "pre-offender" is defined as someone who may (or may not) have exhibited potentially delinquent behavior or comes from an environment likely to promote delinquent behavior (e.g. family in crisis), but who has not been actually charged with an offense. The rationale behind prevention programs is that if the "pre-offender" can be treated at an early stage, later delinquency can be averted. It is, of course, difficult to assess if persons who have not yet committed crimes have been prevented from committing any later on because of preventive treatment. This question must at least be probed, however, since many CCA resources support preventive efforts.

2. Adult Offenders

a. Time Periods for Analysis

This study of public protection will probe two issues -- 1) offender behaviors when treated in the community and 2) offender behaviors over a longer period which are indicative of rehabilitation. A decision must be made on the time periods over which to assess these two issues. The basic strategy will be to isolate a period over which to assess behaviors of community

placements when they otherwise would have been incarcerated (T_1 in Figure 10). An additional time period will be established for probing rehabilitation (T_2 in Figure 10). This time period will begin after T_1 for community placements and after release for state commitments.

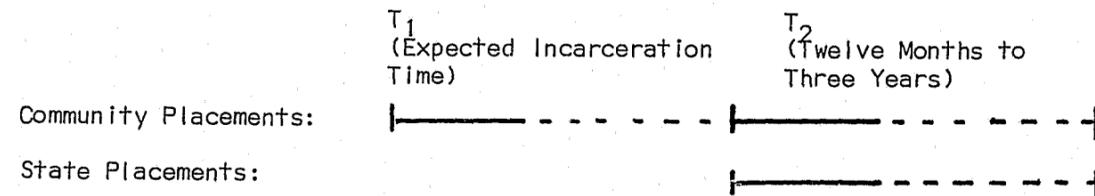
A length of time must be established for T_1 . The time period should be equivalent to the time such offenders would have been incarcerated had they been committed to a state institution. The argument, recall, is that these offenders need not be incarcerated because they will not be a threat while supervised in the community. If someone is given five years of probation, it may not be necessary to assess his/her threat for five years. Had the person been incarcerated for twelve months, he/she would be returned to the community for parole supervision anyway after a year. Thus, the first twelve months in the community is the period during which this offender has the potential for being an additional threat.

A choice must be made whether to utilize a standard time period for all offenders in the sample, or to make the time period dependent upon the commitment offense (or charge, for diversions). The latter alternative assumes that offenders retained in the community would have been incarcerated for variable amounts of time. Given the diversity among community placements, it appears safest to assume they would be incarcerated for variable amounts of time. The release matrix utilized by the Minnesota Corrections Board provides a convenient tool to calculate expected incarceration time for individual offenders. The primary drawback of this tool is that it probably overestimates incarceration time. In particular if a judge deemed an offender appropriate for the community, he likely would have limited the sentence had he incarcerated the offender. In addition, the type of person retained in the community is likely to have had the matrix time reduced by the Minnesota Corrections Board for mitigating reasons. Thus, the matrix time is likely to inflate the expected incarceration time. In order to utilize variable incarceration periods and at the same time compensate for the possible overestimation of time using the matrix, it has been decided to assign the minimum matrix time to each offender. This decision requires that each case be coded on offense severity and risk levels to enable a matrix placement.

T_2 , the time period to assess rehabilitation, will at a minimum be twelve months but may be as much as three years for offenders who have been released at least three years. An effort will be made to utilize research that can incorporate variable follow-up periods (discussed below) making it worthwhile to collect follow-up data as far as three years when possible. It was decided to reduce T_2 to a minimum of twelve months from the originally proposed eighteen months for two reasons. First, requiring an additional eighteen months follow-up reduces the amount of post-CCA time from which to sample. The longer the follow-up, the shorter the post-CCA period on which to base assessments. It was decided that many counties needed a longer post-CCA period from which to sample cases. Second, prior research indicates that most "failures" occur within the first year and that data on the first year provide a good picture of expected failures. It should be stressed, however, that in spite of this twelve month decision, we will have data for a much longer period for most of our cases.

Figure 10 summarizes the time periods for analysis. T_1 will be a variable period of time estimated to be the period a community placement would have been incarcerated. This period will, in most cases, be less than a year. T_2 will be an additional twelve-month to three-year period. This period will begin after T_1 for community placements and after release for state cases.

FIGURE 10: Proposed Follow-Up Periods for the Study of Public Protection



b. Sampling and Data Sources

Sampling and data sources have already been briefly outlined in Table 4 in the design for assessing appropriateness of sanctions. The same basic sample will be used for the evaluation of the three CCA goals. Variations in the sample will be made, depending upon the population that is relevant for the goal at hand. One must first clarify, then, the relevant populations for the evaluation of public protection.

One public protection issue is whether offenders retained in the community commit offenses when they would otherwise have been incarcerated (T_1). The population of relevance here would be offenders placed in the community before and after CCA.

A population for the second issue of rehabilitation is more difficult to define. The assumptions behind the CCA imply that state commitments should be included. Community treatment is presumed to be more rehabilitative than prison, suggesting that data on state commitments should be included. The difficulty lies in determining which state commitments are part of the relevant population. One could argue that the population consists of all community and state commitments. Changes in commitments due to the CCA should mean that in the total population offenders are being better placed, and improved rehabilitation overall should be demonstrated.¹

Others could argue that the population of relevance is better defined as CCA targets. One perhaps should not include data on serious state commitments since it is not expected that the CCA should influence their rehabilitation.

¹Although serious offenders are recognized not to be CCA targets, the designs below would control for their inclusion in the population - so that improvements resulting from CCA would still be detected.

The implication here is that according to the goal of "appropriateness of sanctions" some offenders "should" and "should not" be committed to the state. The CCA should not be responsible for the behavior of offenders who should be state placements. On the other hand, if offenders are inappropriately committed, their behavior after release is relevant. The definition of the population appears to be heavily dependent upon criteria developed for the previous goal of appropriate and inappropriate sanctions. The following groups both before and after CCA are seen as part of the relevant population for assessing extent of rehabilitation:

1. All community placements
The CCA should be placing the "right" people in the community. These people should, in turn, be better rehabilitated because of the more appropriate placement. If, in fact, the CCA is diverting inappropriate candidates to the community, it becomes an empirical question whether there is a correspondence between appropriateness of the placement and extent of rehabilitation.
2. Inappropriate state commitments
If offenders who could be placed in the community would be better rehabilitated there, any failure on the part of CCA to divert the "right" people from state institutions should be considered in the overall effects on rehabilitation. Thus, any offenders placed in a state institution who would have been more appropriately placed in the community would be part of the relevant population.

Thus, the population is defined as all community placements and all inappropriate state commitments. Offenders who are appropriate state commitments need not be included since their behavior is irrelevant to the effectiveness of the CCA. This definition of the population corresponds to the intent of the CCA and is also convenient from the perspective of data collection. Most inappropriate state placements will be released in time to have an adequate follow-up period for assessment of rehabilitation. Many of the appropriate, serious state commitments would be incarcerated so long that a follow-up would not be feasible.

The requirement of a follow-up period affects the number of counties in which public protection can be assessed. Table 6 summarizes the issues that can be addressed in each county. The problem is that one should permit several years for the CCA to operate before making any inferences on effectiveness. In addition, one requires a follow-up period to assess whether offenders commit further offenses. Table 6 contains the number of post-CCA years available to study the issues of behavior of community placements when they would have been incarcerated (T_1) and rehabilitation (behaviors during T_2 or the next twelve months to three years). The first three areas (Dodge-Fillmore-Olmsted, Ramsey and Crow Wing-Morrison) joined early enough to permit several years of dispositions post-CCA from which to sample, and ample time for a follow-up

TABLE 6 : Public Protection Analyses Feasible in Each CCA Area

CCA Area	1972	1973	1974	1975	1976	1977	1978	1979	1980	Number of Post-CCA Years from Which to Sample	
										For T2 Assessments	For T1 Assessments
Dodge-Olmsted-Fillmore			X	X						3 3/4	4 1/2
Ramsey			X							3 2/3	4 1/2
Crow Wing-Morrison			X							3 1/2	4 1/4
Red Lake-Polk-Norman				X						2 1/4	3
Todd-Wadena					X					1 2/3	2 1/2
Region 3					X					1 2/3	2 1/2
Anoka					X					1 1/2	2 1/4
Region 6W						X				-	1 1/4
Blue Earth							X			-	-
Hennepin							X			-	-
Washington								X		-	-
(Rock-Nobles)*										-	1/2

* - Will not be included in analyses
 □ - Enough years for analysis
 ◻ - Enough years for tenuous analysis
 X - CCA entry

1. 4/1/78 is cutoff for including dispositions for T2 assessments (at least two year follow-up)
 2. 1/1/79 is cutoff for including dispositions for T1 assessments (at least sixteen months follow-up)
 3. Cutoff for coding the follow-up is 4/1/80

assessment of behaviors during and after supervision. The middle joiners are borderline cases. Behaviors during T₁ can be probed but there is only one and a half to two years of post-CCA dispositions to assess rehabilitation. The last four counties to join CCA provide only one or less years of post-CCA dispositions to assess behaviors in the community (T₁). An assessment of rehabilitation is impossible; the assessment of behavior in the community will be tenuous. Although findings of CCA effectiveness in the late joining counties are tenuous, it should be remembered that these counties serve an additional function as comparisons for the early joiners.

The primary data source for the study of public protection will be the Bureau of Criminal Apprehension (BCA). Information on the commitment of new felons can be obtained from BCA records. Analyses of public protection will be enhanced by the data collected for the assessment of appropriateness of sanctions. The type of offender who commits further offenses is of interest for assessing why public protection is or not improved. Data on these variables is available in court records and probation files.

c. Definition and Measurement of Public Protection

Public protection will be assessed by the behaviors of offenders. The more that offenders are prevented from committing offenses, the more the public is protected. Offenders who do not commit further offenses will be called "successes". The more that offenders commit further offenses, the less the public is protected. Offenders who commit further offenses will be called "failures". Since public protection is a positive goal to achieve, we will assess this goal in terms of a positive indicator (i.e. successes) rather than a negative indicator (i.e. failures).

