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CLEVELAND IMPACT CITIES PROGRAM

CRIME ANALYSIS STUDY

FINAL REPORT

June 1975

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SECTION I

BACKGROUND

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1.1 INTRODUCTION

The IMPACT Program was an intensive, three-year planning and action effort designed to reduce the incidence of stranger-to-stranger crimes (homicides, forcible rapes, aggravated assaults, and robberies) and burglary in Cleveland by five percent in two years and 20 percent in five years. This report presents a final review and analysis of crime trends in Cleveland from 1971 (the year before IMPACT planning began) through the end of 1974 (when the majority of IMPACT-supported projects had been completed). The report examines crime data for each of the five IMPACT crimes, for total IMPACT crimes in the aggregate, and, for comparison purposes, total Index crimes (IMPACT crimes plus larceny and auto theft) and total Part I crimes (Index crimes plus negligent manslaughter and simple assault).

Before proceeding further, a word about definitions and data sources is in order. All crime figures discussed in this report are reported crimes, i.e. crimes "known to the Cleveland Police Department (CPD)." The limitations of considering only reported crimes when analyzing anti-crime programs are discussed below in Subsection 1.3. The sources of the crime data are the various internal data collection points established by the CPD Statistical Unit. These figures are those which are submitted

monthly as Uniform Crime Report (UCR) statistics to the Federal Bureau of Investigation. Monthly data for 1971, 1972, and 1974 were obtained from computer print-outs produced from the Statistical Unit's crime and arrest data base. (Comparable 1973 print-outs were not available due to a major revision of the computer software in that year; manual records were used for 1973.)

The "number of offenses" category refers to the verified number of offenses reported during a given time period. This is the result of subtracting from the total reported offenses those events which have been judged unfounded or baseless by CPD. The number of crimes cleared by arrest indicates the number of reported offenses for which individuals have been charged, not convicted. These cleared offenses are not all necessarily included among the offenses occurring during the time period of the arrest; they could reflect (1) arrests for offenses committed in previous months, (2) multiple clearances from a single arrest, or (3) clearances of crimes not yet reported. Therefore, no monthly data are presented for "percent of actual crimes cleared"; clearance data are presented only on an annual basis.

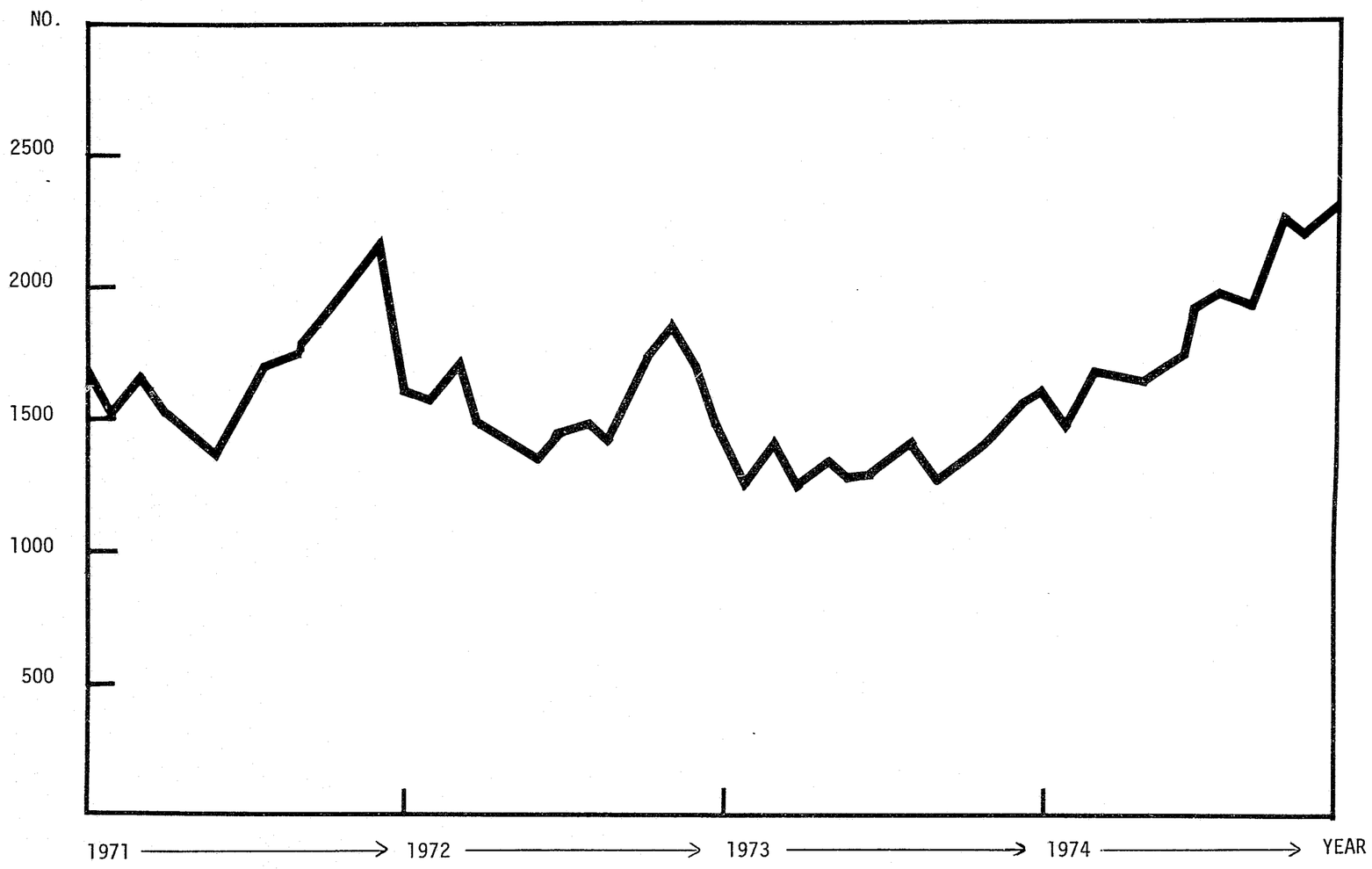
The CPD crime and arrest data base provides monthly data for each IMPACT crime, total IMPACT crimes, total Index crimes, and total Part I crimes. These data are provided for the entire City, and for each census tract. In addition, figures for the six Police Districts can be obtained by

aggregating the data for the census tracts which make up each District. Thus, crime trends can be analyzed both over time and by geographical area.

The remainder of this section discusses overall crime trends in Cleveland for the 1971-74 time period and offers an explanation for the unexpected increase in reported crime during 1974. This is followed by a discussion of the limitations on the use of reported crime data, as opposed to data based on victimization surveys. Section II then explains in detail the crime trends for each year (1971 through 1974) for each of the IMPACT crimes, including both crime occurrence and clearance data. Section III reviews the geographical distribution of IMPACT crimes, with maps showing the 50 census tracts having the highest numbers of IMPACT crimes each year, and a comparison of IMPACT crime occurrence in the six Police Districts. Finally, Section IV presents recommendations for an improved system of crime data collection and analysis.

1.2 OVERALL CRIME TRENDS, 1971-1974

To put the IMPACT Program in perspective, Figure 1-1 depicts total reported IMPACT crime occurrence, by month, for the 1971-74 time period. As can be seen, during 1971 IMPACT crime was rising sharply, continuing the trend of the past several years (Table 1-1). During the first two months of 1972, before and during the publicity concerning the start-up of IMPACT, there was a dramatic decline



TOTAL REPORTED IMPACT CRIMES

FIGURE 1-1

Table 1-1

Reported IMPACT Crimes

1964 - 11,542	1968 - 13,190	1972 - 18,842
1965 - 10,508	1969 - 20,147	1973 - 16,414
1966 - 10,602	1970 - 18,727	1974 - 22,379
1967 - 12,559	1971 - 20,469	

in reported IMPACT crimes. It is not entirely clear what factors account for this decline. The announcement of the multi-million dollar IMPACT Program may have had some effect on reducing reported crime, but it could hardly have been responsible for the entire decrease. One possible causative factor was the election of a new mayor who was dedicated to crime prevention and control programs, and, in fact, vigorously pledged to the voters an all out war on crime in the City. This issue was addressed succinctly by the mayor when he stated:

> "One of the most precious freedoms of all, is the freedom to move about in one's community safely and without fear."

