

FINAL REPORT - MILWAUKEE HIGH  
INTENSITY STREET LIGHTING PROJECT

A Research Project Funded in Part by  
The Wisconsin Council on Criminal Justice

*Milwaukee (Wis.)* Prepared by  
The Department of Intergovernmental Fiscal Liaison

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Final Report - Milwaukee High Intensity  
Street Lighting Project

Foreword

This report is presented as a follow-up to a preliminary report on the project issued in December, 1973. In the interest of brevity, much of the information set forth in the preliminary report is not repeated here, instead, only that data or findings which changed is reported. This means that descriptive information on the project history, organization, methodology, survey instruments, etc. contained in the preliminary report is not included in this present report.

Since the preliminary report dealt with actual crime data for a seven-month period only and then made incidence projections for the entire test year based on such data, the present report provides the actual data for the entire year.

In addition, this report updates the information on the resident survey based upon several questionnaires returned after issuance of the preliminary report.

Findings

Tables 1-5 and Figures 1-4 present the actual volume of selected night crime experienced between 1969-1973 in the test area and surrounding control area.

For 1973, these data diverge from the projections made in the preliminary report. The projection of crime within the test area was 11 less than that actually recorded, and the estimate of crime outside the test area was 64 crimes more than the actual. (Possible explanations for this divergence are provided in a following section).

Both the test and control areas register a decrease in the amount of night crime in 1973 compared to 1972. For the test area the decrease is approximately 6% whereas for the control area it is 2%. Night crime has, however, been decreasing steadily since 1969 according to the data.

Because of the hypothesis that lighting has a differential impact on various crimes, the data was divided into two categories: property related\* and person related\*\* crimes.

Comparison of the test and control areas in terms of property related crimes produced little difference in crime patterns until auto thefts were removed. When auto theft was excluded, a significant break in the crime patterns of the two areas emerged. Property related crimes in the control area proved to be increasing after introduction of the lights while those crimes within the test area were decreasing.

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\*Property related crimes = criminal damage to property, burglary, theft, auto theft, and false fire alarm.

\*\*Person related crimes = disorderly conduct, robbery, aggravated battery, and simple battery

TABLE #1

SELECTED NIGHT CRIMES

	<u>Test Area</u>	<u>Control Area</u>
1969	182	358
1970	170	346
1971	156	316
1972	119	290
1973	112	284

TABLE #2

SELECTED NIGHT CRIMES - PROPERTY RELATED

	<u>Test Area</u>	<u>Control Area</u>
1969		284
1970		289
1971		275
1972		239
1973		231

TABLE #2.1

SELECTED NIGHT CRIMES - PROPERTY  
RELATED (EXCLUDING AUTO THEFT)

	<u>Test Area</u>	<u>Control Area</u>
1969	133	230
1970	137	242
1971	115	214
1972	87	184
1973	74	197

TABLE #2.2

SELECTED NIGHT CRIME - AUTO THEFT

	<u>Test Area</u>	<u>Control Area</u>
1969	18	54
1970	13	47
1971	26	61
1972	16	55
1973	23	34



TABLE #3

SELECTED NIGHT CRIME - PERSON RELATED

	<u>Test Area</u>	<u>Control Area</u>
1969	30	70
1970	19	55
1971	15	40
1972	16	50
1973	15	51

TABLE #4

SELECTED NIGHT CRIMES - COMPARISON OF  
DIFFERENT TIME PERIODS

	<u>Test Area</u>		<u>Control Area</u>	
	<u>Jan.-July</u>	<u>Aug.-Dec.</u>	<u>Jan.-July</u>	<u>Aug.-Dec.</u>
1972	60.5%	39.5%	58.6%	41.4%
1973	54.5%	45.5%	71.8%	28.2%

TABLE #5

SELECTED NIGHT CRIMES - COMPARISON OF  
PROPERTY VS. PERSON RELATED CRIMES FOR DIFFERENT TIME PERIODS\*

	<u>Jan.-July</u>	<u>Test Area</u>		<u>Control Area</u>	
		<u>Property</u>	<u>Person</u>	<u>Property</u>	<u>Person</u>
1972		61	11	142	28
1973		55	6	167	35

	<u>Aug.-Dec.</u>	<u>Test Area</u>		<u>Control Area</u>	
1972		42	5	97	22
1973		42	9	64	16

TOTALS					
		<u>Test Area</u>		<u>Control Area</u>	
1972		103	16	239	50
1973		97	15	231	51

\*Excludes False Fire Alarms - 1 of which occurred in 1972 & 2 in 1973, all in the control area.

