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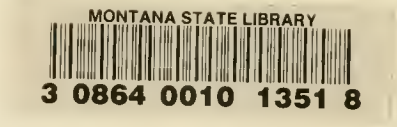

1974

CRIME IN MONTANA

A STATISTICAL ANALYSIS

&

PROJECTION

Bill Erwin
Criminal Justice Data Center
Montana Board of Crime Control

FORWARD

This report presents the first comprehensive analysis of crime in Montana.

Two sources of crime data and statistics are available for Montana. The FBI Uniform Crime Reporting System, which deals primarily in offenses known to police, and the Board of Crime Control's Criminal Justice Data Center, which compiles data on a statewide basis concerning arrests, court actions and corrections data.

The *crime rate* is determined by calculating the number of offenses known per 100,000 population. Only the crime rates for index crimes are considered in the following report.

Index crimes are the seven major offenses most likely to be reported to law enforcement agencies. These crimes are murder, non-negligent manslaughter, rape, robbery, assault, burglary, larceny and motor vehicle theft.

The data in the following report is based on annual FBI reports of offenses known to the police. To establish trends, data for a five year base period was used. The analysis is as valid as source information permits. However, one should consider the funding of a recent U.S. Justice Department Study which concluded that nationwide, the actual crime rate is twice as high as that shown in official statistics. These conclusions certainly affect Montana's crime figures.

An estimated 55 percent of serious crime never is reported to police, including 63 percent of all burglaries, 56 percent of robberies and 53 percent of rapes.

The only notable exception to the study conclusions was auto theft which the study concluded is always reported; apparently, because insurance companies require it. Although murder was not included in the study, and earlier survey indicated that homicides were fully reported to police.

The study also indicated the very poor and the young were the most likely to be victims of crimes such as robbery, assault, rape and purse snatching.

In a single year, nearly one household in three was victimized by burglary, theft or attempts at these crimes.

Although wealthier households were vulnerable to burglary and theft, poor households also showed high rates of victimization.

In one year, 5 percent of the population were victims of incidents involving actual contact with the criminal, such as robbery, rape or assault.

The projection of crime in Montana for a ten-year period included in this report is based on a steady increase of the present crime rate. It is a projection of current crime acutely and should not be construed as a prediction.

ANALYSIS OF CRIME IN MONTANA
Current Crime Data

In 1972, Montana's population was estimated at 719,000 - up 3.5 percent from the 1970 census. According to the 1972 Uniform Crime Report, Montana's crime rate per 100,000 persons was 1,927. This rate is considerably lower than the 2,830 per 100,000 crime rate for the United States as a whole and lower than 35 other states as shown in Table 1.

Table 1
Crime Rate by State - 1972*
Rate Per 100,000

1.	California	4,606	19.	Missouri	2,654
2.	Nevada	4,237	20.	Utah	2,542
3.	Colorado	4,055	21.	Illinois	2,484
4.	Flordia	3,920	22.	Louisiana	2,471
5.	Michigan	3,820	23.	Connecticut	2,470
6.	Arizona	3,746	24.	Georgia	2,468
7.	New York	3,489	25.	Ohio	2,361
8.	Oregon	3,443	26.	South Carolina	2,287
9.	New Mexico	3,417	27.	Indiana	2,274
10.	Massachusetts	3,391	28.	Minnesota	2,256
11.	Maryland	3,379	29.	Kansas	2,139
12.	Rhode Island	3,268	30.	Idaho	2,134
13.	Delaware	3,163	31.	Puerto Rico	2,126
14.	Washington	3,161	32.	Tennessee	2,102
15.	Alaska	3,127	33.	Oklahoma	2,102
16.	New Jersey	3,033	34.	Virginia	2,032
17.	Hawaii	3,012	35.	North Carolina	1,933
18.	Texas	2,656	36.	MONTANA	1,927

*FBI UNIFORM CRIME REPORT

However, according to the Uniform Crime Report, Montana's crime rate increased 8.9 percent from 1971 to 1972 - the seventh highest increase reported by any state. In the same period, there was a national decrease of 2.7 percent. Table 2 shows this comparison.

Over the base five years 1968-1972 Montana's crime rate increased at an average of 8.1 percent a year as shown in the graph (illustration 1) which contrasts the crime rate per 100,000 population in Montana to eight western states and the overall nation. The graph shows the increase in crime in the west as compared to a general reduction in crime for the nation.

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The rate of increase for each of the seven major crimes during the five-year base period is shown in Table 3. The overall increase, when contrasted with the similar index for eight western states (Table 4) shows that in 1970-1972 Montana's crime increase was significantly greater than that of the western states taken as a whole.