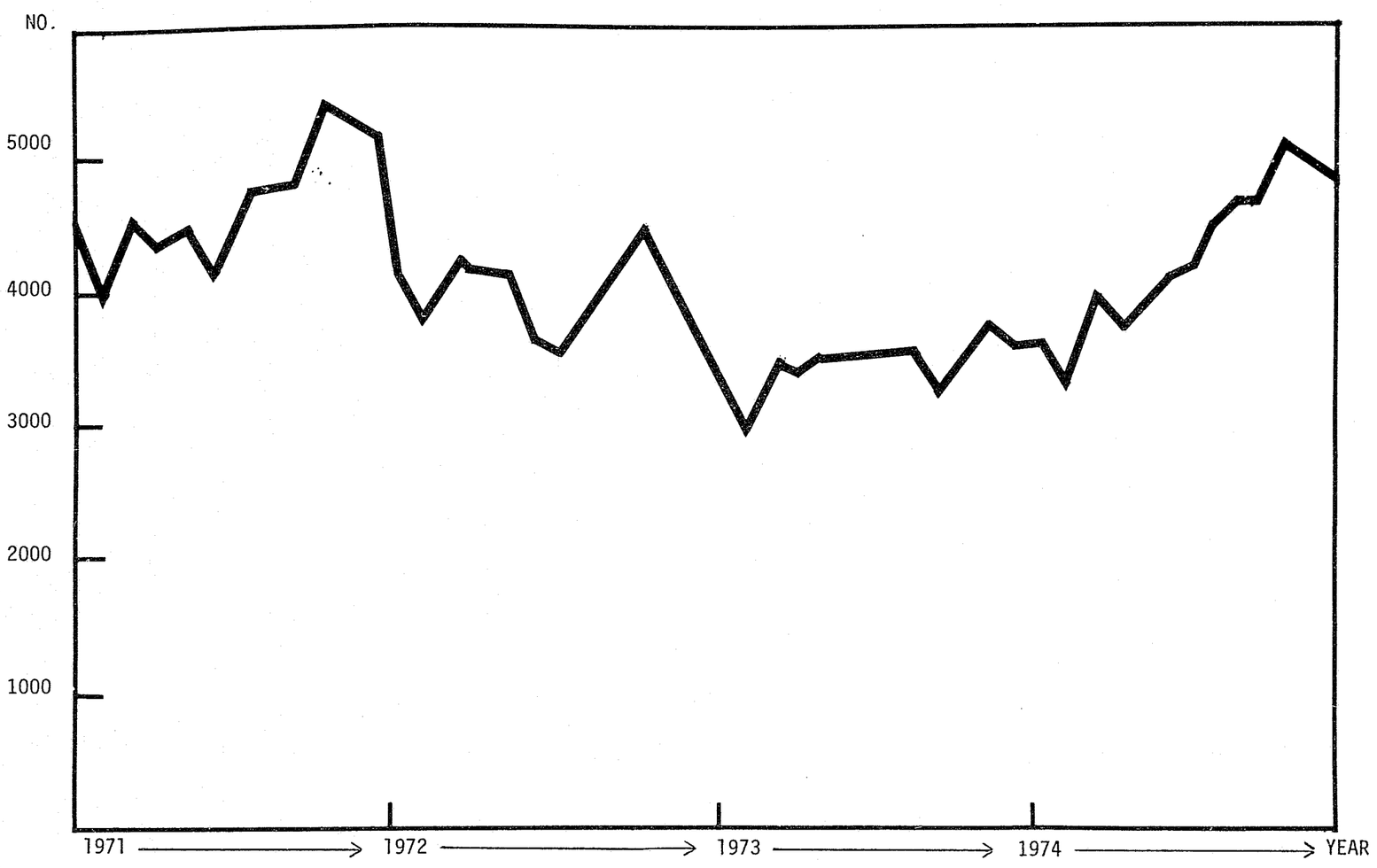
A second possible factor was the appointment of a new police chief for the CPD in the last quarter of 1971. The chief was given wide latitude in running the Department and he made a number of organizational changes. To the extent that such changes resulted in improved police morale and a more visible police presence, the amount of serious crime may have been decreased.

Whatever the explanation, reported IMPACT crime had begun to increase again by March 1972, when IMPACT planning formally began. The planning period (March 1972 through February 1973) was accompanied by a general decline in reported IMPACT crime (except for a peak in the fall of 1972), a trend which continued into mid-1973 when various IMPACT action programs and projects were being implemented. Beginning in the autumn of 1973, however, reported IMPACT crime began an uptrend that continued throughout 1974. To summarize: IMPACT crimes decreased

markedly at the time when IMPACT was announced, decreased slightly while projects were being planned, decreased further during the initial stage of the implemented projects, and then increased steadily starting approximately eight months after IMPACT projects actually were in progress. At first glance, such results appear to indicate that IMPACT itself must have been relatively ineffective in accomplishing its stated goal of reducing crime. Because this conclusion was difficult to accept, however, further analysis of the data was undertaken.

The first step was to examine a broader subset of crime data to see whether the trends described above were unique to IMPACT crime. Total reported Index crime for 1971-74 is plotted, by month, in Figure 1-2. As can be seen, the trend is quite similar, although the decline in Index crimes began in November 1971 instead of January 1972, thereby further pre-dating the start of IMPACT. The trend of Part I crimes is virtually identical to that of the Index crimes (Figure 1-3).

The explanation for the observed crime trends must be sought in a more sophisticated analysis of the data. Such an analysis was provided by the development of a crime incidence and displacement model, as part of the overall IMPACT evaluation effort. The model consists of a large number of regression equations relating the occurrence of crime in a given region, over a period of 54 months (January 1970 through June 1974), to several sets of variables: (1) social, economic, and demographic (SED) conditions in each region during the study period, (2) aspects of criminal justice processing that place a "price" on the commission of crime, (3) a set of "dummy"



TOTAL REPORTED INDEX CRIMES

FIGURE 1-2

FIGURE 1-3

TOTAL REPORTED PART I CRIMES

variables representing the presence or absence of the IMPACT Program's planning and implementation phases, and the presence or absence of the summer months, and (4) a linear time trend variable that increases continually throughout the study period. The purpose of such a model is to test various hypotheses about which variables are statistically associated with crime occurrence. If reliable relationships are found, it is then possible to predict what variation in crime may be expected due to particular variations in the "explanatory" variables.

The end result of a large number of computer runs using the model was the development of equations that statistically explain between 90 and 96 percent of the variation in IMPACT crime occurring in Cleveland and its 60 adjacent jurisdictions in Cuyahoga County.* Due to time and budget limitations, the analytical efforts focused only on two sets of crime: burglary and robbery (aggregated) and auto theft and larceny (aggregated). Only the former pair are IMPACT crimes, but together they accounted for 85 percent of all IMPACT crimes during 1970-74, and are therefore a good indicator of IMPACT crimes in general. The model revealed a strong statistical relationship between the incidence of burglary/robbery and each type of explanatory variable listed above: SED variables, the "price" variables, the presence or absence of the IMPACT Program's planning and implementation phases, and the linear time trend.

Considering the City of Cleveland as a whole, and looking at the

* See Final Report: Phase Two Crime Incidence and Displacement Model, December 1974, Planning & Management Consulting Corporation, Santa Barbara, California.

variation in burglary/robbery over the 54-month period, all of the variables (taken in groups) were important but at least two deserve special mention -- the linear time trend and the presence of the IMPACT Program. The general upward crime trend in 1971 and again in 1973-74 is a strong function of the uniformly increasing time trend variable. This variable is specified to increase in increments of one each month. It is included in the model to reflect any time-dependent factor affecting crime incidence that is not reflected by the temporal variation of the other explanatory variables (e.g. the SED variables). Essentially, the variable allows us to represent unknown or unquantifiable time-dependent changes in the real-world environment -- e.g. any regular change in ethical values or attitudes toward crime. If the statistical analysis results in a significantly large coefficient for this variable, then we have sustained the hypothesis that some kind of (as yet) unknown time-dependent factor is causing a regular upward increase in crime each month, other things being equal. In the case of burglary/robbery (as well as in the case of larceny/auto theft), such a regular monthly increase factor was, in fact, identified: other things being equal, the time-trend factor was estimated to account for an increase of approximately 415 burglaries/robberies during the study period (from January 1970 through June 1974).

To account for the presence of the IMPACT Program, a pair of dummy variables which simply signify the presence or absence of IMPACT's two phases, planning and implementation, were used. The first dummy variable took on the value of one during months 27 through 38 (March 1972 through

February 1973) corresponding to the IMPACT planning period, and zero for all other months. The second variable had the value of one during months 39 through 54 (IMPACT implementation) and zero elsewhere.

Before deciding the effects of the presence or absence of the IMPACT Program on the incidence of burglary/robbery, it was important to determine what affects might be ascribed to the "price" variables. Because the IMPACT Program had programmed a significant proportion of its funds to provide for the speedier adjudication of offenders who were charged with an IMPACT offense, it was hypothesized that the "price" variables might have a substantial effect by themselves.

Table 1-2 shows the effects of the "price" or "expected punishment" on the incidence of burglary/robbery in Cleveland over the 54 month sample period. A close look at the table reveals that the "price" variable increased from .140 to .505 or an increase of about 3.6 times what it had been before IMPACT. This increase in "price" or "expected punishment" accounted for 616 fewer burglaries/robberies being committed. In other words, when IMPACT began, there were more apprehensions, more arrests, more convictions, and stiffer sentences than had occurred prior to IMPACT; the convictions and stiffer sentences are responsible for preventing 616 crimes from occurring which represent approximately a 6 percent reduction in relation to what the IMPACT Program accounted for (see the discussion below).

Now that the effects of "price" have been estimated, attention can turn to the presence of the IMPACT Program to show what effects it had on

TABLE 1-2

EFFECTS OF PRICE ON BURGLARY/ROBBERY

TIME PERIOD	PRICE (AVG. VALUE)	NO. OF CRIMES PREVENTED	
		PER MONTH	TOTAL
1. Jan. 71 - Feb. 72 (14 months)	.140	-	-
2. Mar. 72 - Feb. 73 (12 months)	.369	16.42	197
3. Mar. 73 - June 74 (16 months)	.505	26.17	419
			616

Notes: 1) Time period number two represents the IMPACT Planning Phase.

2) Time period number three represents the IMPACT Implementation Phase.

3) The number of crimes prevented by month due to the effects of price was calculated by: change in price times the mean population (717,000) of the City of Cleveland over the sample period; then by taking that figure times the number of months that each change in price was having its effects.

burglary/robbery. Table 1-3 shows the dramatic effects of the IMPACT Program over the 54 month period. As can be seen, the planning period reduced such crimes by 200 per month while the implementation period accounted for an additional reduction of 293 such crimes per month. In terms of total numbers, the IMPACT Program was responsible for a reduction of over 10,000 crimes between the period March 1972 and June 1974.

Figure 1-4 compares the actual incidence of burglaries/robberies with the curve of estimated burglaries/robberies obtained by adding to the actual crimes the number of crimes prevented by the price changes and the presence of the IMPACT Program over the 54 month sample period. The area between the two curves (i.e. starting when the IMPACT Program commenced) represents the difference between the actually observed occurrence of burglary/robbery and what otherwise would have been had there not been an IMPACT Program.

Thus, the presence of the IMPACT Program and the specific changes it produced depressed temporarily the ongoing trend of IMPACT crime incidence without fundamentally altering the shape of the trend. But since the trend remains upward, the mere passage of time results in levels of crime which soon return to -- and eventually surpass -- previous levels. Thus, by the end of 1974 the monthly incidence of burglary/robbery had surpassed the peak reached at the end of 1971 (prior to IMPACT) and appeared to be on its way still higher. IMPACT, in other words, had a substantial effect, but one that was basically temporary. Until a more fundamental understanding of

TABLE 1-3

EFFECTS OF THE IMPACT PROGRAM ON BURGLARY/ROBBERY

TIME PERIOD	NO. OF CRIMES PREVENTED BY IMPACT	
	PER MONTH	TOTAL
1. Jan. 70 - Feb. 72	-	-
2. Mar. 72 - Feb. 73 (12 months)	200	5,600
3. Mar. 73 - June 74 (16 months)	293	4,692
		10,292

Notes: 1) In period one IMPACT did not exist.