One must make two choices in determining what constitutes a success or a failure -- 1) how serious must an offense be to consider that an offender has not succeeded; 2) should one base the assessment on arrest reports or actual convictions. For the purposes of this evaluation, an offender will be considered a success if he/she does not commit a felony. An offense must be as serious as a felony for the offender to be considered as not having succeeded.

Whether to use arrests or convictions poses a more difficult question. Both arrests and convictions are imperfect indicators of success/failure. Some offenders will commit new offenses but will never be caught, arrested, or convicted. Some offenders may be arrested but may not have actually committed an offense. On the other hand, some offenders who do commit new offenses and are arrested may not be convicted for various reasons (e.g. insufficient evidence, plea bargaining, etc.). It was initially proposed that convictions provided a more reasonable indicator. It was believed that persons under supervision may be more likely to be suspected on crimes and, therefore, more likely to be arrested, when in fact they may not actually be committing more crimes. Since the CCA is expected to place more offenders under local supervision, arrests might increase simply because of higher levels of local supervision.

A number of outside reviewers disagreed with this position and argued that arrests are a better indicator -- by the stage of conviction charges against many "real" offenders have been dropped. As a result both arrest and conviction data will be collected for the follow-up. In interpreting results, particularly possible contradictory findings between arrests and convictions, one should remember what we are trying to measure. We are less interested in using a valid measure of success/failure levels than we are in using an indicator that validly measures change in success/failure. For example, should we find that there is eighty percent success among community placements pre-CCA and ninety percent success post-CCA, we are more concerned with the inference that success rates have improved by ten percentage points than we are with describing levels of success pre- and post-CCA. The crucial point to remember in analysis is to try to find the indicator that best measures change in offenders' behaviors rather than changes in local reporting or court processing behaviors that themselves may be a result of CCA entry.

d. Methods to Assess the Impact of the CCA on Offense Behaviors During Supervision (T_1)

The first stage at which to assess the CCA's impact on public protection is the period of community supervision. Two basic strategies are proposed to assess CCA impact, one involving comparison counties and one involving statistical controls. It is recognized that all research strategies involve assumptions and limitations. One expects research findings to approximate the situation that actually exists, although they may not exactly represent the situation. It is generally argued that the more methods that can be used, and the more the results converge, the stronger can be one's inferences that research results approximate the real situation.¹ Assessments of impact can be more firmly grounded if alternative research strategies are employed.

1. Pre-Test, Post-Test Design with Non-Equivalent Control Group

Analyses of behaviors during the period of supervision will utilize samples of offenders given community placements (dispositions and diversions) before and after CCA.² The first research design that can be employed with the data available will be a pre-test, post-test design with a non-equivalent comparison group. This basic design is explained in Section A above.

¹D. T. Campbell and D. W. Fiske, "Convergent and Discriminant Validation by the Multi-Trait, Multi-Matrix Method," Psychological Bulletin, 1959, 56, 81-105.

²If a community placement has his stay vacated and the prison sentence executed during T_1 for a reason other than a new felony conviction, this case will be considered a state case. The offender is not at-risk for all of T_1 . Also the sanction most likely to affect this offender's behavior during T_2 is the prison sanction.

In developing this design, it became apparent that the standard pre-test, post-test design is not directly applicable to the problem at hand. The design has been developed to compare groups before and after a treatment. One generally compares mean values of the group, or perhaps proportions of the group achieving some goal. However, to compare mean number of successes or proportion of successes before and after CCA misses one of the effects of the CCA. In particular, the number of persons supervised in the community may change because of CCA, as well as the proportion who are successes.

The point can perhaps be best explained by speaking of failures or threats to the public, rather than successes. Two factors related to the CCA might affect levels of threat to the public. First, there may be more offenders in the community, and these additional offenders may commit offenses during their supervision. That is, absolute numbers of offenders in the community may change because of CCA. If persons diverted to the community are failures, then the public is more threatened than if they have been incapacitated in a state institution. Second, new services and treatment developed because of the CCA may reduce the proportion of community-supervised offenders who commit threats. A standard pre-test, post-test design comparing mean level of threats, or proportions committing threats, would pick up only the second type of effect. A design needs to be developed to consider both potential effects of the CCA.

Data collected on the CCA and comparison samples will indicate the proportions who are successes (or conversely, who are failures, i.e. commit threats). The Systems Rate Study provides information on the total number of community dispositions.¹ Multiplying the sample proportions by the population totals will provide an estimate of the actual numbers of successes. It would be this number, then, that would be used in the pre-test, post-test design with non-equivalent comparison group:

CCA County	O_1	X	O_2
Pooled Comparison County Data	O_1		O_2

where O_1 = number of successes before CCA entry of early joiner

O_2 = number of successes after CCA entry of early joiner, excluding post CCA - years in comparison counties

X = CCA entry

One would first calculate the change in the number of successes from before to after CCA in both the CCA and comparison county(ies). The proportional change is then calculated for both groups ($O_1 - O_2 / O_1$).

¹The number of offenders retained in the community will be the number of offenders given community dispositions. If findings from the study of retaining offenders in the community indicate that a certain proportion are committed to the state early in their disposition, for reasons other than new felony convictions, then the number may be adjusted for this proportion.

The proportional changes are then compared to see if the change in the CCA area is significantly different from the comparison area.¹ A significant positive difference would indicate that the CCA has had a positive effect on public protection (number of successes) while a significant negative difference would indicate that the CCA has had a negative impact.

The change from O₁ to O₂ in the CCA area would include successes accounted for by CCA diversions from state institutions (numbers) and those accounted for by changes in the quantity and quality of local services (proportions succeeding). Since we cannot identify the specific individuals diverted, we cannot sort out the changes due to change in numbers from changes due to improved services. However, the effects of both changes will be picked up. In addition, various non-CCA factors may be affecting the changes from O₁ to O₂, such as changes in types of offenders and increases in the offender population. In the non-CCA comparison county(ies) we assume the changes in O₁ to O₂ are due to non-CCA factors. We further assume that these non-CCA factors are similar in the CCA and non-CCA areas. Thus, any significantly greater or lesser change found in the CCA area can be assumed to be due to the CCA alone.

2. Statistical Controls

The pre-test, post-test design with non-equivalent control group requires one to assume that important non-CCA variables are in fact equivalent in the comparison area(s). One alternative is to control statistically the variables that might be affecting outcomes.² Statistical analyses will be conducted on the data as a corroborating, rather than primary, technique. The utility of statistical controls will not become apparent until the data can be inspected. Three major problems, however, might limit the utility of such techniques. Because of these potential problems, statistical controls are not being proposed as the primary form of analysis.

First, one must have data on variables that explain a large proportion of the variance in the dependent variable (success/failure). If the data we have on offenders cannot explain failure, then statistical controls will be of little use. Major explanatory variables should not be omitted from the regression equation.

¹Tests of significance for this variation of the pre-test, post-test design will have to be explored. The proportional change does not appear to lend itself to either the difference of proportions or the difference of difference of proportions test. Tests based on actual and expected observations (chi-square) may be more appropriate.

²Discussion of statistical controls as a substitute for experimental controls can be found in Glen C. Cain, "Regression and Selection Models to Improve Non-Experimental Comparisons," in Marcia Guttentag, Ed., Evaluation Studies Review Annual, Vol. 2, Beverly Hills, Sage, 1977; Peter Schmidt and Ann D. Witte, "Models of Criminal Recidivism and an Illustration of Their Use in Evaluating Correctional Programs," Mimeo.

The second problem relates to the dichotomous nature of the dependent variable -- success/failure. Standard regression methods are less appropriate than newer PROBIT techniques.¹ Efforts are underway to acquire PROBIT software, but its availability and usability remain uncertain.

The third problem is that ordinary least squares regression may be inappropriate when entering the treatment variable (CCA/non-CCA) into a regression equation. If unmeasured variables affect both the treatment (CCA entry) and the outcome (failure rates), then regression assumptions would be violated. Also, the more that the same variables influence both the treatment and outcome, improving the specification of the outcome equation, increases the multi-collinearity of the independent variables, again violating regression assumptions. If the data suggest that such problems exist two-stage-least-squares methods can be used to overcome them. However, two-stage-least-squares methods are not readily usable in conjunction with PROBIT analysis, limiting our abilities to overcome them.²

The above methods are proposed as strategies for estimating the impact of the CCA on levels of public protection. Each strategy involves some limitations but the use of multiple methods reduces the likelihood that research results are dependent upon a single method. By investigating the extent to which results converge, researchers can arrive at estimates of CCA impact.

An additional question that can be explored in the statistical analysis concerns the impact of the type of community dispositions on the likelihood that community-supervised offenders commit offenses that threaten society. It will be of particular interest to probe whether dispositions involving less supervision (e.g. straight probation) are as effective as dispositions involving higher levels of supervision (e.g. residential treatment, incarceration in a local secure facility). Similarly, the relationship between appropriateness of sanctions (as defined and measured in the previous section) and behaviors during supervision can be explored.

e. Methods to Assess the Impact of the CCA on Rehabilitation (T₂)

The above section was concerned with estimating threats to public protection due to the retention of offenders in the community. Do offenders who might otherwise be institutionalized for a brief period pose a threat to society when supervised/treated in the community? The concern of this section goes beyond the period of supervision. In the longer-term, are offenders treated in the community better rehabilitated than those receiving alternative dispositions?

¹See, for example, John Aldrich and Charles Cnudde, "Probing the Bounds of Conventional Wisdom," American Journal of Political Science, XIX, 3, August, 1975, pp. 571-608.

²These problems and potential solutions are explained well in a draft manuscript by Christopher Achen, Department of Political Science, University of California, Berkeley, California.