Table 2
Percent Increase or Decrease
In Crime Rate by State 1971-1972*

	State	% Increase or Decrease		State	% Increase or Decrease
1.	Mississippi	18.4	27.	Maryland	- .33
2.	Maine	12.7	28.	North Carolina	- .34
3.	Wyoming	11.8	29.	Iowa	- 1.1
4.	South Dakota	10.3	30.	California	- 1.2
5.	Nevada	10.2	31.	Indiana	- 1.44
6.	South Carolina	10.0	32.	New Jersey	- 1.45
7.	MONTANA	8.9	33.	Minnesota	- 1.54
8.	Alaska	8.6	34.	New Mexico	- 1.54
9.	Oregon	8.1	35.	Texas	- 1.6
10.	Nebraska	8.0	36.	Louisiana	- 1.8
11.	Arizona	6.7	37.	Pennsylvania	- 2.5
12.	Colorado	6.3	38.	Alabama	- 2.7
13.	Idaho	6.0	39.	Massachusetts	- 2.8
14.	West Virginia	4.7	40.	Florida	- 3.0
15.	Georgia	3.7	41.	Missouri	- 3.0
16.	Vermont	2.6	42.	New Hampshire	- 3.4
17.	Arkansas	2.2	43.	Virginia	- 4.4
18.	Tennessee	2.0	44.	Michigan	- 4.7
19.	Wisconsin	1.79	45.	Ohio	- 4.8
20.	North Dakota	1.77	46.	Puerto Rico	- 5.9
21.	Illinois	1.4	47.	Connecticut	- 6.8
22.	Washington	1.1	48.	Kentucky	- 8.7
23.	Kansas	.7	49.	Delaware	-10.2
24.	Utah	.5	50.	New York	-12.9
25.	Oklahoma	.1	51.	Hawaii	-15.6
26.	Rhode Island	-.28		United States	- 2.7

*FBI UNIFORM CRIME REPORT

Illustration 1
Comparison of National & 8 Western States to Montana
UCR Crime Rates 1968-1972
(Rate Per Hundred Thousand Population)