2) Period two represents IMPACT Planning Phase.

3) Period three represents IMPACT Implementation Phase.

4) Total estimated effect of the IMPACT Program on burglary/robbery derived from results of the Final Report: Phase Two Crime Incidence and Displacement Model, December 1974, cited earlier.

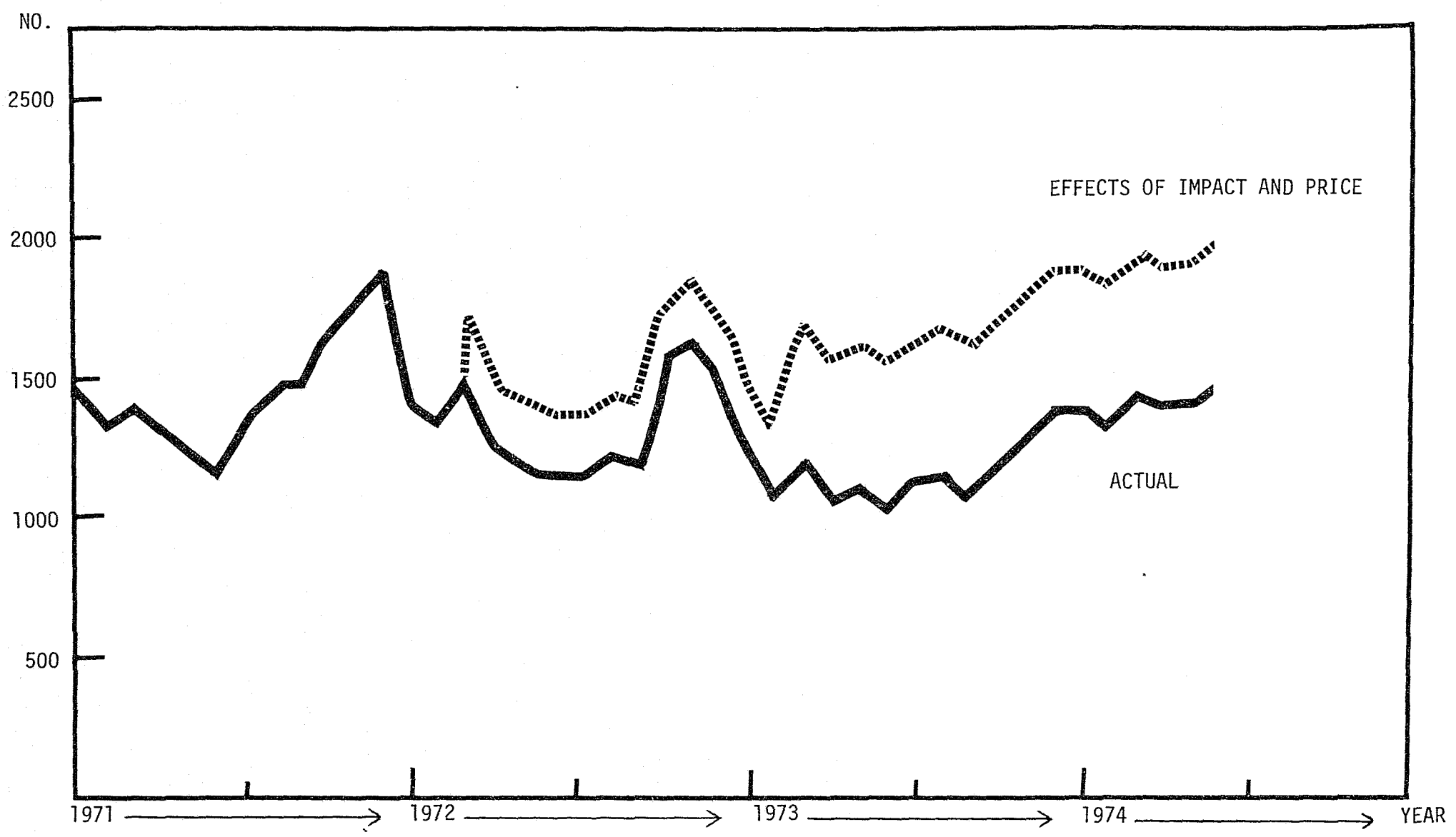


FIGURE 1-4

COMPARISON OF REPORTED BURGLARY/ROBBERY
WITH ESTIMATED TRENDS DUE TO IMPACT AND PRICE

crime causation is achieved, such temporary effects (i.e. depressing the crime trend without affecting its upward shape) may be the best that can be achieved.

One last note, the IMPACT Program, as dramatic as its effects were, cost $20 million dollars. Just to keep crime at its present level implies that the resources that made up the IMPACT Program would have to be maintained at the current level. Obviously, government agencies do not have these resources readily available. But there is one area that government agencies, in particular local and state agencies, can address properly without too great an investment; that area is "price" or "expected punishment". At a minimum, the criminal justice agencies could increase convictions for burglary/robbery and see that the minimum statutes were carried out (i.e. certainty of spending the minimum time in prison.) If, for example, other things being equal, the time in prison were doubled for a convicted burglar or robber, then a six percent reduction in such crimes could be expected in the City.* This is a pretty good return on a minimum investment.

1.3 THE LIMITATIONS OF REPORTED-CRIME DATA

1.3.1 VICTIMIZATION SURVEYS

Throughout this report and all the other evaluation reports on the Cleveland IMPACT Program, the basic measure of crime incidence is that of reported crimes, i.e. crimes "known to the CPD." Yet it is well-

*See Final Report: Phase Two Crime Incidence and Displacement Model cited earlier.

known that vast numbers of crimes are not reported to the police,* and therefore never find their way into the official crime statistics. The difference between the total crime that actually occurs and the amount that is reported to the police has been referred to in criminological literature as the "dark number." Until recently, estimates of the size of the dark number -- unreported crime -- were highly subjective. No one really knew how much crime went unreported, or whether the characteristics of the crimes that were not reported were different from the characteristics of reported crime. Recent studies have shed light on both questions.

In 1967 the President's Commission on Law Enforcement and the Administration of Justice proposed that more research be carried out on crime from the victim's perspective. In particular it cited a 1965 study by the National Opinion Research Center (NORC) which indicated that the actual amount of crime may be from 2.2 to 3.7 times as much as what is reported to the police, depending on the crime type.** This study, based on a national sample of 10,000 households, obtained results similar to local surveys in Washington, D.C., Boston, and Chicago.*** Based on

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* See, for example, Gilbert Geis, "Statistics Concerning Race and Crime," Crime and Delinquency, April 1965.

**Field Surveys II: Criminal Victimization in the U.S.: A Report of a National Survey, submitted to the President's Commission on Law Enforcement and the Administration of Justice, Washington, D.C.: Government Printing Office, 1967.

***Crime and Its Impact -- An Assessment, a Task Force Report prepared for the President's Commission on Law Enforcement and the Administration of Justice, Washington, D.C.: Government Printing Office, 1967.

these studies, the Law Enforcement Assistance Administration and the Bureau of the Census developed a nationwide victimization survey program. Together they established the National Crime Panel -- a carefully drawn sample of the population in the following cities: the nation's five largest cities (Chicago, Detroit, Los Angeles, New York, and Philadelphia) and the eight IMPACT cities (Atlanta, Baltimore, Cleveland, Dallas, Denver, Newark, Portland [OR] and St. Louis). Consequently, a survey of crime victims was carried out in the City of Cleveland in 1972, under LEAA sponsorship, and data are now available on the true incidence of crime in Cleveland for 1971-72 (see Table 1-4).

The second question regarding unreported crime is whether or not its characteristics differ from those of reported crime. It is conceivable that those crimes which go unreported may be, for example, less serious and not reported for that reason. This question can be resolved only by comparison of data on the characteristics of crimes from victimization surveys with data from police records. Such a comparison was recently carried out for the crime of robbery in Santa Clara County, California.* The results indicated little significant difference between the characteristics of reported and unreported robberies. Thus, it appears that both victimization surveys and the police/FBI UCR system are referring to the same

* "Police Reports and Victimization Survey Results: An Empirical Study," M. Katherine Howard, Criminology, Vol. 12, No. 4, Feb. 1975, p. 433.

Table 1-4

Comparison of Victimization Survey and CPD Crime Data, 1971-72

Crime	Victimization Survey	CPD Data	Ratio
Homicide	N.A.	282	--
Forcible Rape	970	450	2.2
Robbery	12,835	5,807	2.2
Assault*	11,990	4,486	2.6
Burglary	40,040	10,446	3.8
Larceny	35,889	14,608	2.45
Auto Theft	17,590	17,526	1.0

* Includes simple assaults.

Source: A Report on Non-Reporting: Criminal Victimization in Cleveland, 1971-72.

thing when they talk about robbery. Similar comparisons should be made for the other major crime types, to check the validity of victimization survey results. Such checking may lead to a slight modification in the ratios between total crime and UCR-reported crime, but it is not likely to alter them substantially. The basic point that has been well-established by victimization surveys is that true crime incidence is from two to four times as great as what is reported to the police.