Probing the assumptions of rehabilitation is somewhat different from investigating offense behaviors during local supervision. First, analyses will focus on behaviors during T_2 rather than T_1 in Figure 10. Second, analyses will include data on some state commitments as well as community placements. The section above on sampling explained that the relevant population for this question is all community placements and all inappropriate state commitments. If after joining CCA a county commits fewer people to the state and/or the community supervision is more rehabilitative, then the increase in the numbers of successes among the total set of offenders (i.e. both those with community dispositions and state dispositions) should be greater than in a non-CCA area. The third difference is that the issue of rehabilitation can be probed firmly in only the three CCA areas that joined first, and tentatively in the next four joiners.

The two designs discussed above will be applied to the study of rehabilitation, incorporating the three differences just noted. In addition, a third procedure will be explored. Michael Maltz has been developing techniques that utilize variable follow-up periods.¹ The techniques enable one to incorporate data on time to failure into a model that assumes some proportion of the sample will "eventually" fail. Rather than estimate the proportion who fail as of a particular time period, one develops estimates of the proportions that will eventually fail and succeed. These techniques are particularly appealing for the study of rehabilitation where one is concerned with the long term impact of the CCA. Even though we will use a follow-up period of twelve months up to three years when possible, we are actually interested in an even longer look into the future. Maltz's techniques provide a way to establish the long-term proportion of failures/successes. In its current stage of development there appear to be limits in the ability of the techniques to assess the significance of differences found between the proportions of successes/failures in two groups (e.g. CCA and non-CCA). Efforts will be made to utilize Maltz's developments, however, because of their potential for estimating long-term effects of the CCA from data covering a limited follow-up period.

A confounding factor in T_2 analyses is the fact that some offenders may not be at-risk for all of T_2 , resulting in inflated success rates. Community sanctions may be revoked; paroles may be revoked; or offenders may be incarcerated on sentences previously received. Data collected will indicate whether an offender is incarcerated for the majority of T_2 . These data will be inspected to discover whether proportions not at-risk are systematically different between community and state cases and/or between pre and post periods. Should systematic differences be found, effects on results will have to be estimated.

¹Michael D. Maltz and Richard McCleary, "The Mathematics of Behavioral Change: Recidivism and Construct Validity," *Evaluation Quarterly*, Vol. 1, No. 3, August, 1977, pp. 421-438. A more recent and thorough explanation of these techniques is forthcoming.

f. Methods to Assess Total Impact of the CCA on Public Protection (T_1 and T_2)

The conceptual framework outlined two different assumptions relating the CCA to public protection. An effort will be made to assess the validity of both these assumptions by probing the short-term effects of the CCA during the period of local supervision and by probing longer-term effects through rehabilitation. The total effects of the CCA on public protection is the major issue, however, in assessing CCA impact. The overall effects will be probed by using data on both community and state commitments during both T_1 and T_2 . The three designs discussed above (pre-test, post-test design with non-equivalent control group; statistical controls; and techniques to estimate eventual success rates) will be applied to these data. The separate investigations of T_1 and T_2 will provide evidence on which of the assumptions underlying the CCA are supported; the investigation of T_1 and T_2 data combined provide evidence on the total CCA impact on public protection. Analyses of both T_1 and T_2 data can, of course, include only the seven areas for which T_2 data are available.

g. Techniques to Predict Levels of Public Protection Without the CCA

A research design is adopted to contribute to the assessment of whether an intervention (here, the CCA) has an impact. The study of the goal of public protection requires researchers to conclude with as much confidence as possible whether the CCA has increased/maintained/reduced public protection. However, the analyses of social justice and efficiency require that researchers go one step further in studying public protection. Assessments of the two outcomes will require not only findings on actual levels of public protection but also predictions of what public protection would have been without the CCA.

In predicting levels of public protection without the CCA we will be concerned primarily with both T_1 and T_2 . For the late joiners, however, predictions can be made only for the short-term period of supervision. Data from the early joiners will be suggestive of whether predictions would likely change if data from a longer follow-up period were available.

The prediction techniques are essentially extensions of the methods for assessing impact. The techniques attempt to assess how much of an impact there has been; not simply whether there has been one. Just as it is wisest to use multiple methods to assess impact, it is wise to use multiple methods to predict the amount of impact to reduce the bias that may be imposed by a single research method.

1. Techniques Based on the Pre-Test, Post-Test Design

The first technique is an extension of the pre-test, post-test design with non-equivalent control group. Consider the hypothetical data in Table 7. The table includes the number of successes before and after CCA in both a CCA and non-CCA county(ies). The proportional change that occurred in both counties has been calculated to be a twenty-seven percent increase in successes in the CCA area and a thirteen percent increase in the comparison area.

TABLE 7: Predicting Number of Successes in a CCA Area without the CCA

	<u>Number of Successes^a</u>		<u>Percent Change</u>
	<u>Pre-CCA</u>	<u>Post-CCA</u>	
CCA	150	190	+ 27%
Non-CCA	160	180	+ 13%
Predicted CCA without CCA = $150 \times 13\% = 20$			
$20 + 150 = 170$			
Actual CCA = 190			

^aNumber of successes is the total number of state and community dispositions X the proportion of successes in the sample of state and community dispositions.

One assumes, according to this design, that the changes occurring in the non-CCA area would be occurring in the CCA area without the CCA. Thus, one applies the change in the non-CCA area to the pre-CCA data in the CCA county to predict what that change would have been without the CCA. Applying the thirteen percent change from the non-CCA area to the one hundred fifty successes before the CCA in the CCA county produces a prediction of one hundred seventy successes in the absence of the CCA.

2. Techniques Based on Statistical Methods

The major limitation of the above technique is that it assumes comparison counties (either individually or pooled) can control for all the factors other than CCA that affect success rates. This is, of course, likely to be an unrealistic assumption. As in assessing the impact of the CCA above, an alternative strategy is to utilize statistical methods in predicting levels of public protection without the CCA. One possibility is to develop a pre-CCA equation, apply it to the post-CCA data, and compare the predicted successes based on the pre-CCA equation to the actual number. Another alternative is to utilize the coefficient associated with a CCA variable in a regression equation to predict how much of the actual level of successes is due to the CCA.

3. Techniques Based on Maltz Methodology

If the techniques developed by Maltz are used to estimate eventual success/failure rates, then these rates can also be used to arrive at predictions of what the eventual success/failure rates would have been. Rather than using the success rates based on a fixed follow-up period, one can use the eventual success rates estimated from the variable follow-up period to calculate the number of successes pre and post-CCA. Predictions would then be made in the same manner as in Table 7.

3. Juvenile Offenders

a. Special Problems in Juvenile Research

The original intention of the research group was to handle juveniles in a manner as similar as possible to the adult study. It was anticipated that there would be data problems with a juvenile study, so searches of data sources were begun immediately. A number of anticipated and unanticipated problems emerged that led to the decision that research tracking juvenile clients would not be feasible.

The first barriers discovered were difficulties in defining a population of juveniles committed to or diverted to the community. Without a clearly defined population, one cannot draw representative samples to study -- without representative samples, all results are open to question. For the adult study, the Systems Rate Study contains the population of district court dispositions in all CCA areas from 1972 through 1978. No such population list is available for juveniles. Two procedures could be followed but both are prohibitively expensive with given resources. Court dockets could be scanned for a list of all juveniles entering court but then individual files would have to be

checked to see if the court action resulted in an adjudication. Only then could a population list of adjudications be developed. Some counties keep records by juveniles. These records could be scanned to create a chronological list of adjudications from which to sample before and after CCA. Again, this alternative appeared far too time-consuming.

Even if we did have the resources to develop population lists from which to draw representative samples, further difficulties exist in obtaining information on the sampled juveniles. In five CCA areas records have been destroyed or sealed and in another two CCA areas accessibility to juvenile records is problematic. Even where records exist, information is generally more spotty than for adults.

Given these difficulties, it was determined that tracking juveniles in all CCA areas was an impossibility. The next alternative appeared to be to try to replicate the adult study in a few counties. This approach would require a shift of resources between the adult and juvenile studies. The resolution would be to track juveniles in several CCA areas. The wisest choice of areas would be the earliest joiners so that there is a maximum of time for effects to show up and for an adequate follow-up period. Inclusion of three areas for the juvenile study would require dropping at least four and possibly six areas from the adult study.¹ On the face of it, there might be advantages, since the counties dropped could be late joiners for which little time is available to demonstrate CCA effectiveness. That is, one could argue that for both adults and juveniles, public protection can legitimately be investigated in only the earliest joiners because one requires several years post-CCA for effects to begin to show up plus several years for a follow-up of criminal behavior.

¹Resource estimates have been made for Dodge-Fillmore-Olmsted, Ramsey and Crow Wing-Morrison. The time estimates have been made with the assistance of Gene Larimore who conducted the Systems Rate Study, the sampling source for adult offenders. To define the population of juvenile adjudications in both Dodge and Fillmore counties requires going through a juvenile court log book of all court appearances to locate the cases with sustained petitions (about 200 for our time period in each county). This procedure would take one person approximately two weeks for each county. In Olmsted County one would go through about 2,400 file cards on juveniles placed on probation and an additional 100 to 200 cards for state commitments. It would take one person at least two weeks to obtain a chronological list from which to sample. Preliminary searches in Ramsey County indicate that one would need to go through a log book of delinquency petitions and perhaps get from another source whether the petition was sustained. A conservative estimate for obtaining the Ramsey juvenile population is two months. Crow Wing-Morrison did not provide sufficient information to estimate the feasibility of tracking juveniles. The estimated three and one-half months for defining the juvenile population in the first two CCA areas is roughly equivalent to the time to collect data on the adult samples in those counties. We presume, then, that tracking juveniles would take at least twice as long as adults because of the additional step of defining the population.

However, the trade-off between adults and juveniles seriously compromises the validity of the research in two major ways:

1. Dropping the late joining counties from the adult study, eliminates the possibility of comparison counties for the early joiners. Late joiners, according to the proposed designs, serve both as CCA areas and as comparison areas. This change would weaken the design for adults by seriously limiting the ability to make inferences on CCA effectiveness.
2. Research on juveniles in three counties could be discounted on two bases:
 - a. The other eight areas could discount findings, claiming that they are "different".
 - b. Many factors are affecting the treatment of juveniles in the mid-1970's. Without comparison data one could not conclude with any definitiveness that changes found after the CCA in three areas are, in fact, due to the CCA.

