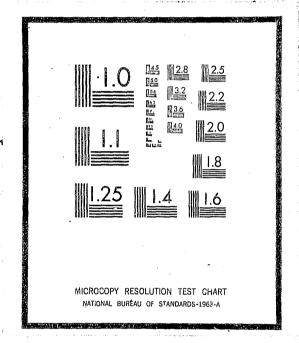# NCJRS

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RESEARCH REPORT NO. 17

Hawaii

GEOGRAPHIC CONCENTRATIONS OF JUVENILE
DELINQUENCY ON OAHU: A PRELIMINARY STUDY

MAY 1975

LEAA PROJECT NO. 73A-10.1

In conjunction with the development of the Correctional Masterplan a survey was conducted by the State Law Enforcement and Planning Agency in the summer of 1971 of all individuals who were under the jurisdiction of state and county criminal justice agencies in Hawaii on a given day, April 30, 1971. The information obtained from individual agency records was incorporated into the Correctional Masterplan which presently encompasses conceptual designs for the adult and juvenile populations separately.

This paper addresses two questions that were raised subsequently and peripherally, but no less importantly, to the central planning tasks:

1. where are the high juvenile delinquency areas on Oahu where juvenile community correctional centers might possibly be situated?

2. is there a correlation between delinquency and welfare in these areas?

To answer these questions, the survey data was analyzed to yield:

1. the number of delinquents per residence census tract

2. the number of delinquents on welfare per residence census tract.

An individual was classified into the census tract of his known residence.

I. HIGH DELINQUENCY AREAS

Three different measures of delinquency rates were obtained for each census tract. Also, several census tracts were grouped according to conventional Department of Social Services and Housing use. The three measures were:

a. Number of delinquents per census tract

b. Delinquency rate per census tract total (adult and juvenile) population

c. Delinquency rate per census tract juvenile population (for regions where juvenile population was available).

Table 1

Census Tract(s)	A Number of Delinquents	Rank	B Rate per 1,000 total population	Rank	C Rate per 1,000 juv. pop.	Rank	Sum of Ranks (A + B)
49-55	59	2	4.54	1	15.3	1	3
63-65	69	1	3.94	4	9.8	3	5
60-62	55	3	3.27	5	8.4	5	8
96	42	4	3.07	6	–		10
113	30	9	4.42	2	–		11
111	35	6.5	2.62	8	–		14.5
43-44	32	8	2.71	7	8.7	4	15
56-59	40	5	2.48	10	7.5	6	15
10-12	35	6.5	2.17	11	6.2	8	17.5
105	24	11	1.92	12	–		23
17-20	21	13	1.33	14	11.2	2	27
39-42	8	15	1.38	13	7.3	7	28
34-36	22	12	0.87	16	5.0	9	28
76	12	14	4.08	3	–		17
109	5	16	2.53	9	–		25
27,29-31	26	10	1.09	15	4.2	10	25

Limiting our analysis to only those regions with high rates by any of the three measures, we have the data presented in Table 1. It should be noted that ranks 1 through 10 for indices A, B, and C are absolute ranks for all 113 census tracts on Oahu. Those ranks greater than 10 are relative only to this limited listing and not to the entire list of 113 census tracts.

The validity of the rankings was tested with the Spearman rank correlation coefficient. Since inspection of data revealed high similarity of rankings, the one-tailed test was applied.

H_0: the measures are mutually independent

H1: there is a tendency for larger values of indices to be paired together.

For A x B (absolute number of delinquents x delinquency rate per total population), the Spearman rank correlation coefficient was significant at the .025 level ($\rho = .514, \hat{\alpha} = .025$).

For A x C (number of delinquents x rate per juvenile population) and B x C (rate per total population x rate per juvenile population), the A and B measures were re-ranked for the sample size of 10 of index C. The A x C correlation was not significant at the .10 level ($\rho = .43, \hat{\alpha} > .10$), while for B x C, the coefficient was significant at the .025 level ($\rho = .709, \hat{\alpha} = .025$). (The Hotelling-Pabst test yielded the same significance levels for all three correlations.)

It should be noted that for A x C, the significance level barely exceeded .10 and may be said to lie somewhere between .10 and .15. Therefore, it appears that all three measures are relatively not independent and do provide a measure of the degree of delinquency per census tract.

The high areas of delinquency on Oahu, therefore, are concluded to be , in approximate descending order, as shown in Table 1:

Palama (census tracts 49-55)

Kalihi Valley (63-65)

Kalihi (60-62)

Nanakuli-Lualualei (96)

Waimanalo (113)

Pohakapu-Kaelepulu (111)

Pauoa Valley (43-44)

Kapalama (56-59)

Palolo Valley (10-12)

Heeia-Kaneohe (105)

Waikiki (17-20)

Downtown (39-42)

Makiki (34-36)

Halawa Housing (76)

Kailua (109)

Manoa Valley (27, 29-31)

The list reveals extensive concentration of delinquency in the general Kalihi area (e.g. Palama, Kalihi Valley, Kalihi, Pauoa Valley, Kapalama) with smaller geographic pockets extending to Nanakuli, Waimanalo, and Kailua-Kaneohe.

These areas, it must be emphasized, are locations of juveniles' residence, not necessarily of offense commission. Therefore, the implications are more pertinent for juvenile community corrections than they are for aspects of juvenile apprehension with respect to crime commission.

II. DELINQUENCY AND WELFARE

For an estimate of the relationship between delinquency and welfare, the null hypothesis that the juvenile delinquent's residence in a high or low delinquency area is independent of whether or not his family is on welfare was tested with the chi-square test for independence.

The sample consisted of all juvenile delinquents tapped in the previously mentioned survey.

A census tract was defined as "high delinquency" if its delinquency rate per total tract population (index B) was equal to or exceeded 2.0; a "low delinquency" area was defined as those census tracts with B measures less than 2.0. The survey provided information on family welfare status.

		Welfare?		Total
		No	Yes	
	High Delinquency	327	104	431
Residence	Low Delinquency	320	44	364
	Total	647	148	795

A highly significant chi-square value of 19.258 with $(r-1)(c-1)-1$ degree of freedom was obtained ($\alpha < .001$). The null hypothesis is therefore rejected, and it is concluded that juvenile delinquents residing in high delinquency areas are more likely to be on welfare than those coming from low delinquency areas.

This finding does not say that high delinquency areas are also high welfare areas. It merely suggests that the group of juveniles who are both delinquents and welfare recipients is more represented in high delinquency areas than in low delinquency areas.

END