SELECTED NIGHT CRIME COMPARISON  
TEST AREA VS. CONTROL AREA

Night Crime  
Incidence

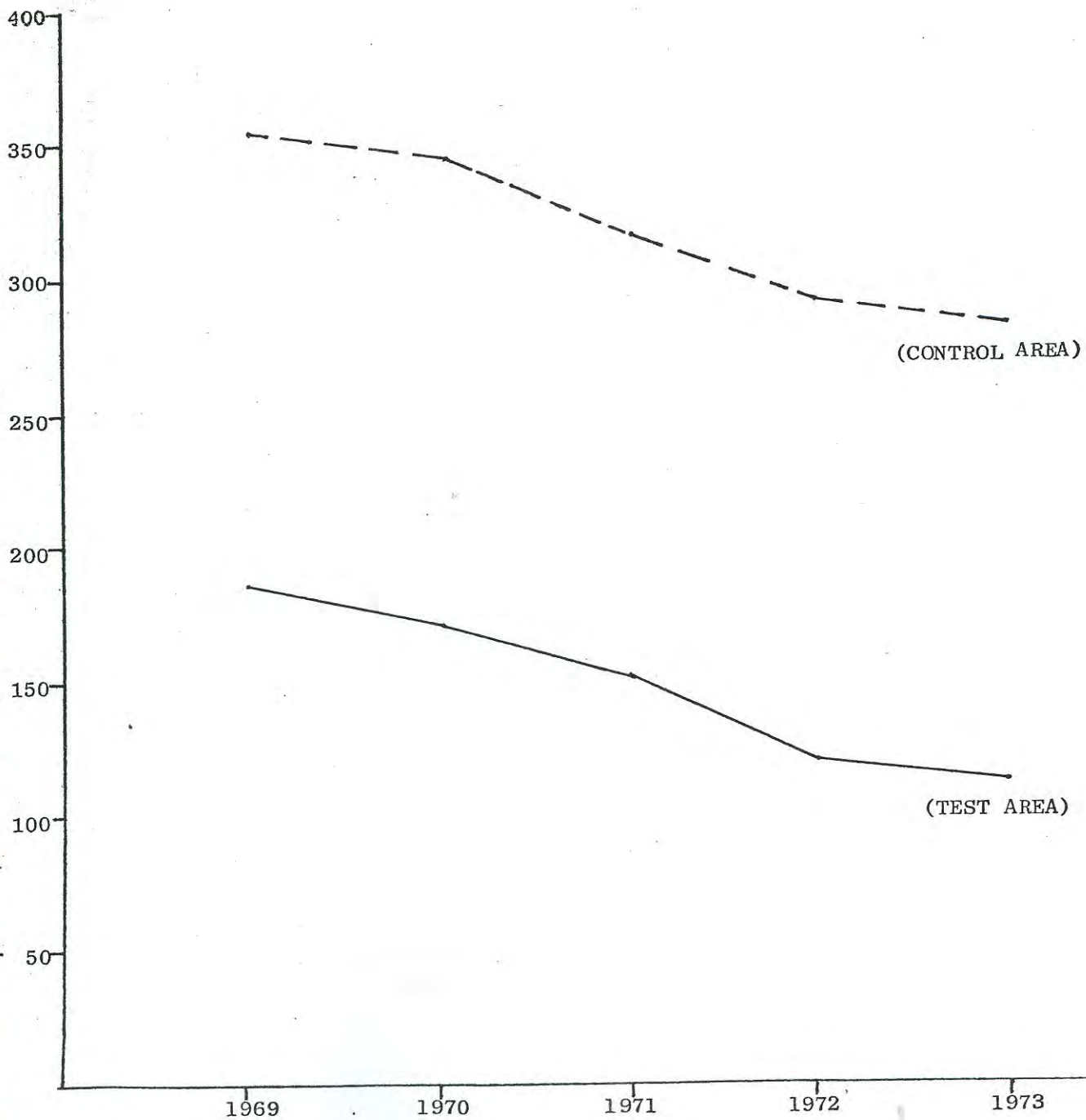


FIGURE 1

SELECTED NIGHT CRIMES - PROPERTY RELATED