One can certainly argue, then, that resources should not be diverted to research that is open to serious question.

Decisions have to be made on the costs and benefits of including research that tracks juveniles. The conclusion the research staff has reached is that the benefits of tracking juveniles in a few CCA areas is small -- all findings could easily be challenged. The costs, on the other hand, are very high. One has to sacrifice roughly twice as much information on adults to obtain the same amount of information on juveniles. It is believed that to balance the adult and juvenile studies would result in two studies open to serious challenge.

The argument was made in the introductory section that an assessment of CCA effects on public protection would be most valid if linked to clients served in CCA areas. While a study based on samples of community placements was ruled out for reasons outlined above, an alternative frequently suggested was to track clients in particular local programs. However, this evaluation is assessing the effectiveness of the CCA as a policy, not the effectiveness of individual community programs. A program could be quite successful while overall at the county level the CCA may not be, and vice versa. One has no way of knowing if data on clients in a few programs are representative of all county services. Successes in one program or service may be offset by failures in others. Also, most programs with usable client data exist after CCA entry, limiting the inferences that could be made about changes due to the CCA. If one finds that ten percent of Program A's clients are failures (as defined in previous sections), what does one conclude regarding public protection? What is the basis of comparison? Finally, one may or may not be able to attribute the existence of the programs investigated to the CCA. In summary, program client data do not seem adequate for making inferences on CCA effectiveness in the area of public protection.

b. Juvenile Arrest Data

Although the research group began with the position that assessments of public protection should be linked to individual community placements, data problems led us back to the necessity of using county-level arrest reports. When faced with this alternative, we began to see advantages in this strategy and saw some of the inherent problems as less severe than initially assumed.

Arrest data have several obvious advantages. They are readily available from the Bureau of Criminal Apprehension (BCA). They exist for all CCA and non-CCA counties. Data are available over a period of years before and after CCA entry. Use of these data does not require a shift of resources from the adult study.

Faulty inferences from county-level arrest data seem less problematic with juveniles than with adults. The introductory section noted that there were major categories of adult offenders that are not targets of the CCA -- serious offenders and pre-offenders. On the other hand, CCA areas include services for most juvenile offenders and generally provide extensive prevention and diversion services as well. If CCA programs are supposed to be preventing, diverting and correcting juveniles better than areas without CCA resources, some differences should emerge in arrest rates between CCA and non-CCA areas. The one category of serious juvenile offender not treatable in the community is so small (the serious juvenile offender program served 31 clients in 1978) that county-level arrest rates should not be influenced by this small group.

Although one can correctly argue that reported arrests are affected by many factors other than CCA, this argument does not reduce the utility of arrest rates to infer effects of the CCA. It is important to keep in mind that a crucial aspect of this analysis will be to discover what is happening state-wide. It could well be that arrest rates are rising in CCA areas, but if they are rising faster in non-CCA areas one would infer that the CCA has been effective. That is, the multitude of factors other than the CCA affecting arrest rates should be controlled by the inclusion of all non-CCA counties.

Another difficulty that some have with using arrest data is that reporting practices differ widely from county to county. However, the time-series design proposed below requires consistency within a county not across counties. That is, one is looking for changes in CCA areas that do not occur elsewhere. Patterns of change within a series rather than absolute levels across time series are what is being investigated. On the other hand, should reporting practices change state-wide (e.g. the BCA might institute or encourage new reporting policies), the resulting change in reported arrest rates would show up state-wide and would not be interpreted as a CCA effect.

The one remaining potential problem is that some unique factor affecting the reporting of or actual level of arrest rates coincides with CCA entry in a CCA area(s). Because the factor is unique, it would not be controlled by the inclusion of non-CCA comparison counties. For example, perhaps CCA entry coincides with a new police chief or sheriff who follows a new policy of pursuing and reporting more arrests. It will be the duty of the research group to identify with CCA personnel any such possible unique factors.

The key point to stress in this discussion is that the use of juvenile arrest data does not imply an assumption that the CCA should be influencing all arrests. Every reported arrest, for example, certainly does not indicate a failure of the CCA. Instead, the argument is that differences in changes in arrest rates between non-CCA and CCA areas can be used to infer CCA impact. Consider a couple of examples in Figure 11. In the first pattern, arrest rates have been rising in both the CCA and non-CCA areas. However, in the CCA area the rate of increase has slowed down after entry and is less sharp than in the non-CCA area. One would infer from such a pattern that CCA services (prevention, diversion, corrections) have reduced the increase in arrest rates. The second pattern suggests that the CCA has led to an increase in arrests. If juveniles diverted to the community are committing offenses during their supervision and are not being better rehabilitated with CCA resources, these phenomena should be detected in a greater rise in arrest rates in CCA than in non-CCA areas.

c. Methods to Assess the Impact of the CCA on Protecting the Public from Juvenile Offenses

Juvenile arrests are taken as a negative indicator of public protection -- the larger the number of arrests, the less the public is protected. The major question to address for assessing the goal of public protection is whether the CCA has increased/decreased/maintained the level of arrests.

The primary method that will be used to analyze arrest data will be a multiple time-series design comparing each CCA area to pooled non-CCA counties for comparison. This design is explained in the introductory Methodology Section. As explained in that section, Ramsey and Hennepin Counties will be treated separately and compared to each other.

Both arrests and arrest rates will be plotted. Arrest rates will be calculated as the number of juvenile arrests per juvenile population-at-risk. The population estimates will be available from the study of retaining offenders in the community (objective #3). Use of arrest rates controls for the increase in arrests due solely to population growth.

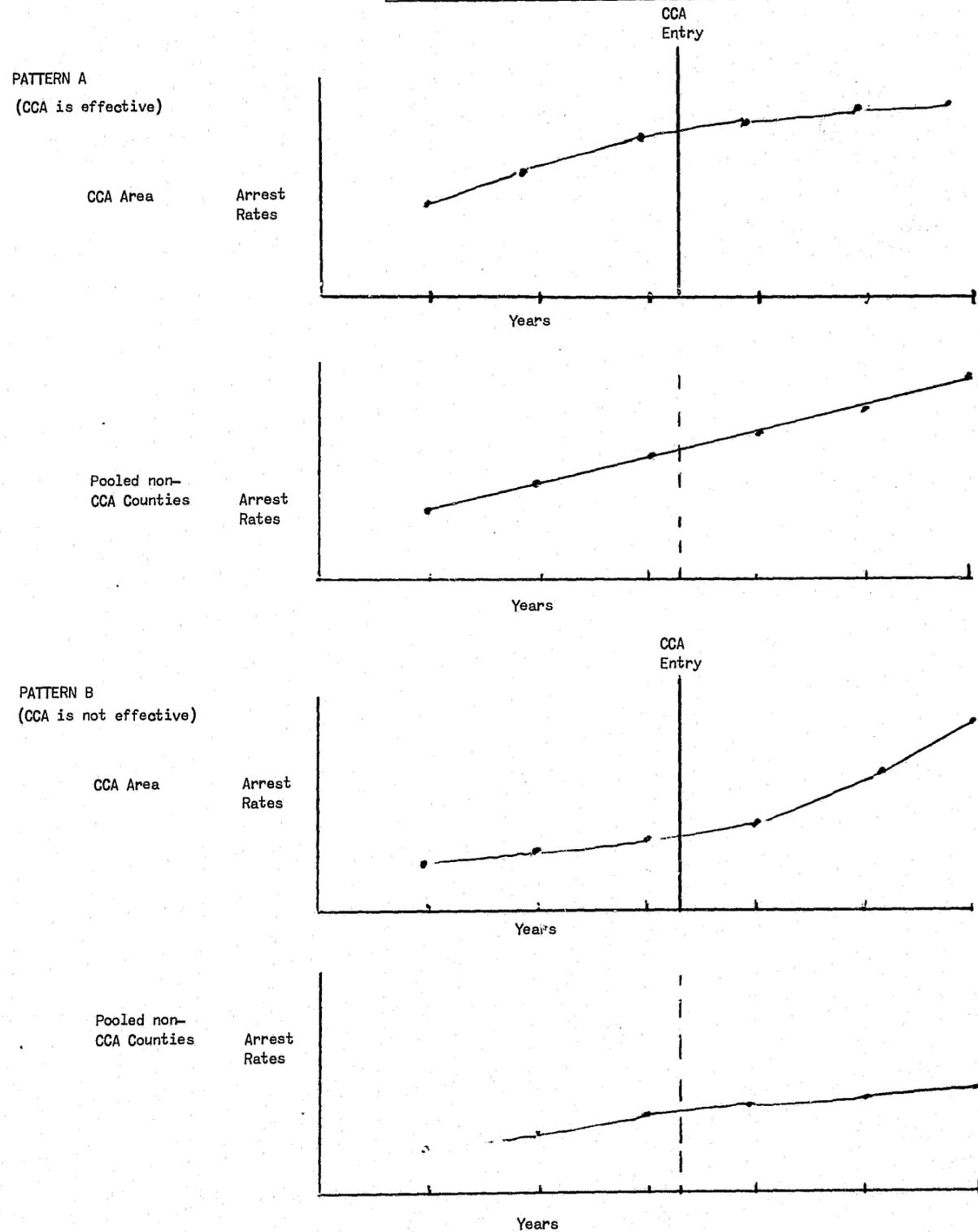
Arrest data should be available from 1972 through 1979. Arrests are reported by the BCA annually. Possibilities of plotting arrests monthly will be pursued. Since population estimates are for years, however, it would not make sense to plot arrest rates for time periods less than a year.

The time series of annual arrests and arrest rates will be plotted for each CCA area and compared to the pooled non-CCA data. With only eight time points, statistical tests will not be feasible. However, visual inspection of the various series will indicate if changes tend to occur in CCA areas that are not occurring state-wide, or vice versa. Mean levels of arrests (or proportions of arrests/population-at-risk) could be calculated before and after CCA entry and difference of means (or proportions) tests (t or Z) employed to see if the gain in the CCA counties is significantly different from non-CCA counties.

