

68017

Report #17900-004

23 June 1975

SANTA CLARA COUNTY
COMMUNITY RELEASE PROJECT
(O.C.J.P. GRANT #A2077-1-74)

COST EFFECTIVENESS ANALYSIS

by

Michael M. Collins, Ph.D.

Prepared for the Santa Clara County
Juvenile Probation Department

**PUBLIC
SAFETY
SYSTEMS**



INCORPORATED

P.O. BOX 30410, SANTA BARBARA, CALIFORNIA 93105

68017
65017
A GENERAL RESEARCH COMPANY

Report #17900-004

23 June 1975

SANTA CLARA COUNTY
COMMUNITY RELEASE PROJECT
(O.C.J.P. GRANT #A2077-1-74)

COST EFFECTIVENESS ANALYSIS

by

Michael M. Collins, Ph.D.

Prepared for the
Santa Clara County Juvenile Probation Department

**PUBLIC
SAFETY
SYSTEMS**  **INCORPORATED**
P.O. BOX 30410, SANTA BARBARA, CALIFORNIA 93105

A GENERAL RESEARCH COMPANY

CONTENTS

<u>Paragraph</u>	<u>Page</u>
THE COST OF THE COMMUNITY RELEASE PROJECT	4
BENEFITS OF THE COMMUNITY RELEASE PROJECT	6

List of Figures

<u>Figure No.</u>		<u>Page</u>
1	AVERAGE NUMBER OF JUVENILES PER DAY IN CRP, IN DETENTION FACILITY AND IN BOTH	2
2	CRP CLIENT FLOW	5