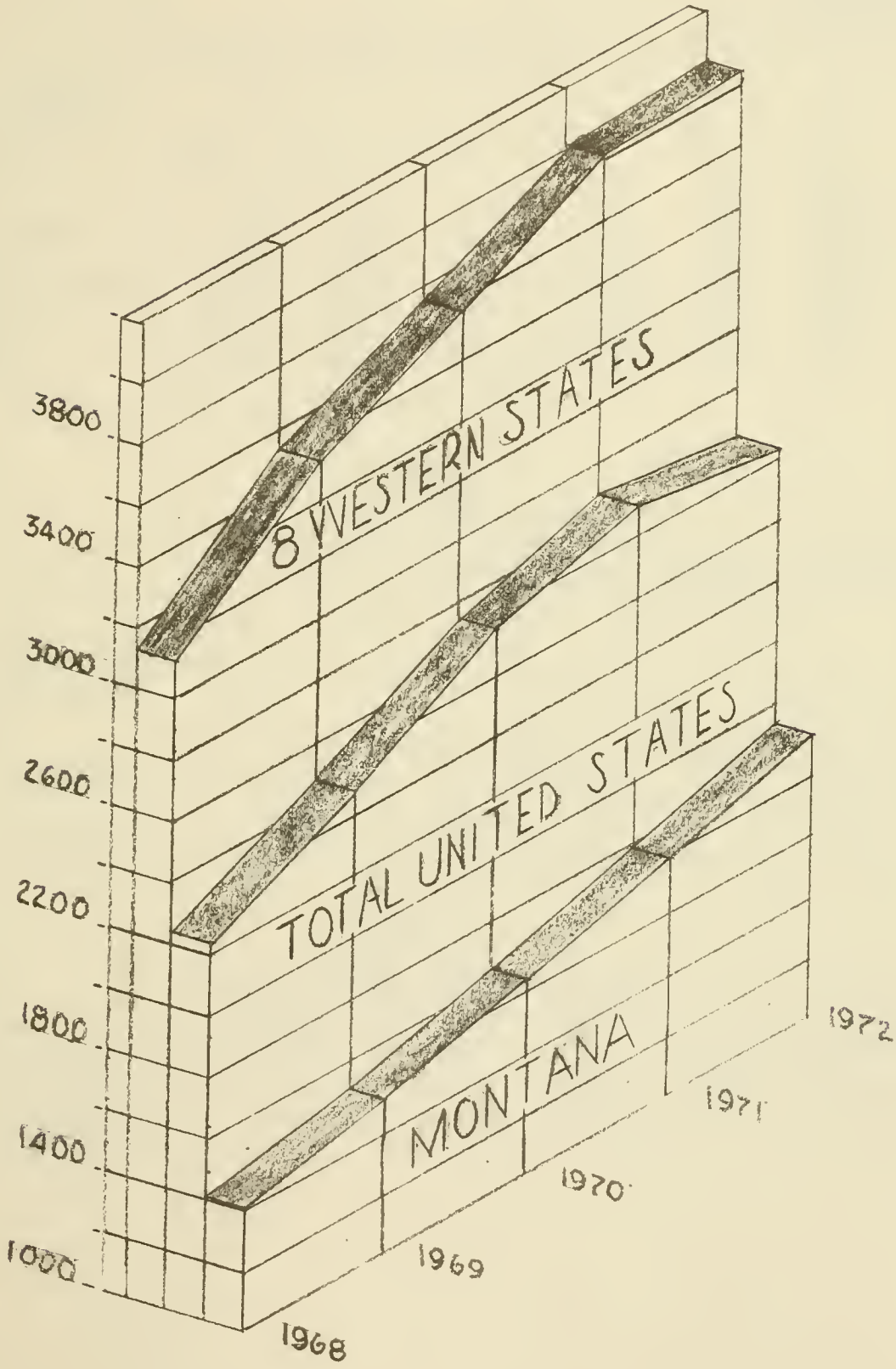


Table 3
Index of Montana Crime
Rate Per 100,000 Inhabitants

Year	1968	1969	1970	1971	1972	Total % Change 68-72 Over 1968
Percent Change	+7.6	+6.1	+9.9	+8.1	+8.9	
Rate Per 100,000 Inhabitants	1403.	1489.	1637.	1769.	1927.	37.
Murder	3.3	3.6	3.2	4.4	2.5	(21.7)
Forcible Rape	7.2	11.1	10.5	14.1	10.8	56.0
Robbery	18.2	22.2	22.3	28.7	33.2	89.6
Aggravated Assault	59.3	61.4	75.5	90.0	103.5	81.0
Burglary	567.8	561.8	593.7	654.9	708.2	29.4
Larceny $50	549.1	612.5	709.8	754.8	821.4	55.2
Auto Theft	198.4	215.9	221.8	222.0	247.0	29.1

Table 4
8 Western States
Rate Per 100,000 & Percent Change

West	1968	1969	1970	1971	1972
(Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming)					
Rate Per 100,000	3127.4	3531.4	3761.4	4014.4	4030.3
Percent Change	+16.4	+12.9	+6.5	+6.7	+ .4

Table 5
United States
Rate Per 100,000 & Percent Change

U. S.	1968	1969	1970	1971	1972
Rate Per 100,000	2234.8	2471.1	2740.5	2906.7	2829.5
Percent Change	+16.3	+10.6	+10.9	+6.1	-2.7

A more specific breakdown of crime in Montana in the five-year base period shows that crimes against property have increased an average 7.8 percent annually. Simultaneously, crimes against persons increased at an annual rate of 12.5 percent.

Table 6
Montana Crimes Against Property

	1968	1969	1970	1971	1972
Offenses	9,115	9,648	10,592	11,553	12,774
Rate Per 100,000 Inhabitants	1,315.3	1,390.2	1,525.3	1,631.8	1,776.8
Percent Change	7.8	5.7	9.7	7.0	8.9