CONTINUED

1 OF 2

FIGURE 11 - USE OF CCA AND NON-CCA ARREST DATA TO INFER EFFECTS OF THE CCA



If the plots of arrests and arrest rates are fairly comparable, possibilities of plotting arrests at shorter intervals than a year will be explored. Various statistical techniques for projecting post-CCA trends based on pre-CCA trends will be explored. These techniques are reviewed in the design for retaining offenders in the community. The feasibility of utilizing statistical tests for differences in trends or mean levels (intercepts) before and after CCA will then be explored.

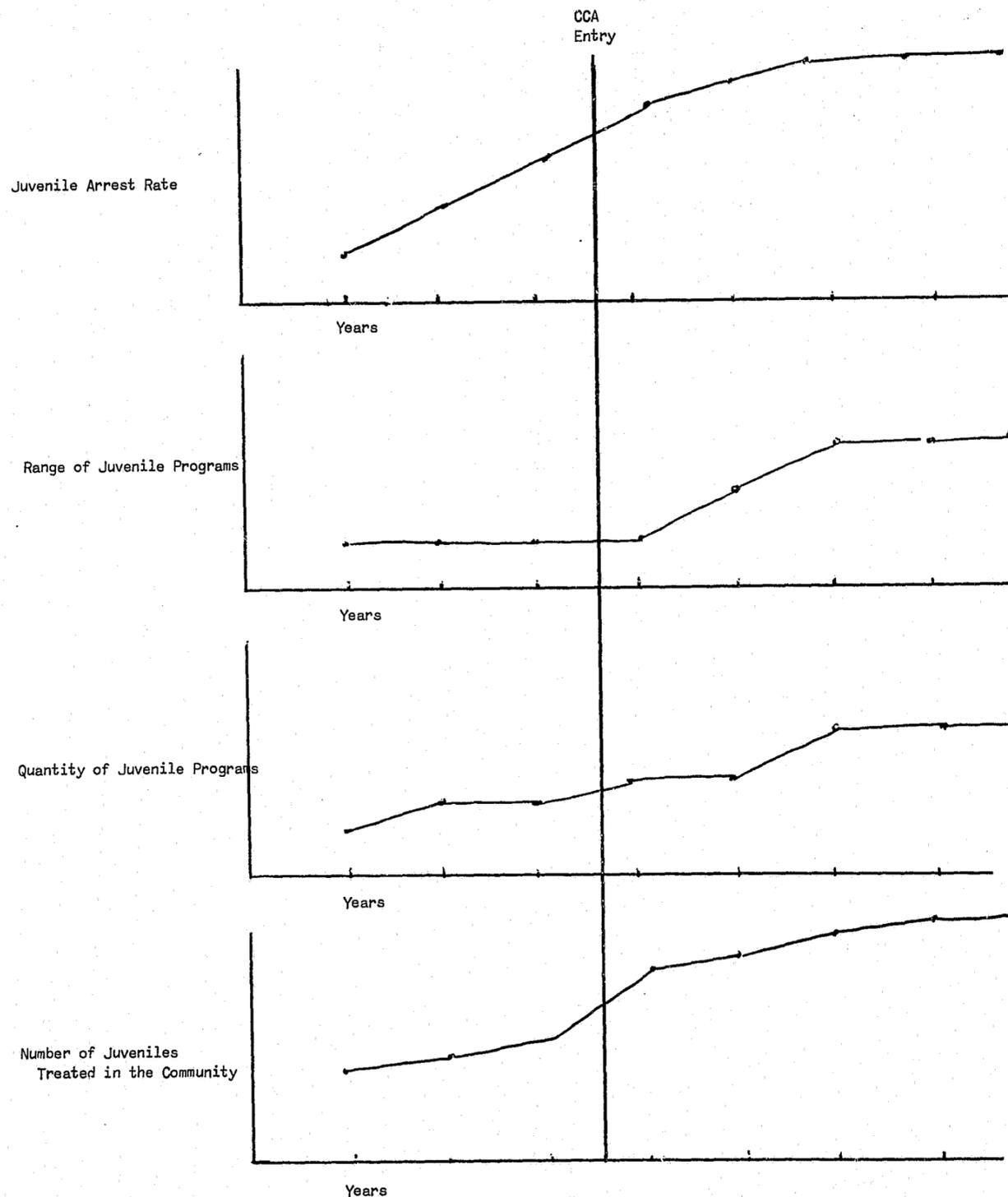
A second method will be used to supplement the basic multiple time-series design. For each CCA area a set of time series will be plotted to assess whether variables associated with CCA entry vary with patterns of arrests or arrest rates. From other portions of this evaluation we should have yearly data on juvenile programs (range and quantity) and juvenile expenditures. We may also have estimates of additional juveniles retained in the community because of the CCA. One could plot a set of time series for each CCA area to see if any of the changes in handling juveniles that result from CCA are associated with subsequent changes in arrest rates. The hypothetical data in Figure 12 illustrate the utility of this procedure. The data suggest that the CCA has increased the number of juveniles retained in the community and has increased the range and quantity of services for juveniles. The effectiveness of these changes is suggested by a subsequent reduction in the arrest rate increase.

Another type of information could be plotted on these series. CCA personnel in each area should be consulted to discover unique events that might affect arrest rates. Special attention should be given to events that might mask CCA positive effects or might be misinterpreted as CCA negative effects. If, for example, local persons are aware that for a few years after CCA entry a large proportion of juvenile arrests were accounted for by juveniles from a neighboring (non-CCA) county, such information could be noted on the time series plots and considered in interpreting trends in arrest rates before and after CCA entry. With such knowledge one could argue that a post-CCA rise in arrest rates can be explained by the neighboring county juveniles for which the CCA area is not responsible. This approach enables the researchers to build into the analyses unique county factors that CCA personnel are aware of but would be uncontrolled and unaccounted for by the inclusion of the non-CCA areas.

Although the primary interest is to provide county-level conclusions, the availability of state-wide data on arrests permits state-wide analyses. The cross-sectional (i.e. county-level) data could be pooled with the time series data in a statistical analysis to assess CCA impact. Arrests would be the dependent variable. Independent variables would be a CCA/non-CCA variable, population-at-risk and a number of other variables for which data are available and which are frequently related to crime (e.g. income, unemployment, etc.). Such analyses would indicate whether and how CCA participation affects reported juvenile arrests state-wide.

A final type of analysis will be attempted to assess the validity of findings based on juvenile arrests. The rationale for using juvenile arrests is stronger than for adults because a larger proportion of adults are not targets of the CCA. However, if time permits similar analyses could be

FIGURE 12 - HYPOTHETICAL DATA SUGGESTING THAT CHANGES IN JUVENILE PROGRAMMING RESULTING FROM THE CCA REDUCE THE JUVENILE ARREST RATE



conducted on adult arrests. Findings based on arrest data could be compared to findings based on tracking individual adult felons. If findings converge, then the validity of findings based on juvenile arrest data would be supported. If findings do not converge, then the possibility that arrest data do not provide a valid estimate of CCA effectiveness should be stressed. While the latter finding would be unfortunate from the perspective of being able to report sound results, it is believed the research group would be in no stronger a position had they followed the option of tracking juveniles in several CCA areas. There is at least the potential to arrive at evidence that juvenile arrest data results are valid. Tracking juveniles in several CCA areas does not even carry that potential (See explanation of the point above.).

d. Technique to Predict Public Protection without the CCA

The techniques above should enable one to assess whether the CCA is reducing or increasing juvenile arrests, compared to non-CCA counties. If there is evidence that arrest data results are valid and that there is some CCA impact, it is worthwhile to predict what that impact has been. As with adults, the study of efficiency requires an estimate of what the level of arrests would have been without the CCA. At this point it helps to speak in terms of positive outcomes (non-arrests or "successes") rather than negative outcomes (arrests or "failures").

If we use the reverse of arrest rates, or "success rates", data could be plotted from 1972 through 1979. A success rate would equal (1-arrest/population-at-risk). Too few data points are available to estimate pre and post trends. Thus, average success rates before and after entry could be calculated and differences between pre- and post-CCA obtained for each CCA area and for the pooled non-CCA data. The relative non-CCA success rate change could be applied to the CCA area's pre-entry rate to estimate what the success rate would have been in the absence of the CCA. The actual and predicted success rates would then be translated into the actual and predicted number of successes for the efficiency analysis. This procedure is spelled out in Figure 13.

FIGURE 13: Predicting Juvenile "Successes"

CCA Area	$\frac{9,000}{10,000}$	(.90)	X	$\frac{10,000}{15,000}$	(.66)
Pooled Non-CCA Data	$\frac{12,000}{14,000}$	(.86)		$\frac{15,000}{20,000}$	(.75)

The average decline in success rates for non-CCA areas = 13% (.86 - .75 = .11);
 $\frac{.11}{.86} = 13\%$.

Pre-CCA rate times decline in non-CCA area = .12.

Predicted success rate in CCA area = .90 - .12 = .78.

Predicted successes in CCA area = .78 X 1,500 = 11,700.

Actual successes in CCA area = 10,000.

G. Evaluation of Economy

1. Introduction

The cost analyses undertaken will answer two basic questions:

- a. How much do taxpayers pay for the service delivery system under CCA? These are actual CCA costs.
- b. How much would taxpayers pay without the CCA? These are predicted CCA costs.

Hence, the analyses, having a taxpayer perspective, will focus on funds flowing among state, local and federal governments and disbursed for CCA operation. Government costs without the CCA or predicted CCA costs will be estimated from pre-CCA costs corrected for client population trends occurring over the prediction period. Normal client population trends will be developed from client population trends in comparison areas over the prediction period as developed in section D, Evaluation of Retaining Offenders in the Community. All cost figures will be adjusted for inflation¹ and expressed in current dollars to facilitate intertemporal cost comparisons.