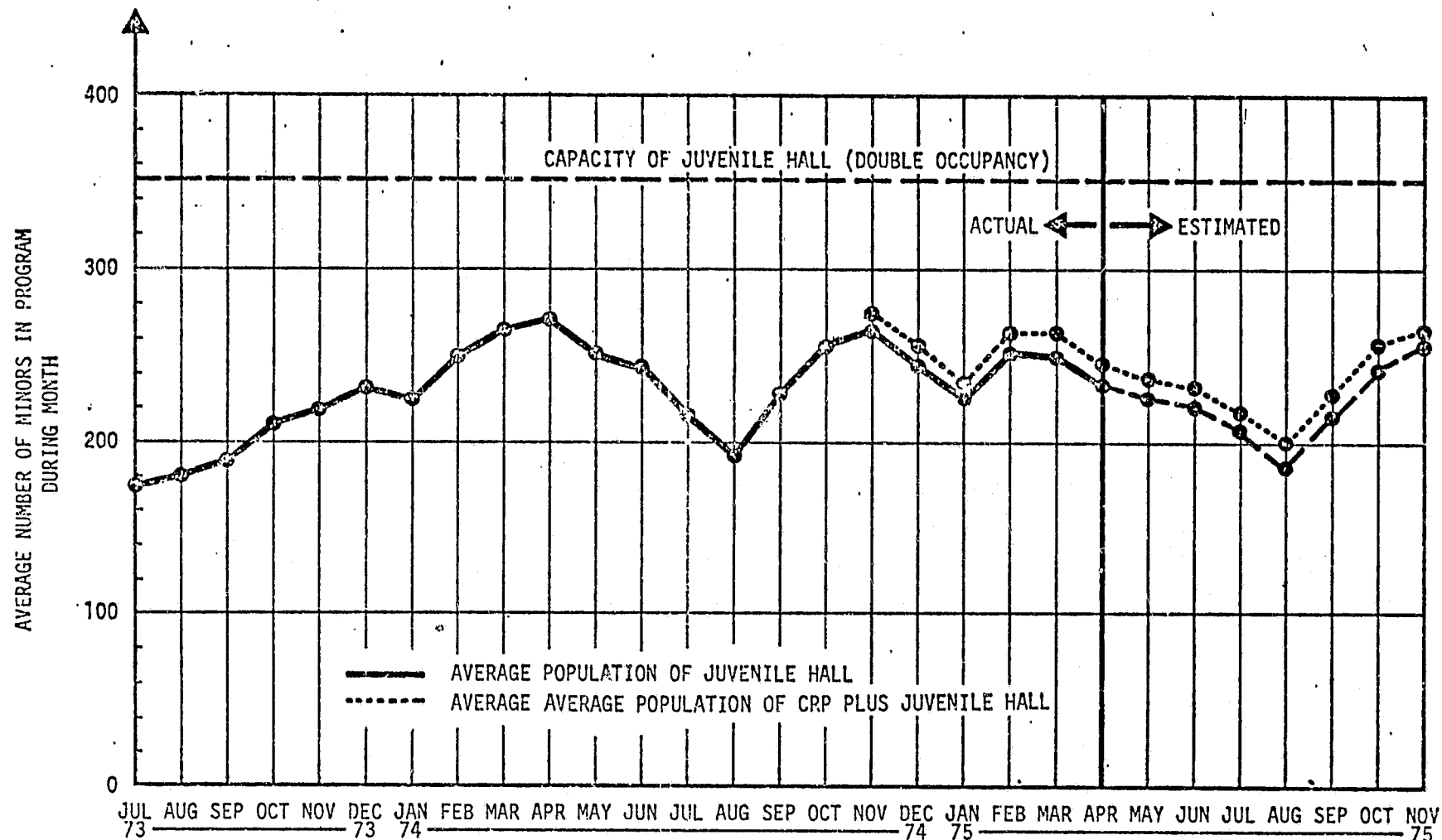
COMMUNITY RELEASE PROJECT
COST EFFECTIVENESS ANALYSIS

This report has been prepared by General Research Corporation (GRC) for the Santa Clara County Juvenile Probation Department as part of a two-year evaluation of its Community Release Project (CRP). The purpose of the evaluation is to answer the following question: "Is CRP achieving the objectives sought by the County Juvenile Probation Department and is it achieving them at the lowest practicable cost?" This report addresses the second part of this question.

The need for a cost-effectiveness analysis of the CRP is obvious. The CRP is currently being funded through a grant with some matching funds from the County. However, it is anticipated that the grant funds will terminate at the end of the second year of the project (November, 1976); and, therefore, at that time, the County will have to decide whether to accept full financial responsibility for the project. This decision will be based largely on the cost-effectiveness of the project; that is, will it increase or reduce County expenditures and will it be no more costly than any other acceptable alternative.

The purpose of the CRP is to provide intensive supervision in the community to some of the minors being detained in Juvenile Hall pending appearance before the Juvenile Court. Cases involving serious offenses such as murder, sex offenses, sales of narcotics, or situations in which the parents or guardians refuse to accept the minor are not eligible. The Probation Department estimates that 510 minors or 25% of those detained at their detention hearing in 1972/1973 would have been eligible for CRP.

The CRP was begun in November 1974 as a two-year pilot project. The project goals are to reduce the number of juveniles detained over the two-year period by 500 and to determine whether CRP is as effective as detention in preventing further offenses before the Court Hearing date and over a two-year period after the Court Hearing date. Figure 1 shows that the CRP staff has been supervising an average of eight minors each day. Projected over the first year, CRP will have provided 2,730 supervision days to 260 minors or approximately 50% of those eligible. The other 50% of the eligible minors are detained in Juvenile Hall and are being used as a control group for evaluation purposes.



AVERAGE NUMBER IN DETENTION	176	181	193	210	219	231	222	254	266	270	253	244	216	197	227	256	265	245	224	256	250	238	230	220	211	195	215	240	255
AVERAGE NUMBER IN CRP	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	6	8	5	7	10	8	8	8	8	8	8	8	8
TOTAL	176	181	193	210	219	231	222	254	266	270	253	241	216	197	227	256	271	253	229	263	260	246	238	228	219	203	223	248	263

* Juvenile Hall Population figures come from the Administrative Services Office resident hall day count. CRP Population figures come from daily tally by CRP staff.

FIGURE 1

AVERAGE NUMBER OF JUVENILES* PER DAY
IN CRP, IN DETENTION FACILITY AND IN BOTH

Since the only alternative to releasing the eligible minors to CRP is to detain them in Juvenile Hall, the CRP can be evaluated in terms of whether it is more cost-effective than detention as a means of supervising these minors.