1.3.2 IMPLICATIONS FOR EVALUATION

The fact that crime incidence is really two to four times the reported amount is no mere academic question. It has crucial importance when it comes to evaluating the results of law enforcement efforts at preventing crime and apprehending offenders, since it vitally affects the way these activities are measured. To illustrate this point, consider the hypothetical example presented in Figure 1-5. The lower curve in the figure shows the reported incidence of burglary, which is shown as 10,000 in year 1. The upper curve represents the true incidence of burglary; for year 1, we have used the victimization survey ratio of 3.8 actual burglaries per reported burglary to arrive at a figure of 38,000 total burglaries. This means there were 28,000 unreported burglaries in year 1. Now let us suppose that in year 2, total burglaries increase to 40,000, but that 4000 more burglary victims decide -- for whatever reasons -- that it isn't worth the trouble

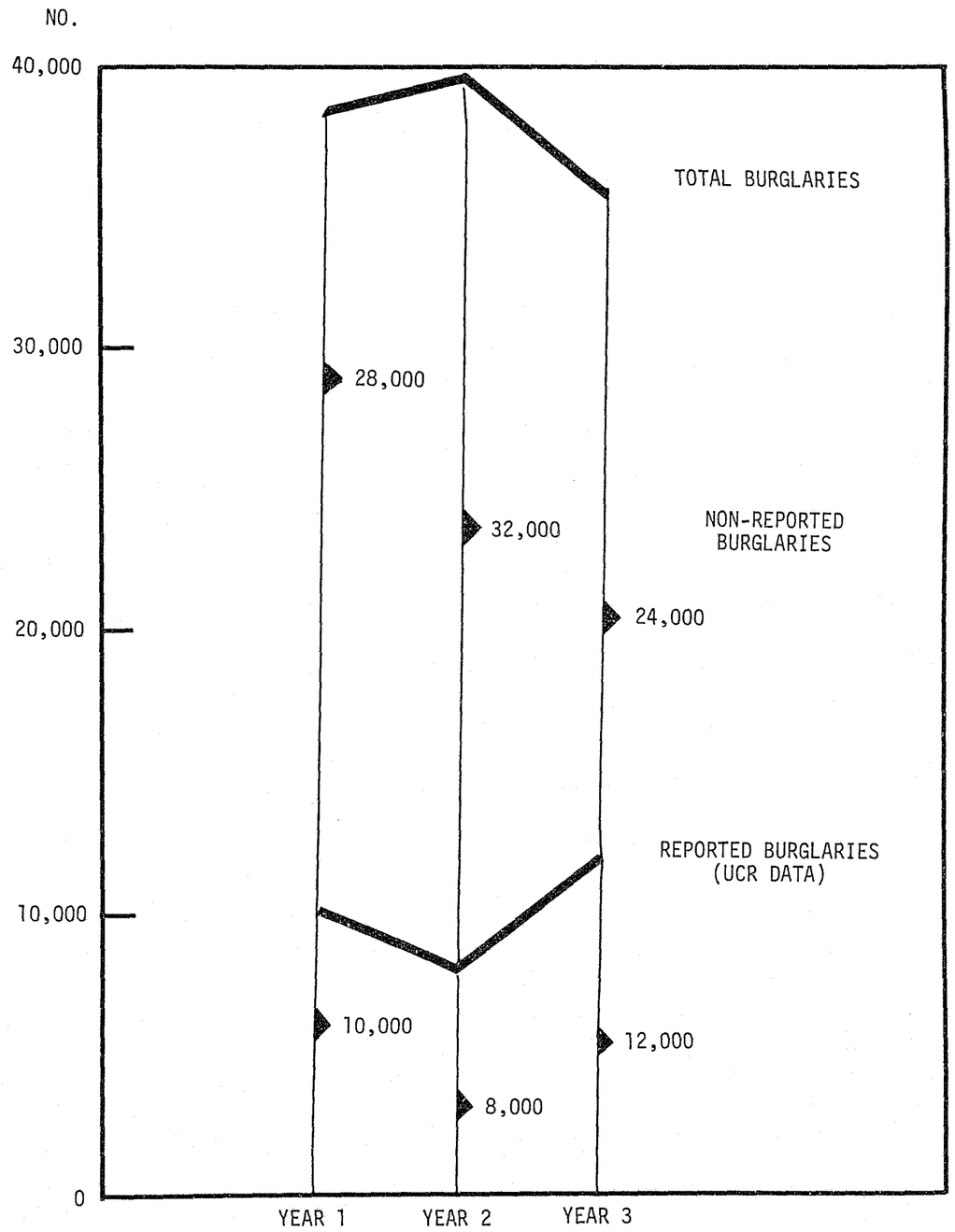

FIGURE 1-5

REPORTED VS. UNREPORTED CRIME
HYPOTHETICAL BURGLARY EXAMPLE

of reporting the crime to the police. In this case, the number of unreported burglaries increases to 32,000, leaving only 8000 reported burglaries in year 2. In other words, although total burglaries have increased by 2000 over year 1, reported burglaries have decreased by 2000. Thus, the official UCR statistical reporting would show a decrease in burglary for that time period -- at the very time when burglary is actually on the increase! But the problem doesn't stop there. Returning to Figure 1-5, let's suppose that in year 3 the police mount an intensive anti-burglary campaign, complete with additional patrols, educational brochures, community presentations, etc. As a result, two things may happen: some burglars are deterred, reducing the total incidence of burglary to 36,000. But simultaneously, the public's awareness of burglary and their perception of the police's interest in doing something about it result in a greater willingness to report burglary. Now only 24,000 burglary victims fail to report the crime to the police, leading to 12,000 reported burglaries (36,000 minus 24,000) for year 3. The police, looking at the rise in their UCR figure from 8000 to 12,000 burglaries, conclude that their anti-burglary campaign was a failure, and are unable to substantiate their budget request to continue it.

This example is not far-fetched. In the absence of accurate, annual data on the true incidence of crime, it is impossible to tell the extent to which police (or other criminal justice) programs or activities reduce the

extent of crime, increase the extent of reporting, or both. Consequently, valid decisions on how to allocate crime-prevention resources cannot be made in the absence of such data. The only known way to obtain data on the true incidence of crime is via victimization surveys.

All of the analyses and conclusions regarding crime and crime-control programs made in this report and in the other IMPACT evaluation reports rely exclusively on UCR data as the sole measure of crime incidence -- simply because no other data are currently available.* Hence when a statement is made that a given project appeared to reduce crime, this may mean that (1) total crime went down and the extent of reporting stayed the same, leading to a decrease in reported crime, or (2) total crime remained the same while the extent of reporting decreased, or (3) total crime went up, but the extent of reporting decreased. Limited to UCR data, we cannot distinguish between these possibilities. In claiming that crime went down in such a case, we are implicitly assuming that the ratio between true crime incidence and reported crime remains constant from year to year, so that a change in reported crime must imply a proportional change in actual crime. But as we have seen, there is no reason why this must be true.

A good illustration of this point is provided by the Portland, Oregon IMPACT program. Like Cleveland, Portland was a participant in the

* It is true that data are available for a single point in time, FY 1971 - 72, but this is of no value in comparing crime rates from one year to the next.

National Crime Panel victimization survey in 1971-72. Unlike Cleveland, however, the Portland authorities decided to conduct their own follow-up victimization survey in 1973-74, and they contracted with the Oregon Research Institute to repeat the original survey. The 1971-72 survey disclosed a true burglary rate of 151 per 1000 households, with approximately 50 percent of the victims reporting the crimes to the police. The 1973-74 survey detected 127 burglaries per 1000, but with over 70 percent of the victims reporting to the police.* Thus, total burglaries dropped from 21,900 to 18,400 over the two-year period, even though UCR figures showed an increase during the same period, due to the increased rate of reporting. The result tended to vindicate the success of IMPACT in reducing crime in Portland, despite an increase in UCR figures.

Cleveland's sharp increase in UCR crime figures in 1974 might reflect a similar increase in the percentage of victims reporting crime to the police, or it might simply reflect higher crime occurrence. No one knows, and no one can know in the absence of victimization survey data.

* "Portland, OR 'Impact' Program Evaluated," Criminal Justice Newsletter, March 17, 1975, p. 3. See also "Crime and Victimization in Portland: Analysis of Trends, 1971-1974," Anne L. Schneider, Ph.D., Oregon Research Institute, February 10, 1975.

SECTION II

SPECIFIC CRIME TRENDS

SECTION II

SPECIFIC CRIME TRENDS

2.1 CLEVELAND CRIME PATTERNS

As discussed in Section I, the effects of IMPACT on the incidence of reported crime appear less dramatic than they really were, since IMPACT had to counteract a constantly rising crime trend. Despite the existence of this underlying upward trend, the IMPACT Program appears to have caused an absolute reduction in its overall set of target crimes, and possibly to have contributed to large decreases in other categories of crimes. In addition, substantial increases in clearance rates (the percentage of reported crimes cleared by arrest) have been achieved.

To provide an adequate basis for comparison, data for the three years during which IMPACT planning and implementation took place (1972, 1973, and 1974) were compared with data for the previous three-year period (1969-71). Calendar-year data were used because of the ready availability of consistent UCR data in CPD annual reports. Data for IMPACT, Index, and Part I crimes for each of the six years are listed in Table 2-1. To even out the year-to-year fluctuations, an average value is computed for each three-year period, for every crime type. The averages for 1969-71 are then compared with the averages for 1972-74, and the percentage change from the pre-IMPACT period to the IMPACT period is given in the last column of the table. As can be seen, three of the IMPACT crimes --

TABLE 2-1

SIX-YEAR CRIME COMPARISON

	1969	1970	1971	69-71 AVG	1972	1973	1974	72-74 AVG	% Change
HOMICIDE	266	271	270	269	307	277	306	297	+10.4
FORCIBLE RAPE	303	307	428	346	462	440	441	448	+29.5
ROBBERY	5,638	5,475	5,987	5,700	5,639	4,621	6,113	5,458	-4.2
AGG. ASSAULT	2,073	1,909	2,004	1,995	1,988	1,967	2,728	2,228	+11.7
BURGLARY	11,867	10,765	11,780	11,471	10,446	9,109	12,791	10,782	-6.0
TOTAL IMPACT	20,147	18,727	20,469	19,781	18,842	16,414	22,379	19,212	-2.9
LARCENY	18,252	18,546	16,356	17,718	12,860	13,058	16,003	13,974	-21.1
AUTO THEFT	22,279	19,603	19,855	20,579	17,526	12,668	13,640	14,611	-29.0
TOTAL INDEX	60,678	56,876	56,680	58,078	49,228	42,140	52,022	47,797	-17.7
NEGL. MANSLAUGHTER	48	42	31	40	22	32	25	26	-35.0
SIMPLE ASSAULT	3,603	3,215	2,859	3,226	2,315	2,710	2,684	2,570	-20.3
TOTAL PART I	64,329	60,133	59,570	61,344	51,565	44,882	54,731	50,392	-17.8

Source: CPD Annual Reports

homicide, forcible rape, and aggravated assault -- showed net increases during the IMPACT period, while two -- robbery and burglary -- showed net decreases. Since robbery and burglary account for 85 percent of all IMPACT crime, the total IMPACT crime figure showed a 2.9 percent decrease. Interestingly, the four other crimes making up the Index and Part I categories -- larceny, auto theft, manslaughter by negligence, and simple assault -- all showed decreases of over 20 percent compared with the pre-IMPACT period. It is quite possible that these decreases in non-IMPACT crimes resulted from a generalized increased deterrent effect of a number of the IMPACT projects. Figure 2-1 shows the six-year incidence of the five IMPACT crimes.