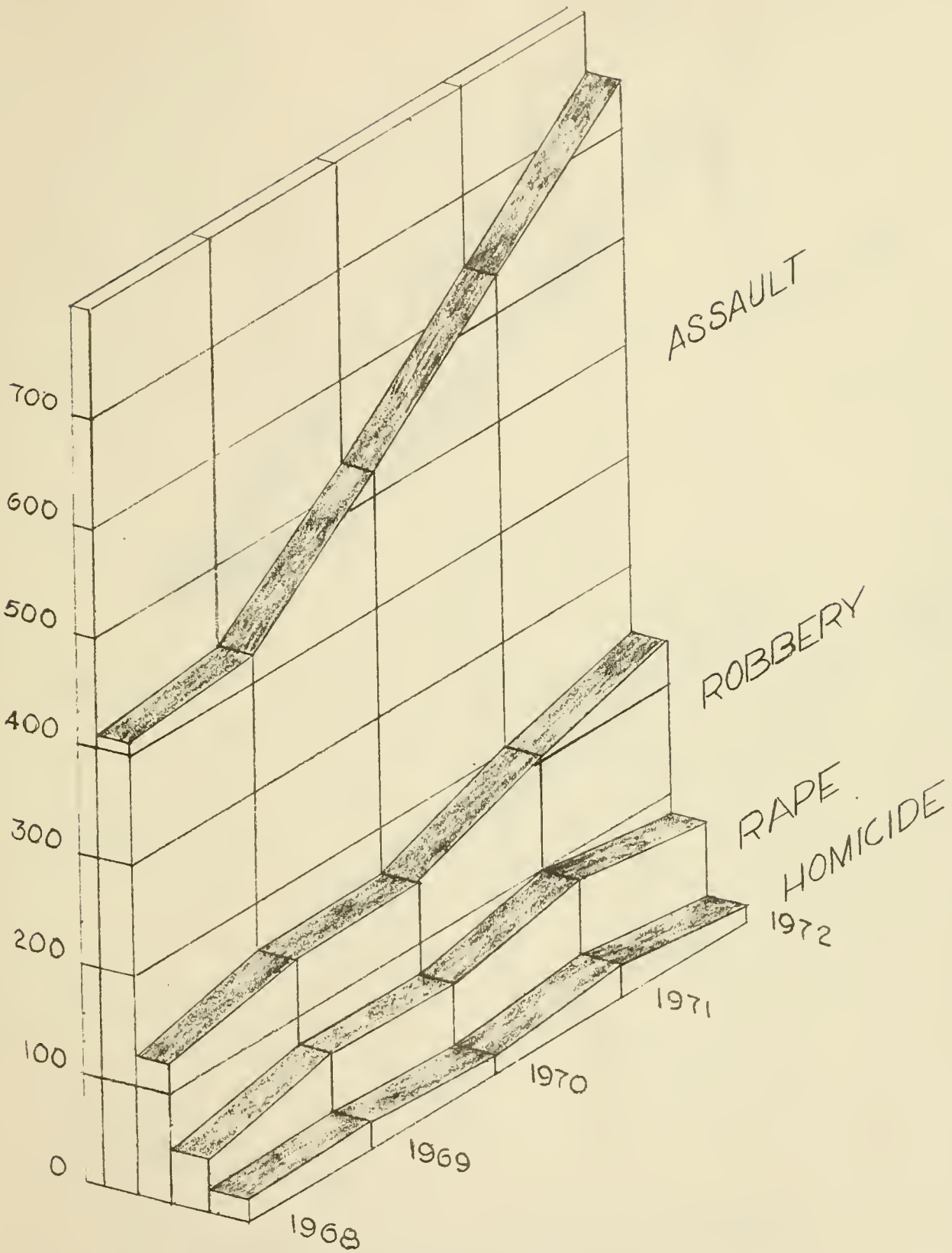
Table 7
Montana Crimes Against Person

	1968	1969	1970	1971	1972
Offenses	610	682	744	971	1,079
Rate Per 100,000 Inhabitants	88.0	98.3	111.5	137.1	150.0
Percent Change	4.9	11.7	13.4	23.0	9.5

The change by crime categories over the last five years, shown in Table 3, page 4 show murders decreased 21.7 percent in actual number of offenses. It is the only offense category to show a decrease. All other offenses recorded increases such as rape up 56 percent, robbery up 89.6 percent, aggravated assault up 81 percent, burglary up 55.2 percent, larceny up 29.4 percent and auto theft up 29.1 percent. These offenses are graphed in illustration 2 and 3 on the following pages.

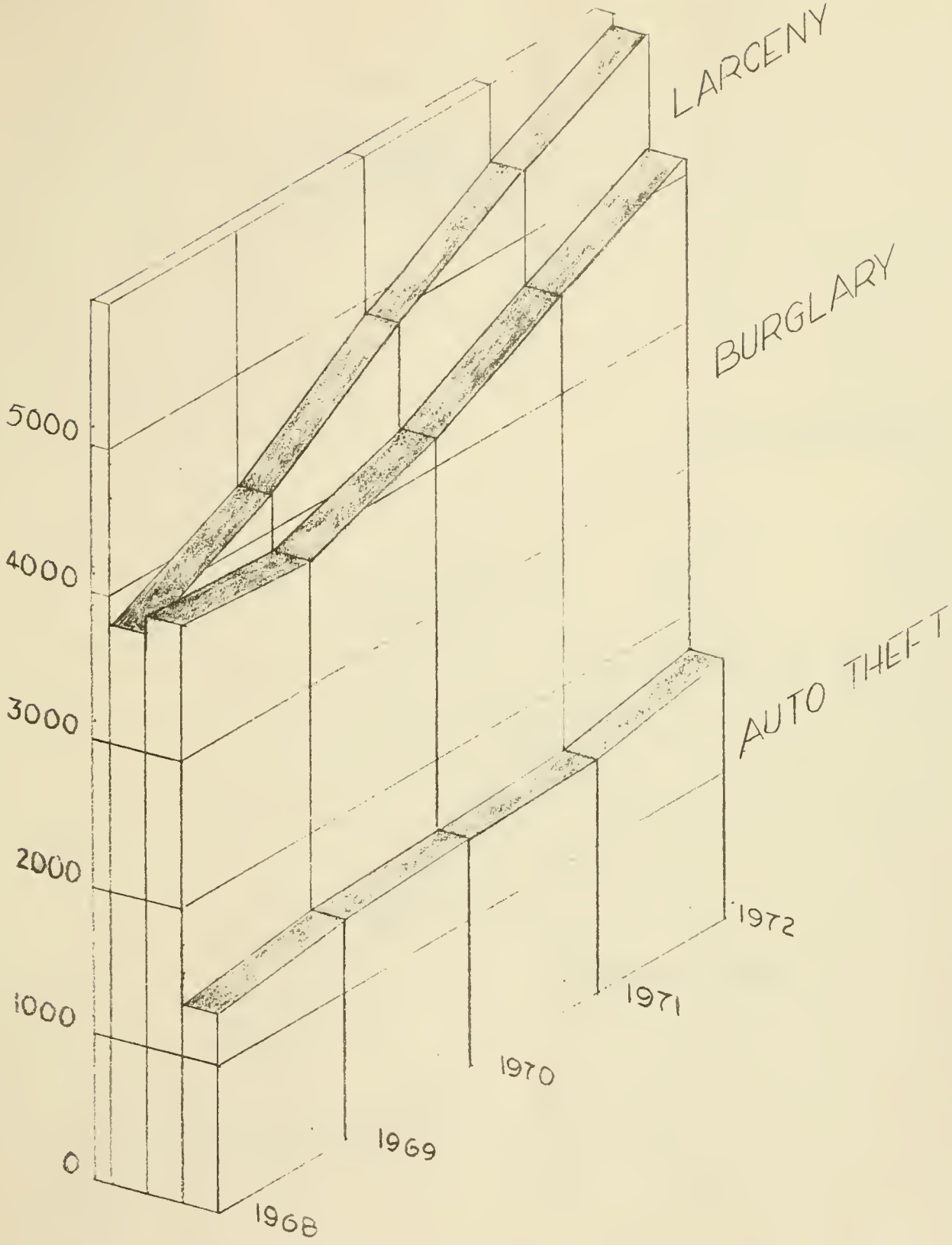
The rate of crime per 100,000 persons in Montana has increased by 37 percent over the last five years. The change in the actual amount of offenses is up 41 percent. This comparison indicates that as the population in Montana increased by 3.8 percent, the crime rate increased by 37 percent in the same base period. Illustration 4 shows this comparison. In a similar time frame, as the population in Montana increased 2.9 percent in the last 10 years, the crime rate increased 100.9 percent in the same decade.