The remainder of this report attempts to answer this question by comparing the costs of CRP supervision and detention. The following is a list which identifies the costs of these alternatives:

Community Release Project Costs

- Screening
- Rehearing
- Supervision
- Rearrest prior to court appearance
- Court appearance
- Recidivism

Detention Costs

- Detention
- Additional violations prior to court appearance
- Court appearance
- Recidivism

Some of these costs will not be included in this evaluation. For example, the court appearance cost is the same for both alternatives. It does not effect the relative cost and therefore does not have to be considered when comparing the alternatives. Similarly, while the cost of additional violations prior to the court appearance certainly has cost impact to the County, current experience shows that none of the minors in either the CRP or the control group* has failed to appear at his Court Hearing and during the first six months only 3% or 4 minors in the CRP committed new offenses requiring non-CRP intervention prior to the Court Hearing. The impact of this cost factor would seem to be minimal in terms of the number of minors involved. It is also not clear whether the arrest costs are greater or less than detention violation costs. Neither are considered in this preliminary analysis.

One of the objectives of CRP is to reduce the potential recidivism rate of the CRP participants. Obviously, a change in this rate would have significant impact on the demand for criminal justice resources, and therefore, on

*The CRP screening identifies all of the minors eligible for CRP. From this pool, a number of minors are randomly selected for CRP and an equal number are assigned to a "Control Group." The "Control Group" members are used as a comparison group to CRP.

the cost to the County. However, it is too early to evaluate the CRP in these terms. Preliminary analysis indicates that the probability of a CRP minor being rearrested within three months after the Court Hearing is slightly less than for a control group minor. As more recidivism data become available, this factor will be taken into consideration.

THE COST OF THE COMMUNITY RELEASE PROJECT

The budgetary costs of the Community Release Project during the first year, November 1974 - October 1975, are as follows:

Salaries:

Supervising Group Counselor I	\$15,984
2 Senior Group Counselors	27,624.
Benefits	7,356
Travel	3,000
Consultant Services	<u>11,000</u>
TOTAL	<u>\$64,964</u>

These costs cover the cost of screening, which is conducted by the CRP project manager, the cost of supervision, and the cost of evaluation.

Based on the latest projections contained in the April 1975 CRP Progress Report that 260 minors will complete the Community Release Project during the first year and each minor will average 10.5 days of supervision prior to the Court Hearing (see Figure 1), the average cost per minor per day is:

$$\frac{53,944}{(246)(10.5)} = 20.85 \quad \frac{\$64,964}{(260)(10.5)} = \$23.80 \text{ per minor per day} \quad \frac{55,046}{(246)(10.5)} = 21.31$$

This cost does not include any in-kind services provided by the Juvenile Court or the Juvenile Probation Department. The flowchart presented in Figure 2

AVERAGE NO. OF DAYS FOLLOWING ADMISSION	IN-KIND SERVICES
0 DAYS	
1 DAY	<p>5 Min/Minor Court Clerk Provides Packet Handling</p> <p>5 Min/Day Peter Purcher Provides Screening Review</p>
7.2 DAYS	<p>5 Min/Minor Clerk Distributes Packets to PO</p> <p>2 Min/Minor PO's Acknowledge Rehearing</p> <p>10 Min/Minor Court Clerk Handles Packets</p> <p>5 Min/Court PO Instructs Minor's Parents</p> <p>10 Min/Minor Receiving Counselor and Other Assist in Processing Minor</p>
17.7 DAYS	