As noted above, clearances increased markedly during the six-year period, as indicated in Tables 2-2 and 2-3, which give the number of clearances each year, and the clearance rates, respectively. As Table 2-3 reveals, every IMPACT, Index, and Part I crime type experienced an increase in clearance rates (except for negligent manslaughter, which accounts for .05 percent of all Part I crimes), ranging from a 9.8 percent improvement in the homicide clearance rate up to a 69.6 percent improvement in the auto theft clearance rate. For the five IMPACT crimes, the greatest improvements were in robbery (up 50.3 percent) and burglary (up 20.9 percent). Overall, the average clearance rate for all IMPACT crimes increased from 18.7 percent cleared in 1969-71 to 24.8 percent cleared in 1972-74 -- an improvement of 32.6 percent. The improvement

FIGURE 2-1

ANNUAL REPORTED IMPACT CRIMES, 1969 - 1974

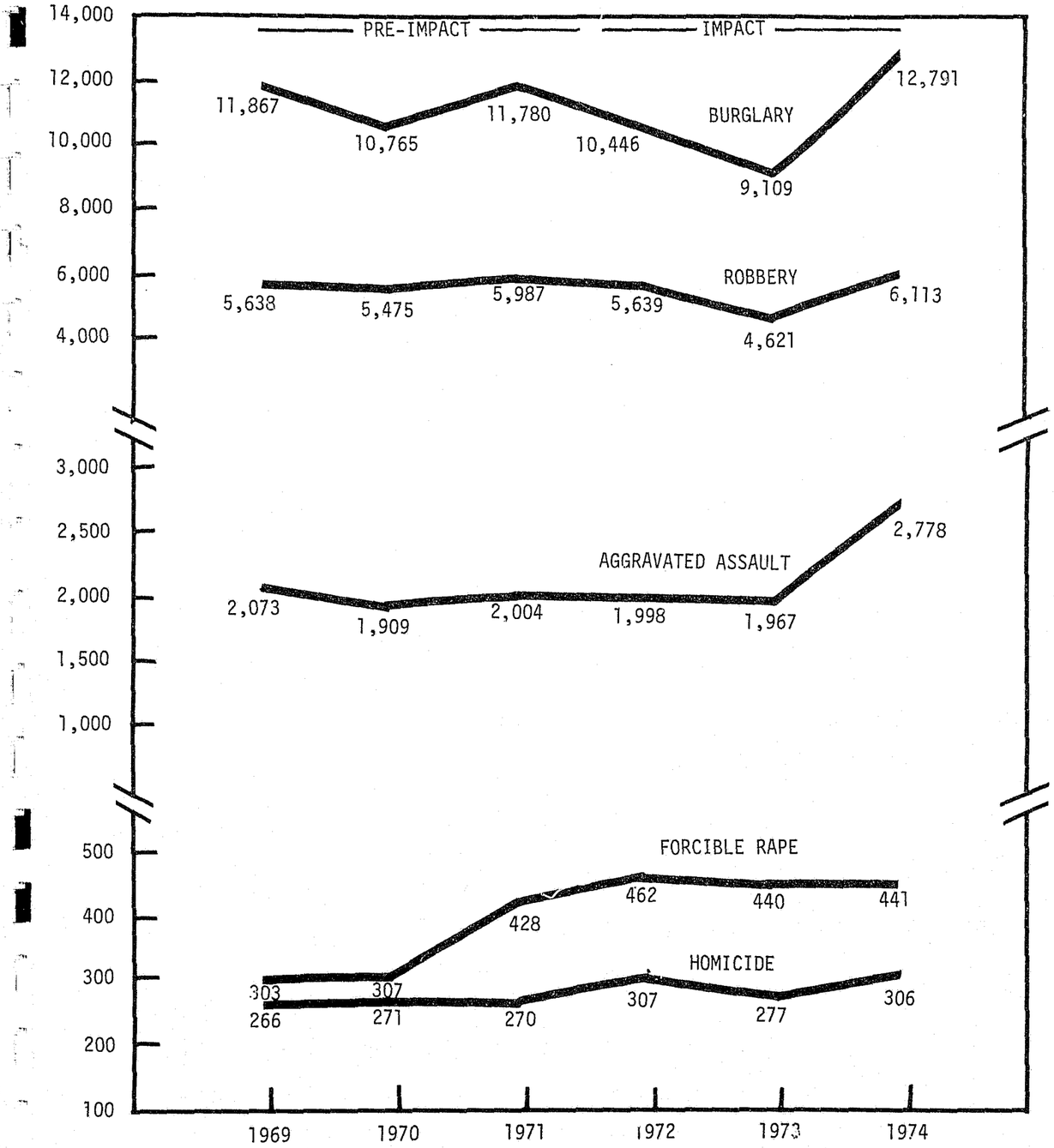

TABLE 2-2

SIX-YEAR CLEARANCE COMPARISON

	1969	1970	1971	69-71 AVG	1972	1973	1974	72-74 AVG
HOMICIDE	177	199	231	202	244	263	228	245
FORCIBLE RAPE	152	178	220	183	255	294	289	279
ROBBERY	677	888	1,012	859	1,010	1,144	1,570	1,241
AGG. ASSAULT	1,011	1,244	1,326	1,194	1,359	1,558	1,762	1,560
BURGLARY	1,187	1,091	1,495	1,258	1,174	1,623	1,528	1,442
TOTAL IMPACT	3,204	3,600	4,284	3,696	4,042	4,882	5,377	4,767
LARCENY	2,094	2,704	2,405	2,401	2,003	2,359	2,716	2,359
AUTO THEFT	1,178	929	751	953	854	1,239	1,346	1,146
TODAL INDEX	6,476	7,233	7,440	7,050	6,899	8,480	9,439	8,273
NEGL. MANSLAUGHTER	48	42	31	40	22	32	24	26
SIMPLE ASSAULT	1,789	2,405	2,246	2,147	1,902	2,361	2,091	2,118
TOTAL PART I	8,313	9,680	9,717	9,237	8,823	10,873	11,554	10,417

Source: CPD Annual Reports

TABLE 2-3

SIX-YEAR CLEARANCE RATE
COMPARISON

	1969	1970	1971	69-71 AVG	1972	1973	1974	72-74 AVG	% Change
HOMICIDE	66.5	73.4	85.6	75.1	79.5	94.6	74.5	82.5	+9.8
FORCIBLE RAPE	50.2	58.0	51.4	52.9	55.2	66.8	65.5	62.3	+17.8
ROBBERY	12.0	16.2	16.9	15.1	17.9	24.8	25.7	22.7	+50.3
AGG. ASSAULT	48.8	65.2	66.2	59.8	68.4	79.2	64.6	70.0	+17.0
BURGLARY	10.0	10.1	12.7	11.0	11.2	17.8	11.9	13.3	+20.9
TOTAL IMPACT	15.9	19.2	20.9	18.7	21.5	29.7	24.0	24.8	+32.6
LARCENY	11.5	14.6	14.7	13.6	15.6	18.1	17.0	16.9	+24.3
AUTO THEFT	5.3	4.7	3.8	4.6	4.9	9.8	9.9	7.8	+69.6
TOTAL INDEX	10.7	12.7	13.1	12.1	14.0	20.1	18.1	17.3	+43.0
NEGL. MANSLAUGHTER	100.0	100.0	100.0	100.0	100.0	100.0	96.0	100.0	0
SIMPLE ASSAULT	49.6	74.8	78.6	66.6	82.2	87.1	77.9	82.4	+23.7
TOTAL PART I	12.9	16.1	16.3	15.0	17.1	24.2	21.1	20.7	+38.0

Source: CPD Annual Reports

in clearance rates for Index crimes as a whole was 43 percent, and for total Part I crime it was 38 percent. These are substantial and important improvements in the effectiveness of the City's police force, and constitute an increase in one component of the "risk" of crime to the criminal -- the probability of being arrested. The changes in clearance rates for the five IMPACT crimes are shown in Figure 2-2.

The next five subsections discuss each of the five IMPACT crimes in detail. Detailed month-by-month data were available beginning in 1971, the year prior to IMPACT's beginning, from the CPD crime and arrest data base. These data include reported crime information by month, for each census tract and the six Police Districts. (The geographic variations in crime incidence are discussed separately in Section III.)