Illustration 2



OFFENSES KNOWN TO POLICE - CRIMES AGAINST PERSONS
INCREASE/DECREASE 1968 - 1972

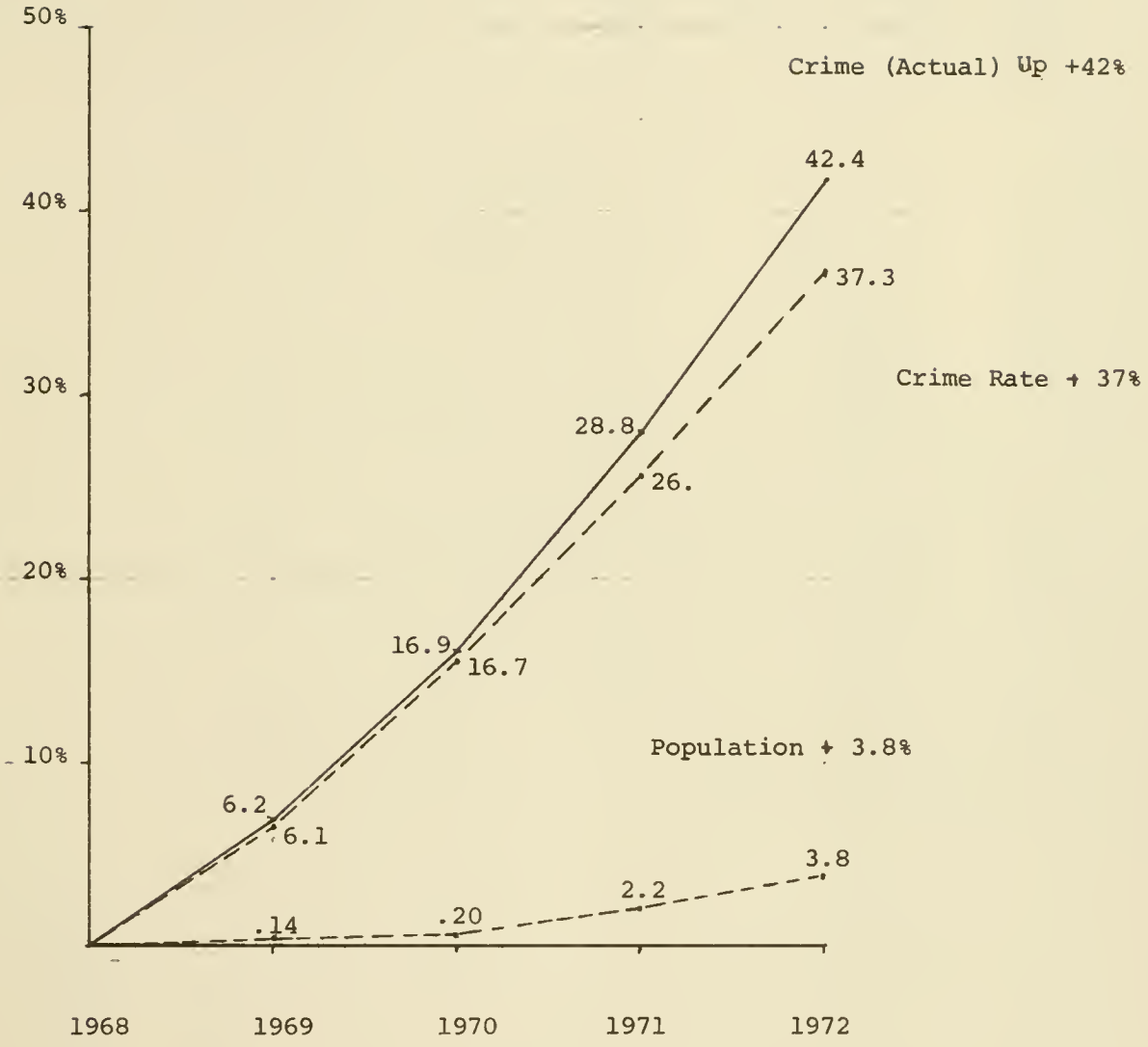
Illustration 3



OFFENSES KNOWN TO POLICE - CRIMES AGAINST PROPERTY
INCREASE/DECREASE 1968-1972

Illustration 4

MONTANA
CRIME-POPULATION
PERCENT CHANGE OVER 1968



Juvenile Crime

Juvenile crime is correlated with actual arrests for 1972 as this is the only data currently available. Illustration 5 indicates that juveniles accounted for 23% of all Montana arrests in 1972. Comparing Montana juvenile arrest data to the FBI Uniform Crime data on clearances, juveniles accounted for 33.5% of all clearances by arrest on a nation-wide basis. This would indicate that juveniles in Montana are involved in 10.5% less arrests than the national average.