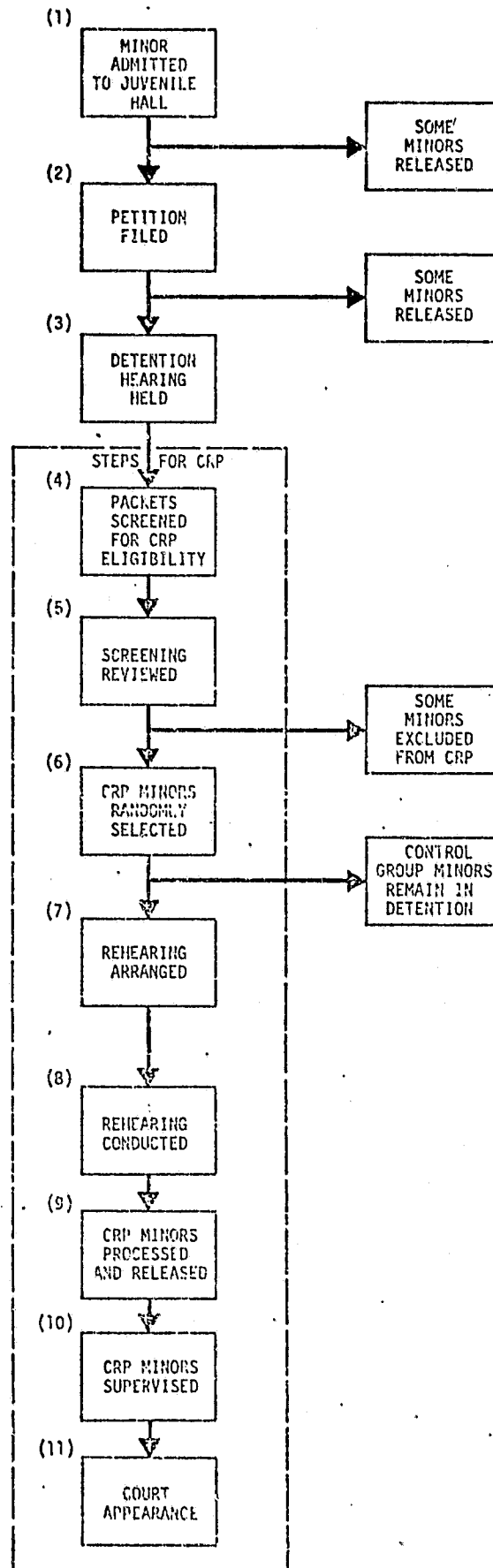


FIGURE 2
CRP CLIENT FLOW

identifies eleven steps that CRP minors go through from the time of their admission to Juvenile Hall until their Court Hearing. Seven of these steps (Number 4 through 10), are concerned with selecting and supervising CRP minors. It is these steps that make up the cost of CRP. Five of these seven steps require in-kind services. The cost per CRP minor of these services can be estimated by costing the time required and personnel involved. The following non-CRP personnel are involved each day:

<u>Step</u>	<u>Personnel</u>	<u>Time</u>	<u>Estimated Daily Rate (Salary & fringe)</u>	<u>Estimated Cost/Minor</u>
4	Court Clerk	5 min/CRP minor	57	.60
5	Screening Personnel	5 min/CRP minor	73	.76
6	PO Clerk	5 min/CRP minor	57	.60
7	Probation Officer	2 min/CRP minor	75	.31
8	Court Probation Officer	5 min/CRP minor	75	.78
9	Receiving Personnel	10 min/CRP minor	65	<u>1.35</u>
			Cost per minor	\$4.40

The total cost of the Community Release Project is, therefore, \$64,964 + \$4.40 X 260 = \$66,108 or \$24.22 per minor per day.

BENEFITS OF THE COMMUNITY RELEASE PROJECT

Since enrollment in the Community Release Project replaces the need for detention, the benefits derived by not incurring detention costs can be considered as CRP benefits. (Other benefits such as improved short- and long-term behavior are being identified in a non-economic evaluation of the CRP and control group minors.)

The cost to the County of Operating Juvenile Hall in fiscal year 1973-1974 was \$2,947,638.02. This cost includes:

Salaries and Employee Benefits	\$1,748,917.08
Services and Supplies	358,711.20

(Clothing, communications, telephone, food,
household, maintenance, medical/dental,
office expenses, postage, professional
services, and travel.)