Economy under the CCA will be measured by the difference between predicted CCA costs and actual CCA costs, i.e., (b) - (a). The CCA policy will achieve its major economy objective if the difference between predicted and actual costs is positive or zero, i.e., where economy is increased or at least maintained.

These cost analyses along with the impact analyses conducted in section F, Evaluation of Public Protection, will be used in the following section on Efficiency to determine whether the CCA is a cost-effective policy when compared to pre-CCA measures of dealing with offenders.

2. Program Level Cost Concepts

a. Correctional Costs: An Economic Perspective

Economists conducting cost-effectiveness analyses of correctional alternatives have determined program costs in a variety of ways. Bloom and Singer² defined two types of costs for operating an institution housing numerous treatment programs for inmates. State costs included capital, custodial and

¹The appropriate price indices for government goods and services can be found in issues of the Survey of Current Business printed by the U. S. Government Printing Office.

²Howard S. Bloom and Neil M. Singer, "Determining the Cost-Effectiveness of Correctional Programs: The Case of Patuont Institution," Evaluation Quarterly, Vol. 3, No. 4, 609-628.

treatment costs, while inmate costs included offenders' foregone income. Indeed, foregone income was found to be roughly half the size of state costs. Given that CCA may affect incarceration rates, the foregone income of incarcerated clients will be examined during the pre-CCA and CCA periods. This analysis is described along with the analysis of CCA's impact on welfare costs in following sections.

Capital costs have also been included in cost-effectiveness studies.¹ Excluding capital costs from any analysis will understate program costs and result in a suboptimal resource allocation.² For this reason, capital costs associated with the pre-CCA and CCA programs will be estimated and amortized over the expected life of the capital. Capital costs include equipment expenditures, remodeling and new construction costs associated with programs.

Various studies have also examined the hidden costs of providing outside social services such as drug rehabilitation, chemical dependency therapy, mental health services and education and training costs. One national study provides an exhaustive study of such externalized costs for halfway houses³ and such data has been collected for various Minnesota projects in the report Cost-Effectiveness of Residential Community Programs (St. Paul: Governor's Commission on Crime Prevention and Control, 1977), Appendix C. Economists account for outside social service costs because referring clients to such programs involves expenditures somewhere in the service delivery system, although such expenditures may not be reflected in the referring program's financial records. Valuing such social service costs will eliminate cost differences between community-based programs resting solely on the degree to which such costs are internalized.

At least two studies⁴ have introduced a time dimension into cost calculations (e.g., very short run costs, short run costs and long run costs) to deal with the future placement of offenders. Costs are first categorized

¹See, for example, Howard S. Bloom and Neil M. Singer, "Determining the Cost-Effectiveness of Correctional Programs: The Case of Patuont Institution," Evaluation Quarterly, Vol. 3, No. 4, 609-628; and Charles M. Gray, et al. "Cost Effectiveness of Residential Community Programs: An Analytical Prototype," Evaluation Quarterly, Vol. 2, No. 3, 375-400.

²Billy L. Wayson and Gail S. Monkeman, How to Implement Criminal Justice Standards for Corrections: An Economic Analysis (Washington, D.C.: American Bar Association, 1977), 8-10.

³Donald J. Thalheimer, Cost Analysis of Correctional Standards: Halfway Houses, Vol. 11 (Washington, D.C.: American Bar Association, 1975), 103.

⁴Charles M. Gray, et al., "Cost Effectiveness of Residential Community Programs: An Analytical Prototype," Evaluation Quarterly, Vol. 2, No. 3, 375-400; and Michael K. Block and Thomas S. Ulen, "Cost Functions for Correctional Institutions," in The Costs of Crime, D. M. Gray, ed. (Beverly Hills: Sage Publications, 1979).

as fixed or variable based upon the time period over which decision makers have the ability to adjust to client population changes. Fixed costs are unaffected by client population changes, while variable costs do change with alterations in the client population level. Very short run costs are program costs which vary on a short term (week to week) basis. These costs include client maintenance costs such as food, clothing and medical care. Short run costs are program costs from a longer perspective such as month to month. As client maintenance costs continue to vary so do non-administrative staff costs as new staff are hired to deal with the added clients. Long run costs are program costs from a year to year perspective. All client maintenance and staff costs (including administrative salaries) are variable. In addition, the cost of replacing worn-out capital (equipment, facilities) must be considered due to their more intensive use. The economy and efficiency analysis of the CCA will focus on the long run costs of treating clients under the pre-CCA and CCA service delivery systems. However, the data collected may be partitioned into very short run, short run and long run costs for future analyses.

In summary, the economy analyses will focus on the long run costs of operating pre-CCA and CCA programs. Such costs will include amortized capital costs and the value of social services used by programs. Separate analyses describing the impact of CCA on offender employment and the use of welfare resources will be described in the following sections.

b. Welfare Expenditures

Welfare expenditures may be categorized as direct or indirect. Direct welfare expenditures are payments made to individuals and includes general assistance and Aid to Families with Dependent Children (AFDC), while indirect welfare expenditures pay for social services. It has been hypothesized that CCA will decrease direct welfare expenditures by retaining offenders in the community where they may continue working, thus averting the need for general assistance and AFDC to dependents. However, indirect expenditures for services to offenders may increase because the number of offenders retained in the community is expected to increase under CCA. Thus, examining both direct and indirect welfare expenditures for offenders and their dependents will indicate the impact of CCA on welfare expenditures.

c. Foregone Income of Incarcerated Offenders

It is expected that retaining offenders in the community rather than in state institutions will enable such offenders to continue employment either through the use of probation or Huber release. Institutionalizing offenders may lead to foregone inmate earning costs as examined in the Bloom and Singer study.¹ Foregone earnings costs will be estimated for incarcerated offenders.

¹ Howard S. Bloom and Neil M. Singer, "Determining the Cost-Effectiveness of Correctional Programs: The Case of Patuont Institution," Evaluation Quarterly, Vol. 3, No. 4, 609-628.

3. Methodology

a. Basic Correctional Cost Analyses of CCA

The basic correctional cost analyses will provide descriptive data on the actual cost of CCA's implementation when compared to predicted costs based upon pre-CCA costs. Basic correctional cost analyses will include a comparison of actual and predicted cost measures for each participating area in the following categories:

1. Correctional cost per offender.
2. State administrative/supervisory costs per offender.
3. Correctional cost for adult services per adult offender.
4. Correctional cost for juvenile services per juvenile in the general population.
5. Planning and administrative costs per offender.

In addition, actual and predicted CCA costs will be linked to public protection measures in section H on Efficiency.

b. Welfare Expenditure Analyses

Two questions will be answered in this analysis: What was the impact of CCA on direct and indirect welfare expenditures in 1978 and 1979? Has retaining offenders in the community reduced direct welfare expenditures under the CCA as compared to the pre-CCA period? The primary data source for changes in direct welfare expenditures will be probation file data supplemented by published welfare expenditure reports.¹ Probation files will be used to assess the client's status with respect to general assistance and his dependents' status with respect to AFDC at three points in time: at the time of the offense, during supervision and after supervision/release. Changes in dependence on welfare resources will be analyzed for the pre-CCA and CCA offender samples using a pre-test/post-test design. The analysis coupled with other offender demographic data (marital status, number of dependent children) and published welfare expenditure data will be used to derive pre-CCA and CCA estimates of primary welfare expenditures.

The primary source of CCA indirect welfare expenditures is the Funding Source Realization Analysis Section of the Community Corrections Financial Status Reports. No attempt will be made to assess indirect welfare expenditures for offenders during the pre-CCA period given the multiplicity of social service

¹ See, for example, Summary of Minnesota Public Assistance Trends (St. Paul: Minnesota Department of Public Welfare, 1978).

financial records and the general unavailability of detailed client characteristic information. Rather, available data on CCA-related indirect welfare expenditures will be used to assess the net impact of CCA on indirect welfare expenditures in 1978 and 1979. The accuracy of this data will be verified in three randomly selected counties before use.

c. Foregone Income of Incarcerated Offenders Analysis

This analysis will examine changes in the continuity of employment for pre-CCA and CCA offenders. The primary data source will be probation files. Such records will be used to assess the offender's status with respect to full-time or part-time employment at three points in time: at the time of the offense, during supervision and after supervision/release. Any change in pre-CCA and CCA offender employment continuity will be analyzed using a pre-test/post-test design. If there are significant favorable changes in employment status between the pre-CCA and CCA periods that cannot be explained by other factors such as general economic conditions, then the foregone income of incarcerated clients will be imputed from available probation record income data or from published income sources developed by the Bureau of Labor Statistics and Minnesota Department of Economic Security.

4. Sources of Cost Data

a. CCA Costs

The primary source of CCA cost data is the Community Corrections Financial Status Reports filed quarterly with the Department of Corrections. These figures will be allocated to various cost categories (such as food, medical care) based upon the detailed cost figures required in the Community Corrections Subsidy Comprehensive Plan Budget filed quarterly with the Department of Corrections.

Both reports permit the breakdown of CCA costs by funding source and expense categories. Funding source data will only be collected for CCA costs, but not for pre-CCA costs, given the difficulty in tracking funding source data at the county level for the pre-CCA period. Funding source data will be used only for descriptive purposes. CCA funding sources will be divided into state, county and federal sources. State sources include subsidy and legislative funds to the DOC for program administration; county funds include expenditures from general and special funds; and federal sources include LEAA, CETA and WIN projects along with welfare per diem and care receipts.

Costs by expense category will be collected in five major areas: personnel, service and contractual, supplies and materials, capital outlays and other expenses. Personnel costs will be divided into administrative and staff salaries. Service and contractual costs details will include client custodial and medical care costs and, if necessary, imputed rent and utility costs based upon staffing levels. This estimation procedure imputes a cost for resources used (space, energy) and will also eliminate any cost difference between counties who charge programs rent and those who do not. Any large consultant expenditures will be treated as added personnel costs. Supplies and materials will include very short run costs such as food and beverages, clothing and household and medical supplies. Capital outlays expenditures

for equipment, property improvement and property purchases. Only expenditures that exceed \$5,000 or five percent of the total annual subsidy¹ will be regarded as major expenditures requiring amortization over the expected life of the capital. The capital's expected life will be estimated by surveying program contact people or equipment dealers.