PERCENT OF ADULT/JUVENILE ARRESTS - 1972

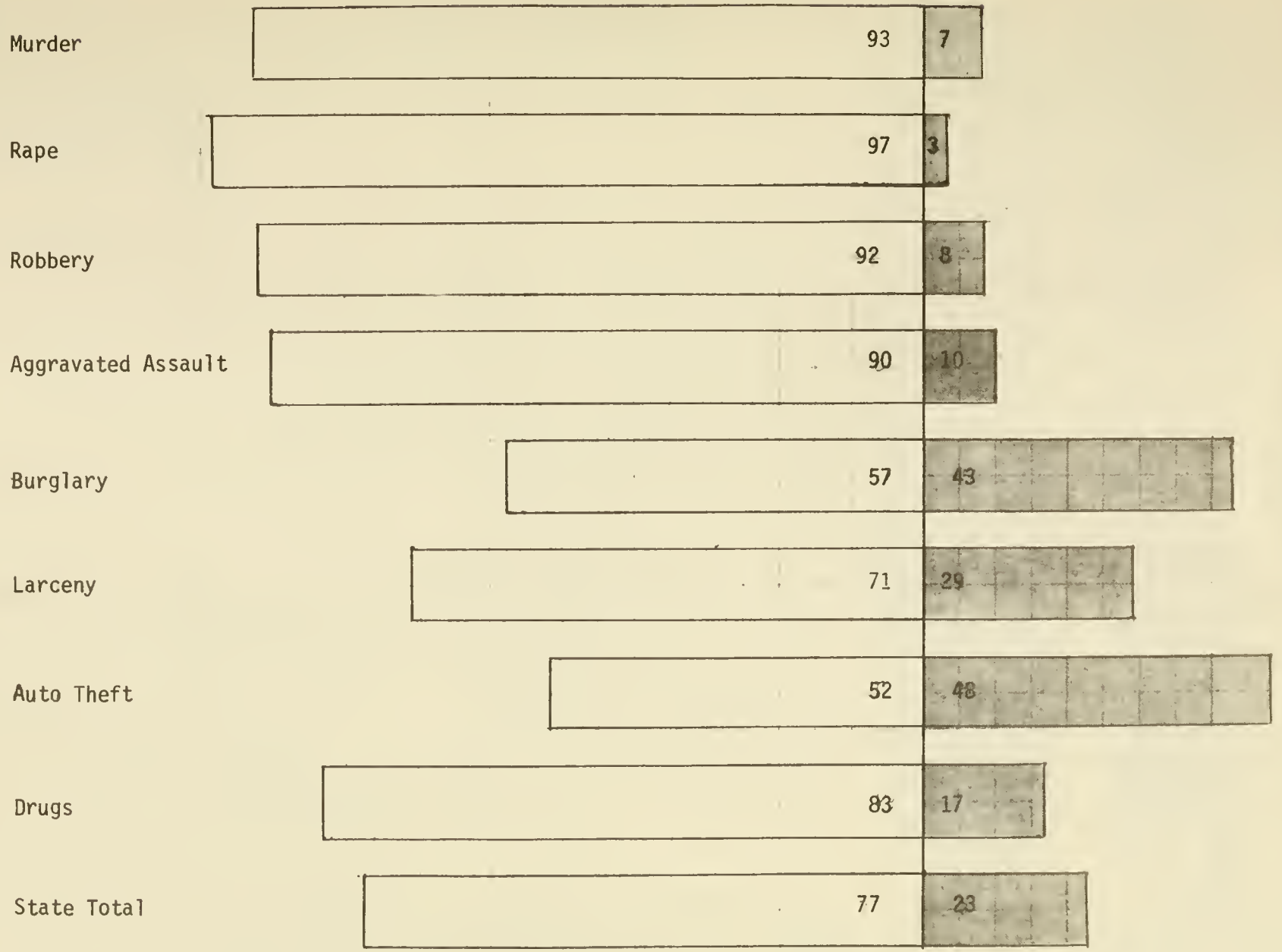


Illustration 5

Crime By County

The crime rate by county for 1972 has been reproduced on the following graphic representation maps (see Illustration 6). This graphic map indicates that high crime areas correlate with population concentration in Yellowstone, Cascade, Lewis & Clark, Missoula, Flathead and Gallatin counties. In addition, the proximity of Indian reservations affects the crime rate as shown in Hill and Roosevelt counties.

As previously noted, the 1972 crime rate was 1,927 and according to the graphic map, only nine counties are above the statewide crime rate. Those nine counties are Flathead, Silver Bow, Powell, Missoula, Yellowstone, Cascade, Gallatin, Lewis & Clark and Sweet Grass. All nine counties except Powell and Sweet Grass represent high population areas. Powell and Sweet Grass counties represent counties of low population and low density in which a small number of crimes would have a considerable effect on the rate of crime when compared with their low population.

OFFENSES KNOWN TO POLICE
CRIME INDEX PER 100,000 POPULATION, 1972

----	94.0 - 658.0	LOW QUARTILE
****	721.1 - 1097.7	MEDIUM LOW QUARTILE
NNNN	1120.1 - 1469.0	MEDIUM HIGH QUARTILE
▀▀▀▀	1489.8 - 3572.4	HIGH QUARTILE

Montana Crime Projection

The Department of Intergovernmental Relations projects the population of Montana will reach nearly 730,000 in 1980. This is a 5.2 percent increase from 1970. However, one finds little correlation between population growth and crime as the rate of crime is increasing much faster than population. This was shown in Illustration 4, page 8.