County Overhead	233,103.68
School Department	322,827.00
Inventory Adjustments (Food)	2,500.22
Administration	204,104.70
Finance	53,335.15
Depreciation	<u>24,139.00</u>
TOTAL	<u><u>\$2,947,638.02</u></u>

Juvenile Hall in fiscal year 1973-1974 provided 82,582 resident days. Therefore, the daily cost per minor was:

$$\frac{\$2,947,638.02}{82,582} = \$35.69$$

In order to determine the true economic benefits to the County of releasing minors to the CRP, it is necessary to estimate the cost that the County would have incurred if the CRP minors had remained in detention (i.e., if the CRP had not existed). The difference between this detention cost and the CRP supervision cost (\$24.22) is the cost-effectiveness per client per day of the CRP.

There are several alternative approaches to calculating this figure. The simplest approach is to assume that the cost of detention is proportional to the number of minors detained. With this assumption the costs and benefits become:

Cost of Detention = \$35.69 per day per minor

Costs of CRP = \$24.22 per day per minor

(Benefits - Costs) of CRP = \$35.69 - \$24.22 = \$11.47 per day per minor

Using the latest projections that by the end of the first year 260 minors will have finished the program and each minor will have been supervised for an average of 10.5 days, the savings to the County is:

$$\begin{aligned}\text{Cost-effectiveness of CRP} &= \$11.47 \times (260 \text{ minors}) \times (10.5 \text{ days}) \\ &= \$31,313\end{aligned}$$

However, it can be argued that the costs to operate Juvenile Hall (\$2,947,638.02) are not only proportional to the number of minors in the Hall, but also include certain fixed costs, costs which are a function of the types of minors detained, and costs which are step-wise proportional to the number of minors detained. Determining the cost equation that satisfies these assumptions is not an easy task. Its form might look as follows:

$$\text{Cost of Detention} = \text{Fixed Cost } (C_f) + \text{Variable Cost } (C_v)$$

With the assumption that fixed costs do not change appreciably, the savings by not detaining CRP minors would reduce the cost of detention only in proportion to C_v . Costs which seem to fall into these categories are the following:

(C_f) Fixed Costs

Overhead	\$ 233,103.68
Administration	204,104.70
Finance	53,335.14
Depreciation	<u>24,139.00</u>
SUBTOTAL	\$ 514,682.52

C_v) Variable Costs (linear function of number
of minors detained)

Salaries and Employee Benefits	\$1,748,917.08
Services and Supplies	358,711.20
School Department	322,827.00
Food Inventory	<u>2,500.22</u>
SUBTOTAL	\$2,432,955.50

Some of the variable costs are a function of the mix of minors (a hostile minor requires more supervision than a passive one), and a stepwise function of the size of the staff (the current staff might be able to handle the CRP minors without any increase in staff size and there is a minimum staff required even with only one minor in detention). These complex cost relationships, however, require cost data that are not available. Therefore, for the purpose of this evaluation, the CRP minors are assumed to be representative of the total Detention Hall population, that it is meaningful to talk about a fraction of a staff, and that the size of the required staff is directly proportional to the number in detention.

With these assumptions, the variable cost can be expressed on a per-client per-day basis:

$$\frac{\$2,432,955.50}{82,582} = \$29.46$$

The cost of detention then becomes:

$$\text{Cost of Detention} = \$514,682.52 + \$29.46 \times (\text{number in detention})$$

The benefits minus costs of CRP is:

$$\text{Benefits} - \text{Costs of CRP} = \$29.46 - \$24.22 = \$5.24 \text{ per minor per day}$$

$$\begin{aligned}\text{The cost-effectiveness of CRP per year} &= \$5.24 \times 10.5 \times 260 \\ &= \$14,305.00\end{aligned}$$

In summary, intensive supervision in the community is and will continue to be more cost-effective for certain minors than detention in Juvenile Hall. CRP will save the County between \$5.24 and \$11.47 per minor per day. Using the current CRP screening statistics and projections that 540 clients will be eligible for CRP in 1974/75, the cost savings to the County could range between \$29,711 and \$65,035 per year.* The County should therefore continue the program even after Federal and State support has terminated and until the cost of detention is reduced significantly or another more cost-effective alternative to detention is available.

* $\$5.24 \times 540 \times 10.5 = \$29,711$
 $\$11.47 \times 540 \times 10.5 = \$65,035.$

END