2.2 HOMICIDE

The IMPACT crime of homicide includes both murder and non-negligent manslaughter, and encompasses Ohio Revised Code sections 2903.1, 2903.2, 2903.3, and 2903.4. Because of the relative infrequency of homicide, the data show considerable variation from month to month. Table 2-4 shows the monthly occurrence of homicide from January 1971 through December 1974; these data are plotted in Figure 2-3. As can be seen, the number of homicides fluctuated considerably over the 48-month period, increasing somewhat from 1971 to 1972, decreasing slightly in 1973, then increasing again in 1974. The net increase over the four-year

FIGURE 2-2

ANNUAL CLEARANCE RATES OF IMPACT CRIMES, 1969 - 1974

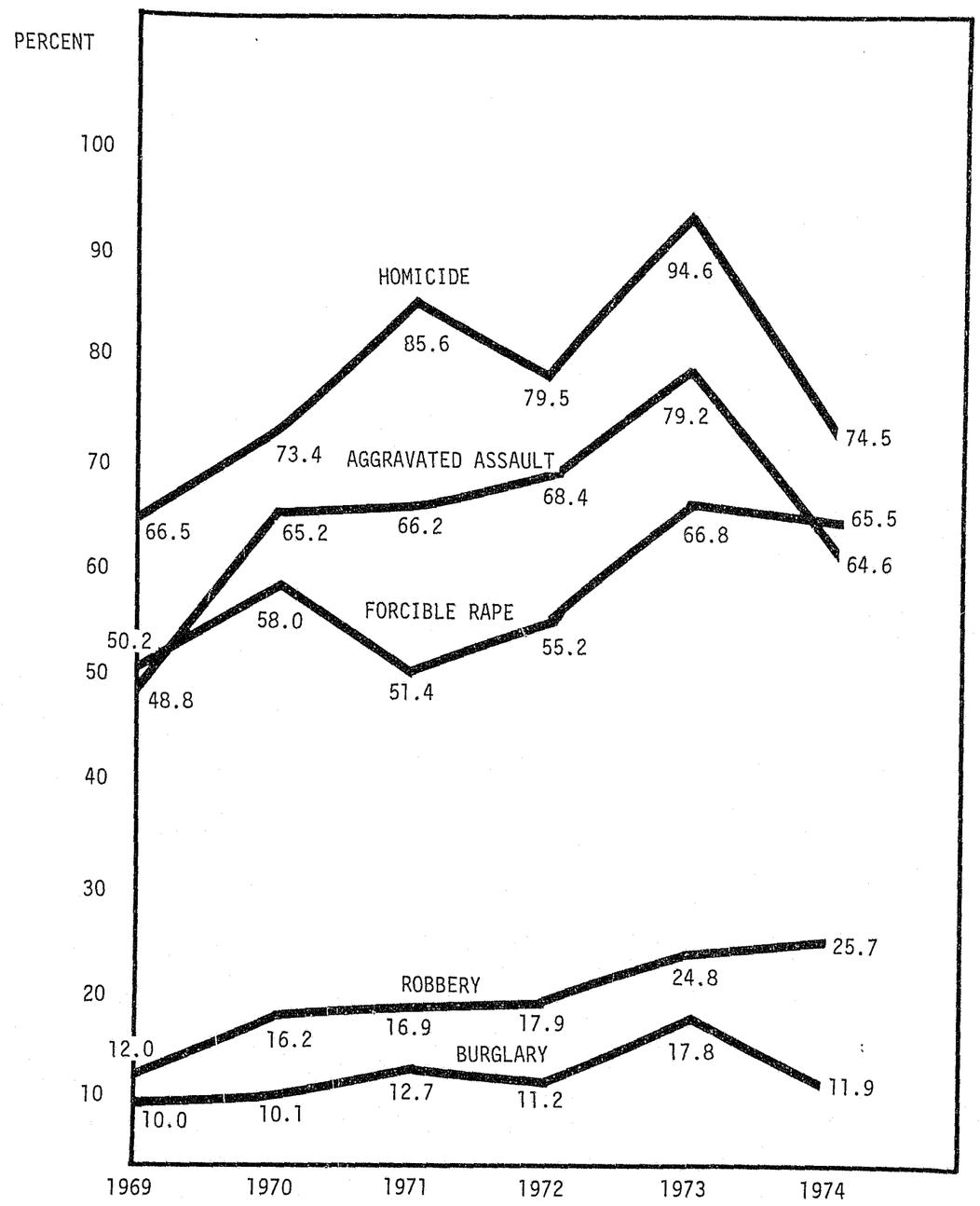

TABLE 2-4

REPORTED HOMICIDE*, 1971 - 1974

	1971	% Change 71-72	1972	% Change 72-73	1973	% Change 73-74	1974	% Change 71-74
JAN	12	+133.3	28	-14.3	24	-29.2	17	+41.7
FEB	23	-34.8	15	+46.7	22	-4.5	21	-8.7
MAR	22	-4.5	21	-9.5	19	-5.3	18	-18.2
APR	23	+17.4	27	+7.4	29	-6.9	27	+17.4
MAY	25	-24.0	19	-21.0	15	+33.3	20	-20.0
JUN	16	+43.8	23	+26.1	29	-31.3	20	+25.0
JUL	22	+68.2	37	-54.0	17	+82.4	31	+40.9
AUG	30	-16.7	25	+36.0	34	-26.5	25	-16.7
SEP	21	+71.4	36	-61.1	14	+92.8	27	+28.6
OCT	29	-17.2	24	-20.8	19	+94.7	37	+27.6
NOV	19	+15.8	22	+22.7	27	+18.5	32	+68.4
DEC	28	+7.1	30	-6.7	28	+10.7	31	+10.7
TOTAL	270	+13.7	307	-9.8	277	+10.5	306	+13.3

* Homicide includes murder and non-negligent manslaughter

Source: CPD crime and arrest data base

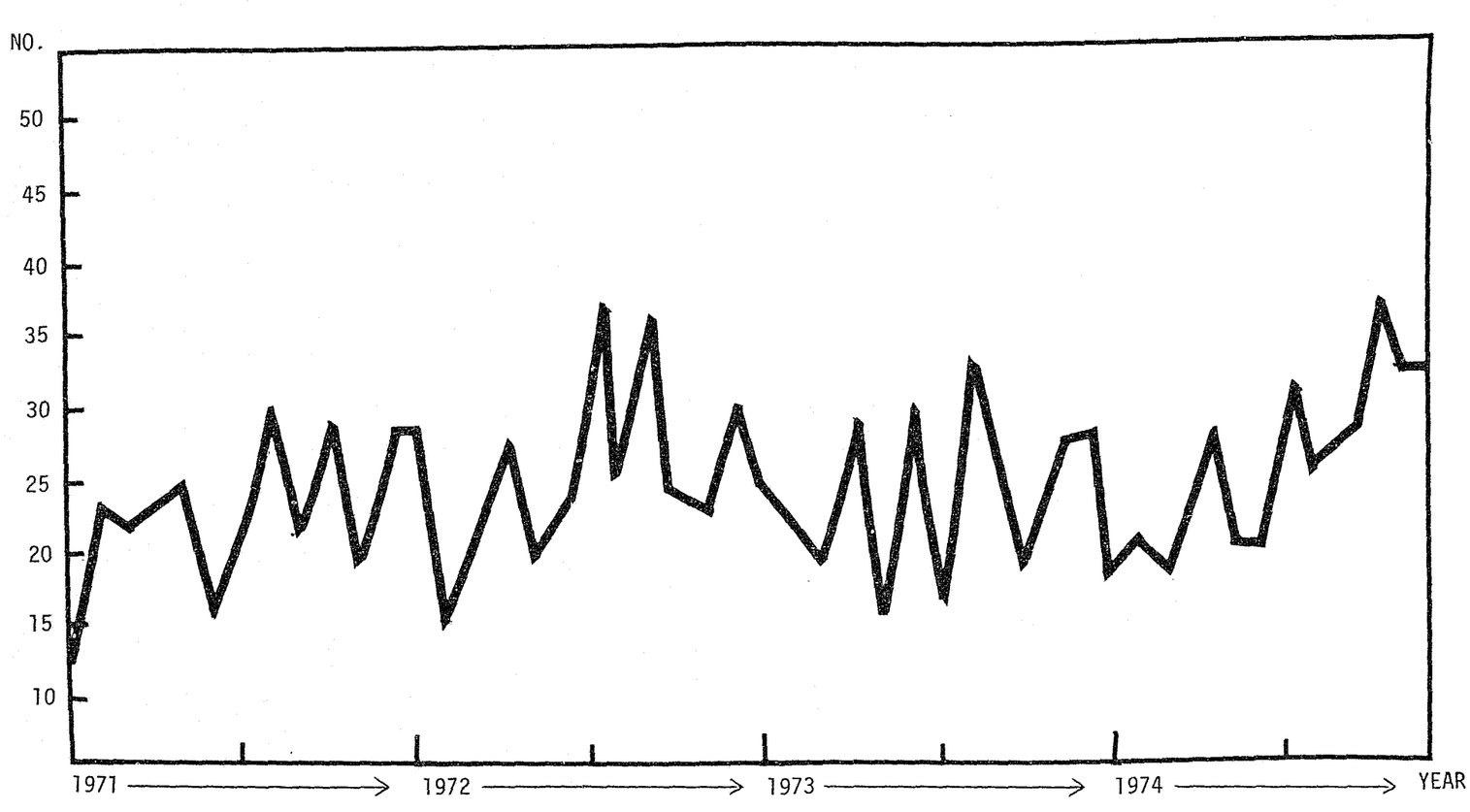

FIGURE 2-3

REPORTED HOMICIDE, 1971 - 1974

period was 13.3 percent. Table 2-5 shows the variation in the average monthly, weekly, and daily incidence of homicide for the four years in question.

Table 2-5

Average Number of Reported Homicides, 1971-1974

Average No. Per	1971	1972	1973	1974
Month	22.5	25.6	23.1	25.5
Week	5.2	5.9	5.3	5.9
Day	0.7	0.8	0.8	0.8

2.3 FORCIBLE RAPE

Forcible rape is defined by Ohio Revised Code section 2907.02. Reported forcible rape increased nearly eight percent from 1971 to 1972, dropped about five percent in 1973, and remained essentially the same in 1974. From 1971 to 1974 there was a net increase of three percent. The month-to-month variations are listed in Table 2-6 and plotted in Figure 2-4. Table 2-7, below, gives the average monthly, weekly, and daily incidence of reported rapes for each of the four years. It is likely that all of these figures considerably understate the true occurrence of rape, since the 1971-72 victimization data indicated that 2.2 times as many rapes occurred as were reported.*

*These results are based upon statistical estimates and extrapolations of data collect in 1972 pursuant to a large-scale survey of crime victimization in all eight IMPACT cities, including Cleveland, by the U. S. Bureau of the Census under LEAA sponsorship. The survey design involved a stratified random sample of 10,000 to 12,000 households and businesses in each IMPACT city. On a national basis, these Census Bureau/LEAA methods of estimating crime are being subjected to extensive testing and verification.