Another source of CCA cost data will include state costs associated with program administration.

b. Pre-CCA Costs

Pre-CCA costs will be derived from a multiplicity of state and county sources. First, DOC data on pre-CCA probation costs will be examined. If necessary, the cost for probation services to each CCA area will be partitioned from total probation costs based upon the percentage of the total probation population served in the area. DOC records will also be searched for any other costs related to community-oriented programs during the pre-CCA period. Second, Crime Control Planning Board grant files will be examined for the funding levels of community-based programs operating in the relevant counties prior to the Act's implementation. Third, other costs of program will be sought in project records located in county criminal justice agencies and in county auditor records.

¹This decision rule is based upon 11 MCAR § 2.005 (1977) which describes financial criteria followed by CCA areas for comprehensive plan change notification.

H. Evaluation of Efficiency

1. General Approach

To assess efficiency, public protection results from Section F will be integrated with economy (cost) results from Section G. The ratio of costs to public protection results will form the efficiency ratio. The cost-effectiveness analysis will hence link cost to outcome. In general for each CCA area two such ratios will be compared: the predicted ratio based on pre-CCA results and the actual ratio based on CCA operation. A comparison of these two ratios will demonstrate if efficiency has increased or at least been maintained under the Act's operation.

2. Methodology

As noted above, the methodology employed is cost-effectiveness analysis. The decision criterion under such an approach is as follows: when a single key policy outcome is identified (public protection) and such policy outcome cannot be measured in dollar terms, choose the cheapest policy per policy outcome unit (i.e., per public protection success or non-recidivating client). If one accepts the assumption that public protection is the most crucial outcome of the Act, then the policy choice criterion of minimizing cost per public protection success is similar to the business criterion of minimizing input cost per dollar of profit for choosing among various projects. Note that the Act also gives guidance if cost per public protection success does not change under CCA. That is, per success, it is neither more nor less expensive than predicted under the pre-CCA system. In this instance, efficiency is maintained under CCA and denotes successful operation of the Act as written.

Hence, this methodology indicates the most efficient policy as one providing the lowest cost per public protection success. CCA will also be the most efficient policy if such cost measures do not change when compared to the predicted measure based on the pre-CCA policy. Figure 14 provides applications of the decision criteria for efficiency.

The relevant cost figures are developed as follows: for each offender in the adult offender sample, a cost profile will be developed based upon the conditions attached to the offender's sentence. Costs will be attributed to the condition based upon the costs per client for relevant treatment or supervision programs. An aggregation of offender cost profiles across the total sample will then be averaged to develop a cost per client measure. Cost per client measures will be developed for the CCA and predicted CCA costs.

Juvenile costs per client treated are aggregate juvenile program costs divided by the juvenile population in the area. Given joint juvenile/adult programs, juvenile program costs will be partitioned from adult program costs based upon juvenile clients as a percentage of total clients served.

3. Scope of Efficiency Measures

The methodology described above provides the general efficiency decision criteria framework. However, as noted in the public protection section, the adult and juvenile community corrections outcomes will be examined in the short

FIGURE 14 - Examples of General Efficiency Decision Criteria

	Cost (Thousands of Dollars)		Public Protection Successes		Efficiency Ratio		CCA Efficiency
	Predicted	Actual	Predicted	Actual	Predicted	Actual	
CCA Area 1	\$1,000	\$ 800	40	40	$\frac{\$1,000}{40} = \25	$\frac{\$ 800}{40} = \20	<u>Yes</u> (lower cost for a given level of public protection)
CCA Area 2	\$1,000	\$1,000	40	20	$\frac{\$1,000}{40} = \25	$\frac{\$1,000}{20} = \50	<u>No</u> (higher cost for each public protection success)
CCA Area 3	\$1,000	\$ 800	40	80	$\frac{\$1,000}{40} = \25	$\frac{\$ 800}{80} = \10	<u>Yes</u> (lower cost for each public protection success)
CCA Area 4	\$1,000	\$1,600	40	64	$\frac{\$1,000}{40} = \25	$\frac{\$1,600}{64} = \25	<u>Yes</u> (efficiency maintained under CCA)

run (success during community supervision) and in the long run (successes during rehabilitation).

As noted in Section E, short run analyses should be possible for most CCA areas, yet long run analyses will be limited only to initial CCA entrants given the need for a longer follow-up period in such analyses. If most CCA areas are efficient in the short run and long run, then the CCA is a wise policy overall. If most CCA areas are efficient in the short run but few are efficient in the long run, then CCA is not an efficient public policy for the long term goal of rehabilitating clients and should not be retained.

Figure 15 provides examples of short run and long run efficiency ratios. The public protection successes in the denominators of ratios from which such figures are derived assume that a seriousness index can be developed which enables adult program successes to be added to juvenile program successes.

Similarly, analyses can be developed which provide efficiency ratios for adult and juvenile programs in each area in the short and long term. If the overall CCA policy is inefficient in an area, one can then examine whether both adult and juvenile programs are inefficient, whether only adult programs are inefficient, or whether only juvenile programs are inefficient. The efficiency ratios, by themselves, are not sufficient to develop policy recommendations at the adult and juvenile program efficiency levels. Rather, a more detailed analysis must be conducted which will examine such measures as: funding formula rank, average program size and average cost per client.

The overall CCA policy in an area may be inefficient due to inadequate overall funding or excessive funding for the outcome achieved. An individual program type (adult, juvenile) may be inefficient due to improper funding levels and/or program scale when compared to other successful CCA areas. Figure 16 provides future research directions for policy recommendations based upon efficiency ratio decision criteria.

FIGURE 15 - Examples of Short Run and Long Run Efficiency Decision Criteria

	Short Run Efficiency Ratio		Long Run Efficiency Ratio		CCA Policy Efficiency
	Predicted	Actual	Predicted	Actual	
CCA Area 1	\$ 25	\$ 20	\$ 25	\$ 25	<u>Yes</u> (efficient in the short and long run)
CCA Area 2	60	80	40	35	<u>Yes</u> (inefficient in the short run but efficient in the long run)
CCA Area 3	28	50	65	75	<u>No</u> (inefficient in the short and long run)
CCA Area 4	22	20	50	65	<u>No</u> (efficient in the short run but not in long run)
CCA Area 5	35	30	-	-	<u>Yes</u> (efficient in the short run but data unavailable for the long run analysis)
CCA Area 6	40	35	80	90	<u>No</u> (efficient in the short run but not in the long run)

OVERALL POLICY CONCLUSION: Even though the CCA is an efficient policy in the short run for a majority of areas, it is not a viable long term rehabilitative policy.

FIGURE 16 - Research Directions Indicated by Efficiency
Decision Criteria Conclusion

	<u>CCA Program</u>	<u>CCA Juvenile Program Component</u>	<u>CCA Adult Program Component</u>	<u>Research Direction Indicated</u>
CCA Area 1	Efficient	Efficient	Inefficient	1. Funding for adult program 2. Adult program scale
CCA Area 2	Inefficient	Inefficient	Inefficient	1. CCA funding rank 2. Juvenile and adult program funding 3. Juvenile and adult program scale
CCA Area 3	Inefficient	Inefficient	Efficient	1. CCA funding rank 2. Juvenile program funding 3. Juvenile program scale

1. Evaluation of Social Justice

1. Definition of Social Justice

Social justice has been conceptualized as the outcome representing the balance between public protection and appropriateness of offender sanctions. The term social justice carries a variety of connotations and may suggest different normative outcomes to different people. It is important then to clarify how the term is being used in this particular framework.

In reviewing philosophical traditions of social justice, it became apparent that we are employing the term in a somewhat untraditional and more complicated way. Social justice is usually considered a distributive principle. That is:

. . .each individual has exactly those benefits and burdens which are due to him by virtue of his personal characteristics and circumstances.¹

At its simplest, "to each his due."

According to this standard definition of justice, the goals of both public protection and appropriate offender sanctions represent forms of justice. If we accept that the public in general does not deserve offender threats, then the higher the levels of public protection, the more just is the situation for the public. Similarly, the more that offenders receive the sanctions that they deserve, the more just is the situation for offenders.

Social justice, as it is being used in this framework, represents the relationship between justice for the public and justice for the offender. Social justice is not a distribution of a particular benefit or burden throughout society, but instead it is a balance of two states of justice; one for the public and one for the offender. It is possible that justice for one group is in conflict with justice for the other. For example, reducing offender threats could conceivably be in conflict with increasing appropriateness of offender sanctions. How can one determine, then, whether social justice has increased when one group benefits and the other is burdened?

There are a number of possible outcomes, but it is not immediately clear which constitute an increase in social justice. If there is an increase in both public protection and appropriateness of offender sanctions, then all would agree that the outcome is more just. Similarly, if both goals decrease, all would agree that the outcome is less just. The problem arises if one goal increases and the other declines. The position adopted here is that social justice will be said to increase so long as justice in the aggregate increases; that is, so long as the total number benefiting increases. Thus, if offender

¹David Miller, Social Justice, Oxford: Clarendon Press, 1976. p. 20.

sanctions are a great deal more appropriate at a slight loss of public protection, social justice would increase. On the other hand, if sanctions were to become only slightly more appropriate but the public is put at great risk, social justice would decrease.

Social justice typically is conceptualized solely as a distributive principle. This view of social justice as an aggregative principle as well (i.e., the total amount of good, not only its distribution) makes this a somewhat different conceptualization yet one that appears appropriate for this framework in which two states of justice must be balanced. Social justice will be said to increase if the total amount of justice experienced by the public and offenders increases. This situation could exist if justice for one group declines, so long as justice for the other group increases to a greater extent.