Three methods were used in developing the following crime projection. The first method uses the average percent increase over a five-year base period (1968-1972) and accumulation of this average percent increase to 1980. The second method is linear least squares regression. Curvilinear least squares regression is the third.

By the first method, the crime rate increase was determined to be an average of 8.1 percent per year for the past five year (1968-1972) and it appears likely that this trend will continue. Using this increment of 8.1 percent and accumulating it to the year 1980, the crime rate can be expected to reach about 3,523 crimes per 100,000 persons. This projection method indicates a 115 percent increase over 1970.

The second method of linear squares regression is done by plotting a graph of number of actual crimes for a period of years as shown in Illustration 7. In this example the base period 1967 to 1972 was used. A regression increment figure was projected in 1980. Note how the plotted points of actual crimes lie in the gradual upward curve. This upward curve indicates a need for a further regression test which is known as curvilinear regression. Illustration 8 illustrates all three projection tests.

Illustration 7

MONTANA
ANALYSIS OF ACTUAL CRIMES
1967 - 1972

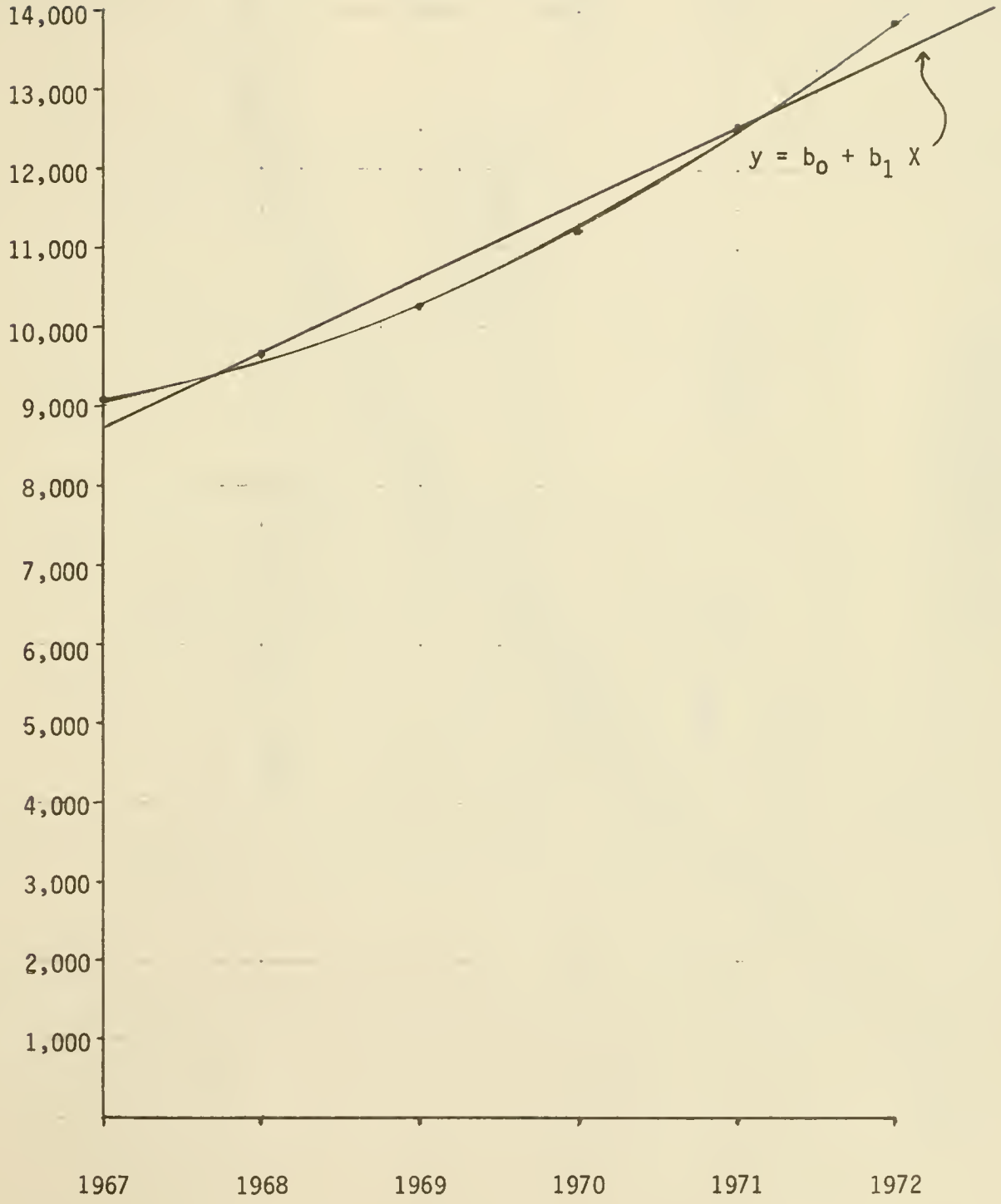
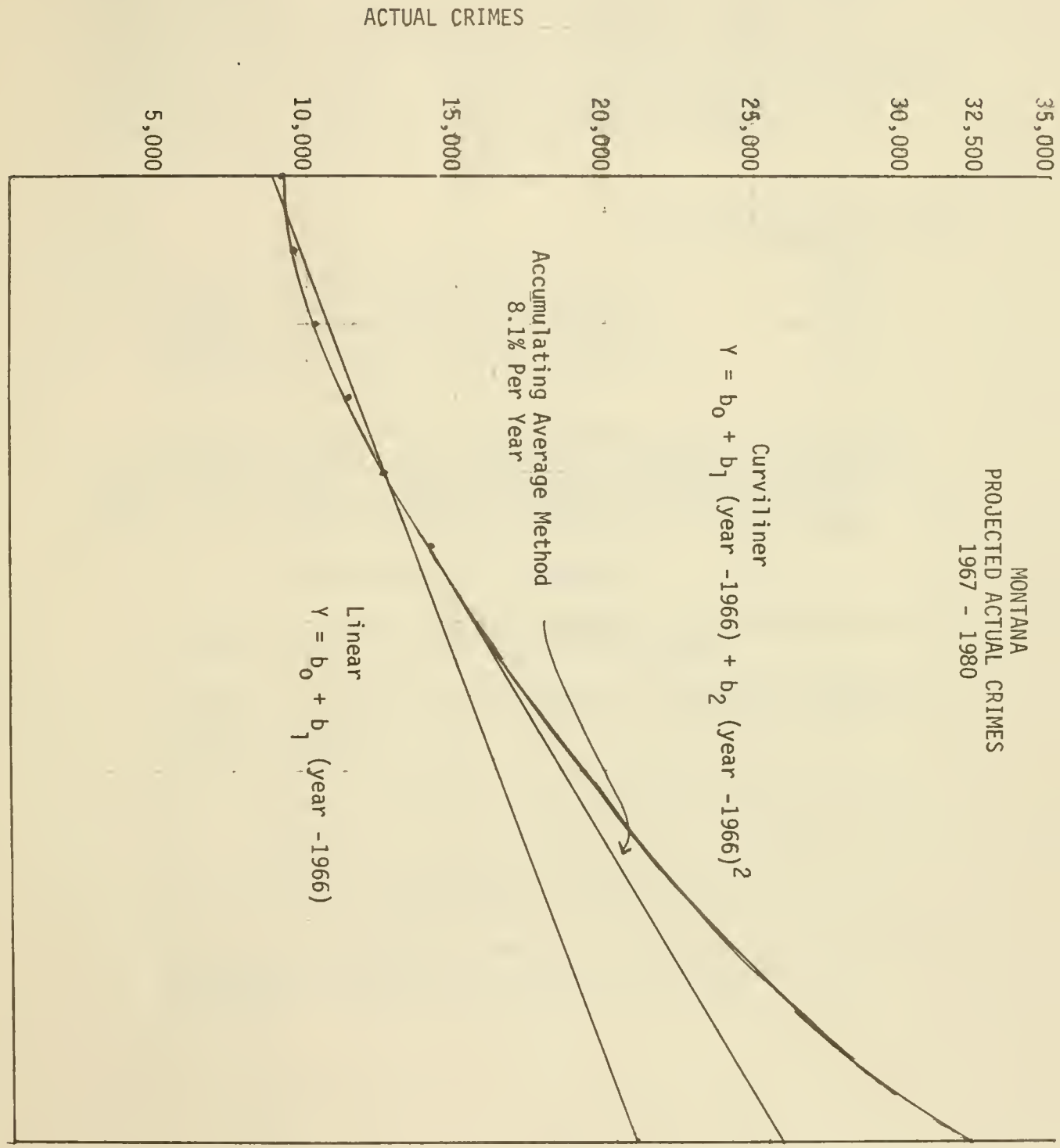