TABLE 2-6

REPORTED FORCIBLE RAPE, 1971 - 1974

	1971	% CH 71-72	1972	% CH 72-73	1973	% CH 73-74	1974	% Ch 71-74
JAN	26	+65.4	43	-18.6	35	+22.9	43	+65.4
FEB	33	+45.4	48	-33.3	32	-37.5	20	-39.4
MAR	37	+32.4	49	-40.8	29	+27.6	37	0.0
APR	26	+30.8	34	-35.3	26	+46.2	38	+46.2
MAY	42	-11.9	37	-5.4	35	+5.7	37	-11.9
JUN	30	+20.0	36	0.0	36	+5.6	38	+26.7
JUL	31	+12.9	35	+17.1	41	-14.6	35	+12.9
AUG	41	+2.4	42	+19.0	50	-10.0	45	+9.8
SEP	53	-35.8	34	+2.9	35	+22.8	43	-18.9
OCT	36	+13.9	41	0.0	41	-4.9	39	+8.3
NOV	37	-8.1	34	+32.4	45	-26.7	33	-10.8
DEC	36	-19.4	29	+20.7	35	-5.7	33	-8.3
TOTAL	428	+7.9	462	-4.8	440	+0.2	441	+3.0

Source: CPD Crime and Arrest Data Base

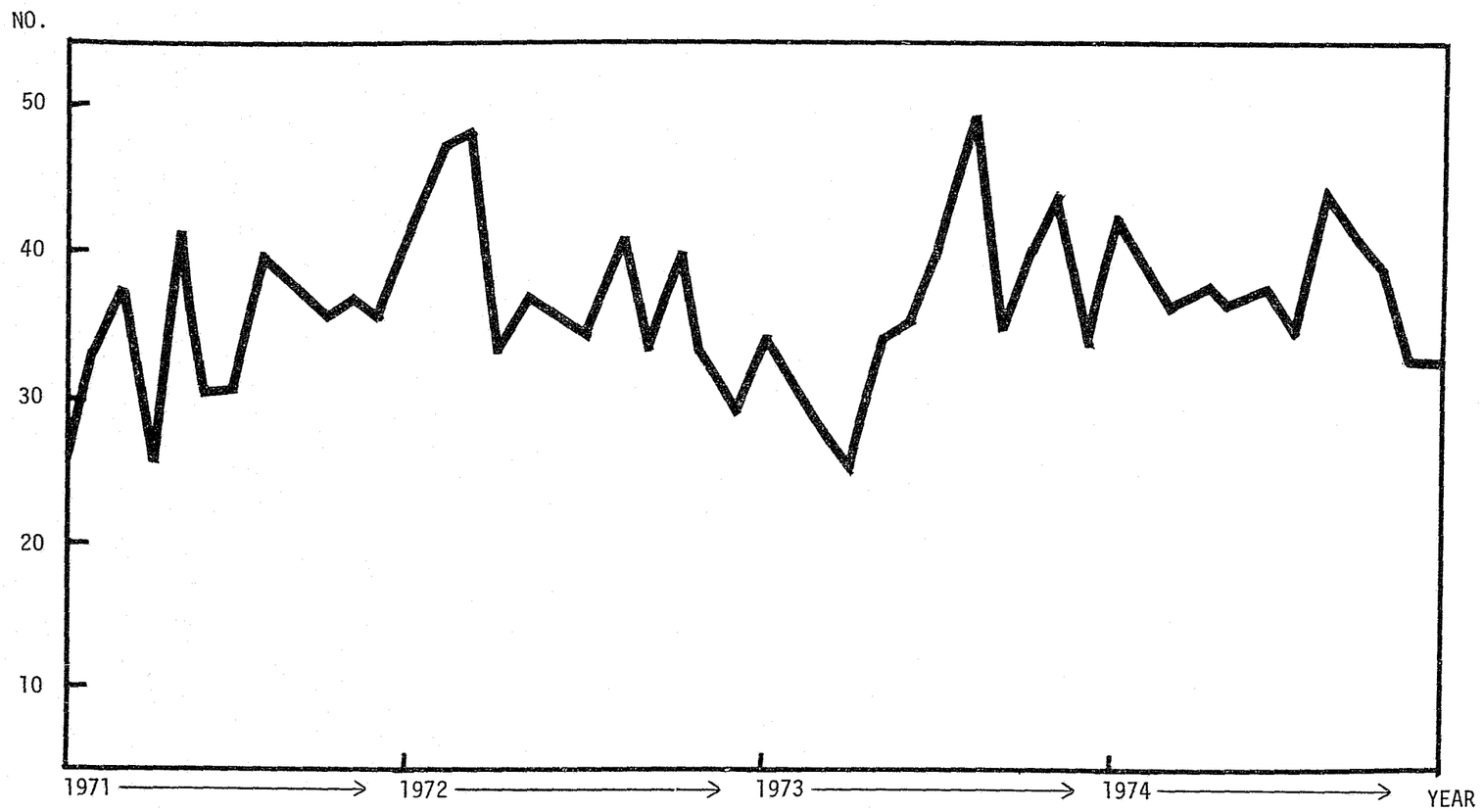

FIGURE 2-4

REPORTED FORCIBLE RAPE, 1971 - 1974

Table 2-7

Average Number of Reported Rapes, 1971-1974

Average No. Per	1971	1972	1973	1974
Month	35.7	38.5	36.7	36.8
Week	8.2	8.8	8.4	8.5
Day	1.2	1.3	1.2	1.2

2.4 ROBBERY

The IMPACT crime of robbery includes both armed and unarmed robbery, and encompasses Ohio Revised Code sections 2911.01 and 2911.02. Table 2-8 shows the monthly occurrence of reported robberies in Cleveland for 1971 through 1974. As shown by Figure 2-5, robberies tend to peak in the winter months, and to decrease in the summer months. Reported robberies showed an annual decrease of nearly six percent from 1971 to 1972, and a further decrease of 18 percent in 1973; these two decreases were wiped out, however, by a 32 percent increase in 1974, leaving a net increase of 2.1 percent for the four-year period. Table 2-9 lists the average reported incidence of robbery on a monthly, weekly, and daily basis. Once again, Cleveland victimization survey data indicated that the true rate of robbery is 2.2 times the reported rate; thus, the problem of robbery is considerably more severe than is indicated by the data presented here.*

*Ibid.

TABLE 2-8

REPORTED ROBBERY, 1971 - 1974

	1971	% CH 71-72	1972	% CH 72-73	1973	% CH 73-74	1974	% CH 71-74
JAN	525	-2.9	510	-3.1	494	-14.6	422	-19.6
FEB	446	-7.6	412	-10.7	368	+9.2	402	-9.9
MAR	442	+5.9	468	-16.5	391	+15.9	453	+2.5
APR	468	-12.0	412	-10.9	367	+15.5	424	-9.4
MAY	415	-2.4	405	-16.8	337	+17.2	395	-4.8
JUN	379	+11.9	424	-25.5	316	+44.0	455	+20.1
JUL	485	-12.8	423	-20.6	336	+57.1	528	+8.9
AUG	530	-14.0	456	-20.8	361	+51.8	548	+3.4
SEP	514	-16.5	429	-19.6	345	+31.0	452	-12.1
OCT	576	-5.9	542	-29.0	385	+61.8	623	+8.2
NOV	574	+6.1	609	-25.0	457	+37.6	629	+9.6
DEC	633	-13.3	549	-15.5	464	+68.5	782	+23.5
TOTAL	5,987	-5.8	5,639	-18.0	4,621	+32.3	6,113	+2.1

Source: CPD Crime and Arrest Data Base

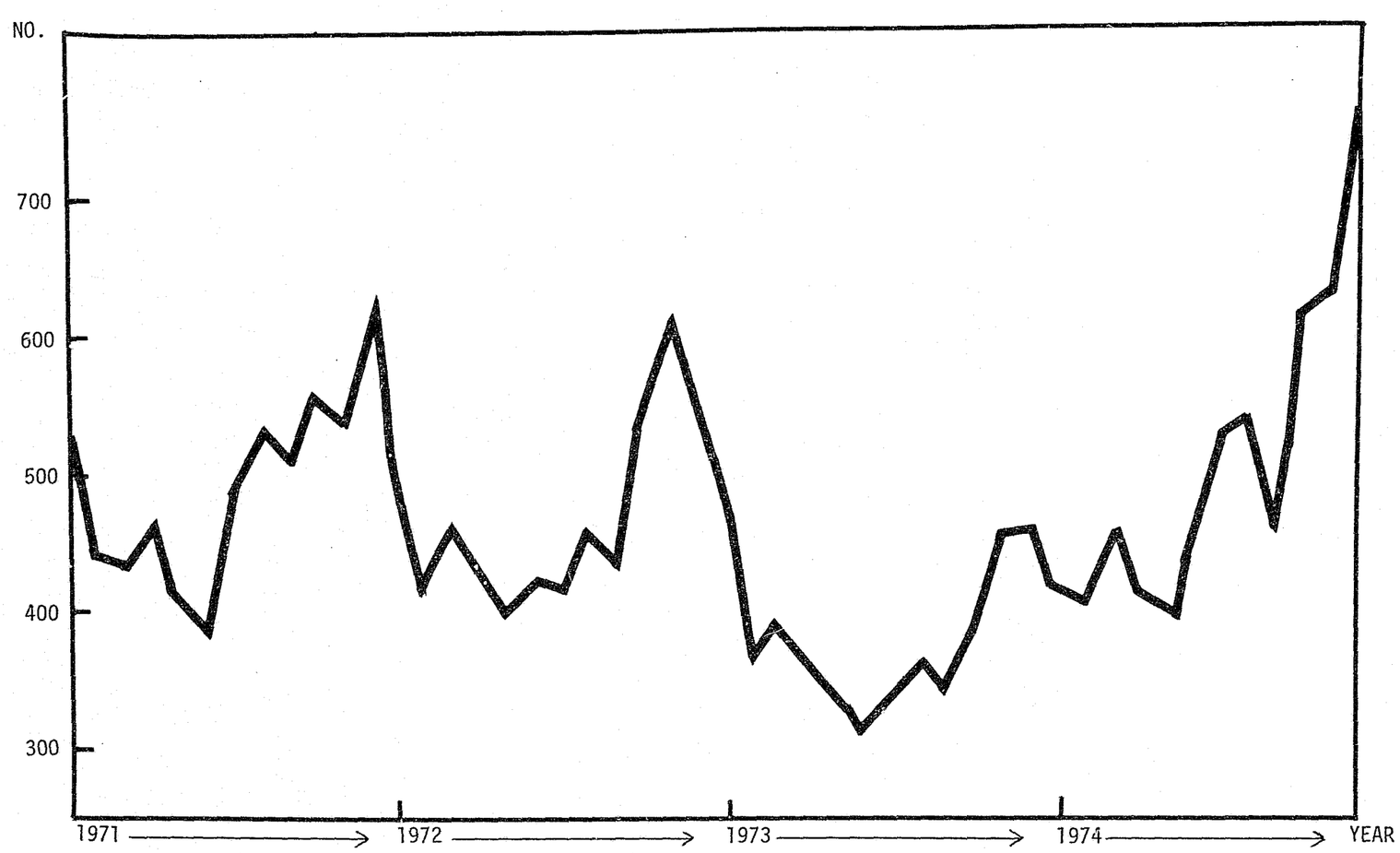

FIGURE 2-5

REPORTED ROBBERY, 1971 - 1974

Table 2-9

Average Number of Reported Robberies, 1971-1974

Average No. Per	1971	1972	1973	1974
Month	499	470	385	509
Week	115	108	89	117
Day	16.4	15.4	12.7	16.8