2. Measurement of Social Justice

In measuring social justice, like efficiency, we are concerned with assessing whether the CCA provides a better situation than we would have without the CCA; that is, we are concerned with a comparison of actual and predicted levels of social justice. The measurement of efficiency involved a straightforward ratio of costs per public protection. Any ratio producing more protection per dollar spent indicates a more efficient system. Social justice, however, does not lend itself to such straightforward measurement.

The evaluations of public protection and appropriate offender sanctions will provide estimates of the actual number of successes (public protection) and the actual number of appropriate offender sanctions with the CCA. Similarly, prediction techniques explained in those portions of the design will provide estimates of the number of successes and the number of appropriate offender sanctions had counties not joined the CCA. The problem in this section is to devise a method that can use these actual and predicted estimates to assess whether social justice has increased with the CCA.

Two options are clearly inadequate. First, a ratio of appropriate sanctions per offender success does not provide an indicator of justice. The first example in Table 8 provides data that if treated in a parallel manner to efficiency would indicate justice. With the CCA the hypothetical data indicate that public protection is increasing (denominator) while appropriate offender sanctions decrease (numerator). According to the definitions of social justice discussed above, these data do not indicate a more just condition. The public is even better off than without the CCA (100 more successes) but offenders are even worse off (200 fewer appropriate sanctions). The distribution of benefits is even more unequal and the total amount of benefits decreases (the public gains 100; offenders lose 200; net loss of 100). A ratio parallel to an efficiency ratio obviously does not provide a measure of social justice.

A second alternative considered was to use a ratio but to use as a standard of social justice a ratio of one. A ratio of one would indicate that both groups are benefiting equally, while ratios farther from one indicate

one group is benefiting at the expense of the other. But the second example in Table 8 illustrates that this method also is inadequate to measure social justice. While the hypothetical data with CCA provide a ratio of one, one group is losing while the other remains the same. Thus, the total benefits are reduced although benefits are more equitably distributed. This method gets at the distributive dimension of social justice but it misses the aggregative dimension (i.e., the total level of justice).

TABLE 8: Hypothetical Data Illustrating the Inadequacy of a Ratio to Measure Social Justice

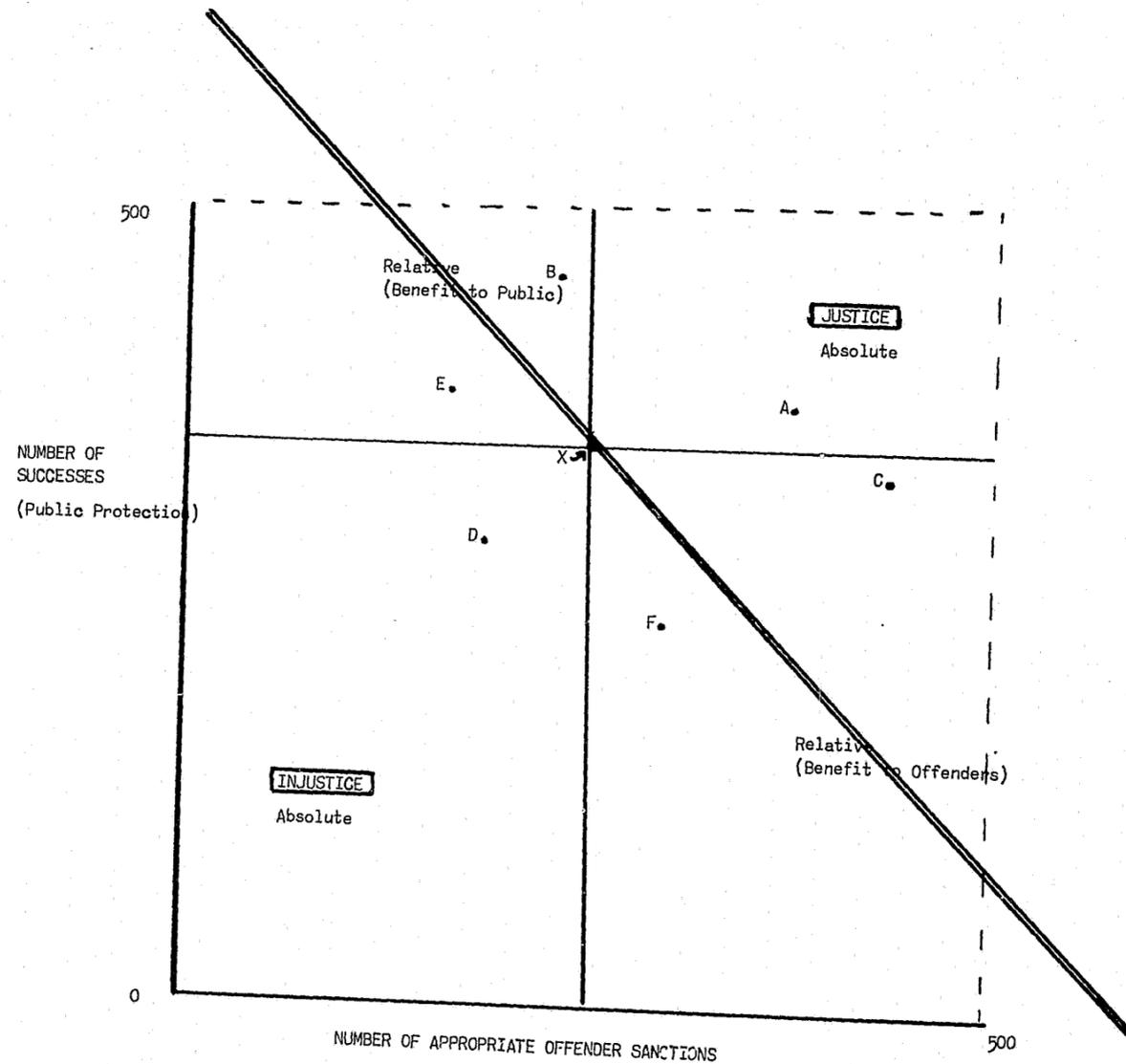
	<u>Predicted Ratio without CCA</u>	<u>Actual Ratio with CCA</u>
Example 1: # Appropriate Sanctions	$\frac{300}{400}$	$\frac{100}{500}$
Successes	(3/4)	(1/5)
Example 2: # Appropriate Sanctions	$\frac{400}{500}$	$\frac{400}{400}$
Successes	(4/5)	(1)

What is required is a method that can provide a measure of both the distributive and aggregative dimensions of social justice. Such a method is depicted in Figure 17. Public protection is the vertical axis while offender sanctions is the horizontal axis. This example assumes there are 500 offenders in the post-CCA population. Complete justice for the public occurs with 500 successes. Complete justice for offenders occurs with 500 appropriate sanctions. The problem is to develop a measure of whether the situation with the CCA provides more social justice.

The first step in Figure 17 is to plot the predicted values of successes and sanctions without the CCA (point X). One then draws a line through this point that intersects each axis at a 45° angle.¹ From this diagonal line one draws two additional lines at 45° angles. One then has six sections in which the actual CCA values might fall when plotted. The main diagonal line separates just and unjust outcomes. This diagonal line indicates the aggregate dimension of social justice. If the actual CCA value falls anywhere above the line, in the aggregate the total amount of justice has increased. If the actual CCA value falls anywhere below this line, in the aggregate the total amount of justice is less than without the CCA.

¹ Along this line one unit of success is equivalent to one unit of appropriate sanctions. Some persons might disagree with this value position that an offender is equal to an individual in the public. However, the most neutral position available to the researcher is to assume all are equal. If persons could articulate the relative weight of each group (e.g., an individual in the public is worth twice as much as an offender), a line could be drawn at a different angle to reflect these different weights.

FIGURE 17: A Method to Measure Social Justice Under CCA



X = Hypothetical estimate of predicted number of appropriate offender sanctions and predicted number of successes without the CCA.
 A through F = Hypothetical estimates of actual number of appropriate offender sanctions and actual number of successes with the CCA.

The distributive dimension of social justice is indicated by the lines that separate three types of justice and three types of injustice. These sections, in other words, indicate which group is benefiting or being burdened with the CCA. Consider first the possibilities of justice, those points falling above the diagonal line. If the actual CCA values fall in the center section (e.g., point A), both groups are experiencing more justice with the CCA. This section has, therefore, been labelled absolute justice since everyone is better off. If actual CCA values fall in the upper section of justice (e.g., point B), the public is benefiting at the expense of the offenders. One can see that at any point in this section the public is gaining to a greater extent than offenders are losing. There is justice because there is more total justice, but it is a relative justice because one group benefits while another is burdened. The lower section of justice (e.g., point C) represents just the opposite case in which offenders are gaining a great deal while the public is losing a little.

The types of injustice can be handled in exactly the same way. If the actual CCA values fall in the center section below the diagonal line (e.g., point D), there is absolute injustice because both groups are worse off than they would be without the CCA. If the values fall in the upper portion below the diagonal line (e.g., point E), there is relative injustice. The public has gained a little but offenders lose to a greater extent so that in the aggregate there is less justice. Finally, if actual CCA values fall in the lower portion below the diagonal line (e.g., point F), there is relative injustice. Offenders are receiving somewhat more appropriate sanctions, but because there are many more failures among offenders, in the aggregate there is less justice.

This method of plotting social justice has several advantages. First, it provides a visual presentation of actual and predicted levels of justice so that findings can be easily reported and understood. Second, it provides a convenient way to illustrate the two dimensions of social justice. By creating the six sectors of justice and injustice, both the level of justice is depicted (aggregate dimension) as well as the group(s) that is benefiting (distributive dimension). This latter characteristic is particularly useful because it permits the individual reader to make his/her own determination of whether the outcome is more or less just. While we have imposed a certain definition of social justice and have devised a measure according to that definition, the manner in which the outcome will be reported enables persons with a different sense of social justice to assess whether outcomes meet his/her sense of justice. For example, someone might disagree that point C in Figure 17 in fact represents justice. According to our definition it does, but to someone else it might not (e.g., someone who greatly values individuals in the public over offenders). The presentation of the findings in this way enables readers with different values to interpret findings according to those values.

END