Illustration 8



Expanding on each method, the linear method indicates 21,047 crimes in 1980 and the curvilinear method shows 32,641 crimes in 1980. Comparing results of the latter two methods with the projected population of 734,948 for 1980, the linear least squares regression indicates a crime rate of 2,864, crimes per 100,000 persons. The curvilinear least squares regression projects a crime rate of 4,441 in 1980. Thus, we have a broad spectrum of projected crime rates from using the three methods.

The results are as follows:

		1980 Crime Rate Per 100,000
1.	Accumulating Average Method	3,523
2.	Linear - Least Squares Regression Method	2,864
3.	Curvilinear Least Squares Regression Method	4,441

In clarifying these three methods, it is important to remember results are not point estimations but rather trend estimations. Thus, Montana can expect to have a crime rate in 1980 somewhere between 2,864 and 4,441 and probably very near the 3,500 crimes per 100,000 figure.

Crime Analysis Summary

1. Montana's crime rate per 100,000 persons in 1972 was 1,927, a rank of 36th among the states.

2. Montana's crime rate increased 8.9 percent from 1971 to 1972 for the seventh highest crime increase of all the states.

3. Over the last five years, Montana's crime rate has been increasing at an average of 8.1 percent per year.

4. Over the last five years, Montana's crime rate has increased 37 percent from 1968 to 1972.

5. Over the last decade, Montana's population increased 2.9 percent while the crime rate increased 100.9 percent.