2.5 AGGRAVATED ASSAULT

The IMPACT crime of aggravated assault includes unlawful personal attacks (or attempts) for the purpose of inflicting severe bodily injury. It encompasses Ohio Revised Code sections 2903.11, 2903.12, and 2903.13. Table 2-10 lists the monthly incidence of reported aggravated assaults for the four years in question. The number of assaults remained nearly the same from 1971 through 1973, but increased nearly 39 percent in 1974, leading to an overall increase of 36 percent from 1971 to 1974. The graph of Figure 2-6 illustrates a relatively predictable pattern of aggravated assaults each year, rising from a low point early in the year and increasing rather steadily throughout the year. Table 2-11 shows the average occurrence of reported aggravated assaults which increased in 1974 to over 50 per week from a previously steady average of 38. Again, these figures significantly understate the true extent of assault occurrences; the victimization survey indicated that the actual incidence of assaults (including simple assaults) is 2.6 times the reported incidence.*

*Ibid.

TABLE 2-10

REPORTED AGGRAVATED ASSAULT, 1971 - 1974

	1971	% CH 71-72	1972	% CH 72-73	1973	% CH 73-74	1974	% CH 71-74
JAN	155	-20.6	123	-8.1	113	+85.8	210	+35.5
FEB	109	+37.6	150	-13.3	130	+24.6	162	+48.6
MAR	191	-26.7	140	+27.1	178	+23.0	219	+14.7
APR	140	+20.7	169	-14.2	145	+58.6	230	+64.3
MAY	172	-4.6	164	+15.8	190	+10.5	210	+22.1
JUN	168	-1.8	165	+22.4	202	+10.9	224	+33.3
JUL	176	+19.3	210	-19.0	170	+50.0	255	+44.9
AUG	173	+8.7	188	+8.0	203	+37.9	280	+61.8
SEP	191	-16.8	159	+8.2	172	+50.0	258	+35.1
OCT	174	+1.7	177	-18.1	145	+60.0	232	+33.3
NOV	161	+6.8	172	-9.9	155	+52.3	236	+46.6
DEC	194	-11.9	171	-4.1	164	+29.3	212	+9.3
TOTAL	2,004	-0.8	1,988	-1.1	1,967	+38.7	2,728	+36.1

Source: CPD Crime and Arrest Data Base

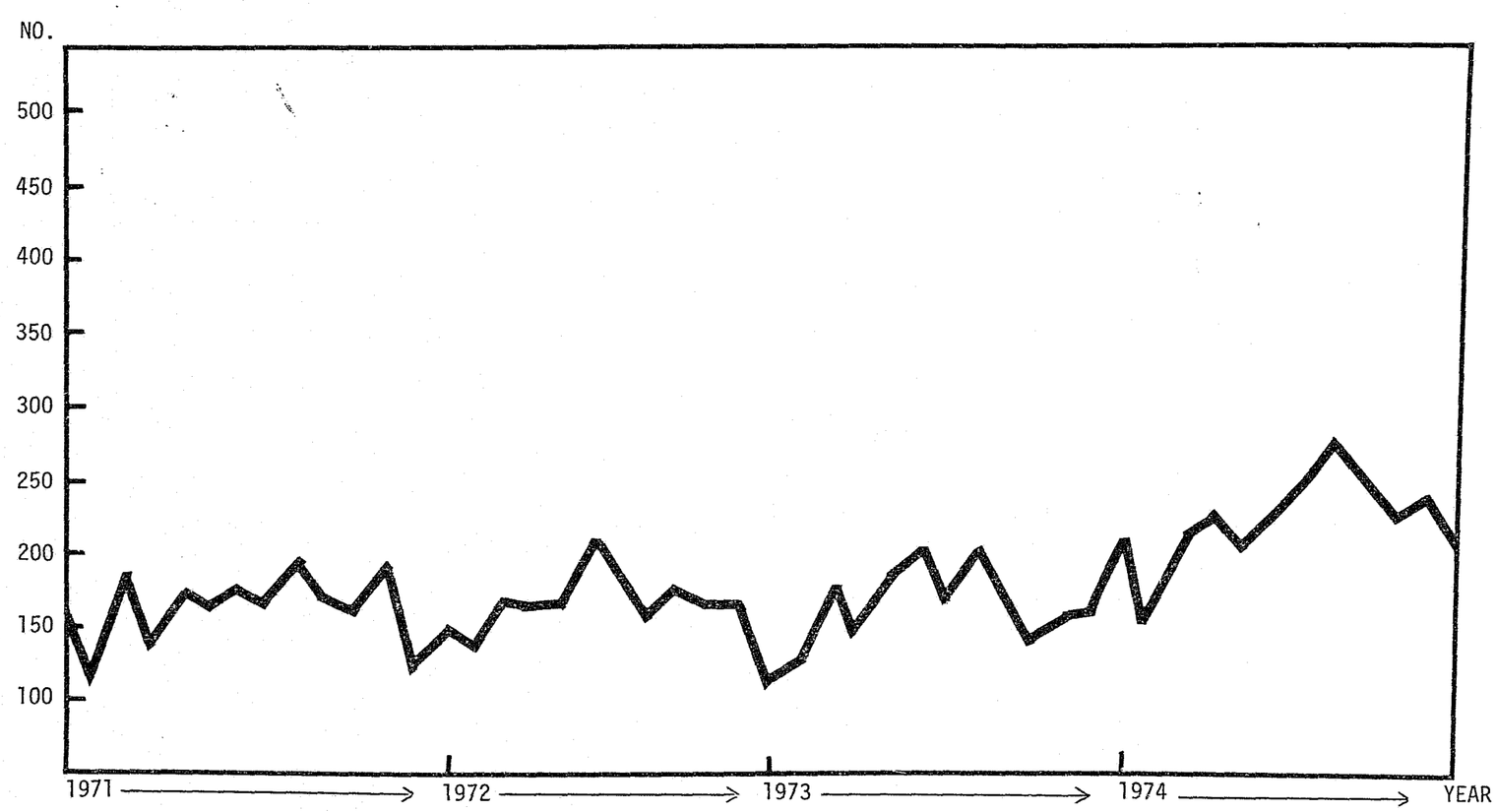

FIGURE 2-6

REPORTED AGGRAVATED ASSAULT, 1971 - 1974

Table 2-11

Average Number of Reported Aggravated Assaults, 1971-1974

Average No. Per	1971	1972	1973	1974
Month	167	166	164	227
Week	38	38	38	52
Day	5.5	5.4	5.4	7.5

2.6 BURGLARY

The IMPACT crime of burglary is defined as unlawful entry of a structure (or attempt) to commit a felony or a theft, even if no force is used to gain entrance. It includes Ohio Revised Code sections 2911.11, 2911.12, 2911.13, and 2911.31. Table 2-12 presents the monthly reported burglary figures for 1971 through 1974. Burglary generally decreased from 1971 to 1972 and from 1972 to 1973, but these decreases were more than cancelled out by an over 40 percent increase in reported burglaries in 1974. Overall, the four-year increase was 8.6 percent. Monthly burglary incidence is plotted in Figure 2-7 for the period of interest. Table 2-13 lists the average occurrence of reported burglaries by month, week, and day for the four years. Reported burglaries increased from 32.3 per day in 1971 to 35 per day in 1974, after dropping as low as 25 per day in 1973.

TABLE 2-12

REPORTED BURGLARY, 1971 - 1974

	1971	% CH 71-72	1972	% CH 72-73	1973	% CH 73-74	1974	% CH 71-74
JAN	981	-9.3	890	-11.1	791	+15.4	913	-6.9
FEB	903	+4.6	945	-24.6	713	+23.7	882	-2.3
MAR	995	+5.3	1,048	-24.0	746	+19.5	951	-4.4
APR	864	-2.1	846	-18.8	687	+37.7	946	+9.5
MAY	827	-2.2	809	-6.4	757	+29.6	981	+18.6
JUN	783	-6.9	729	-4.7	695	+41.3	982	+25.4
JUL	885	-17.6	729	+4.0	758	+41.3	1,071	+21.0
AUG	938	-20.7	744	+4.4	777	+35.6	1,054	+12.4
SEP	986	-23.4	755	-5.6	713	+63.2	1,164	+18.1
OCT	1,101	-12.4	965	-21.4	758	+74.4	1,322	+20.1
NOV	1,228	-16.8	1,022	-22.8	789	+61.1	1,271	+3.5
DEC	1,289	-25.2	964	-9.2	875	+43.3	1,254	-2.7
TOTAL	11,780	-11.3	10,446	-12.8	9,109	+40.4	12,791	+8.6

Source: CPD Crime and Arrest Data Base

YEAR

CONTINUED

1 OF 2