Property Related  
Crimes

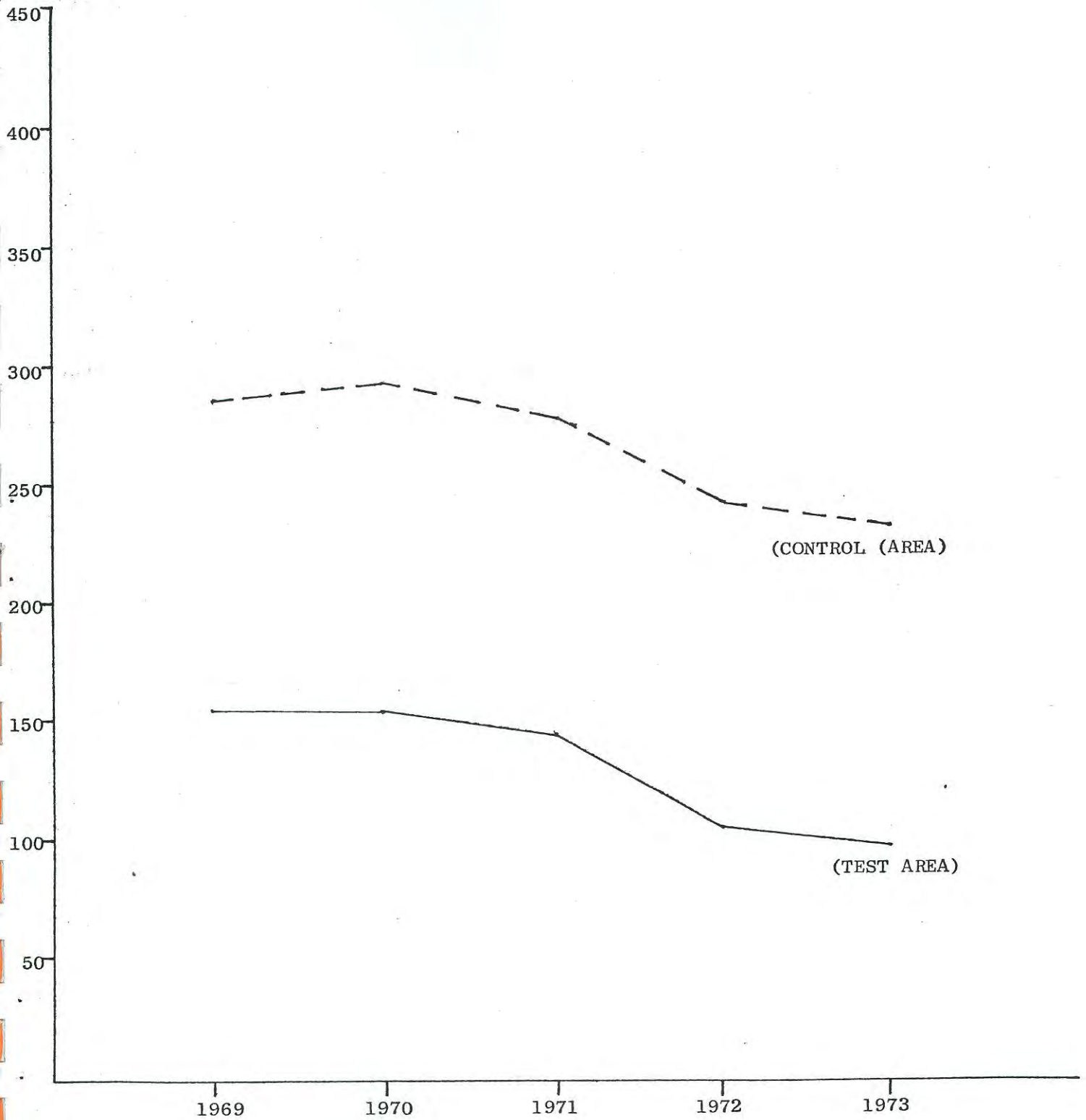


FIGURE 2

SELECTED NIGHT CRIMES - PROPERTY  
RELATED (EXCLUDING AUTO THEFTS)

Property Related  
Crimes (Excluding  
Auto Thefts)

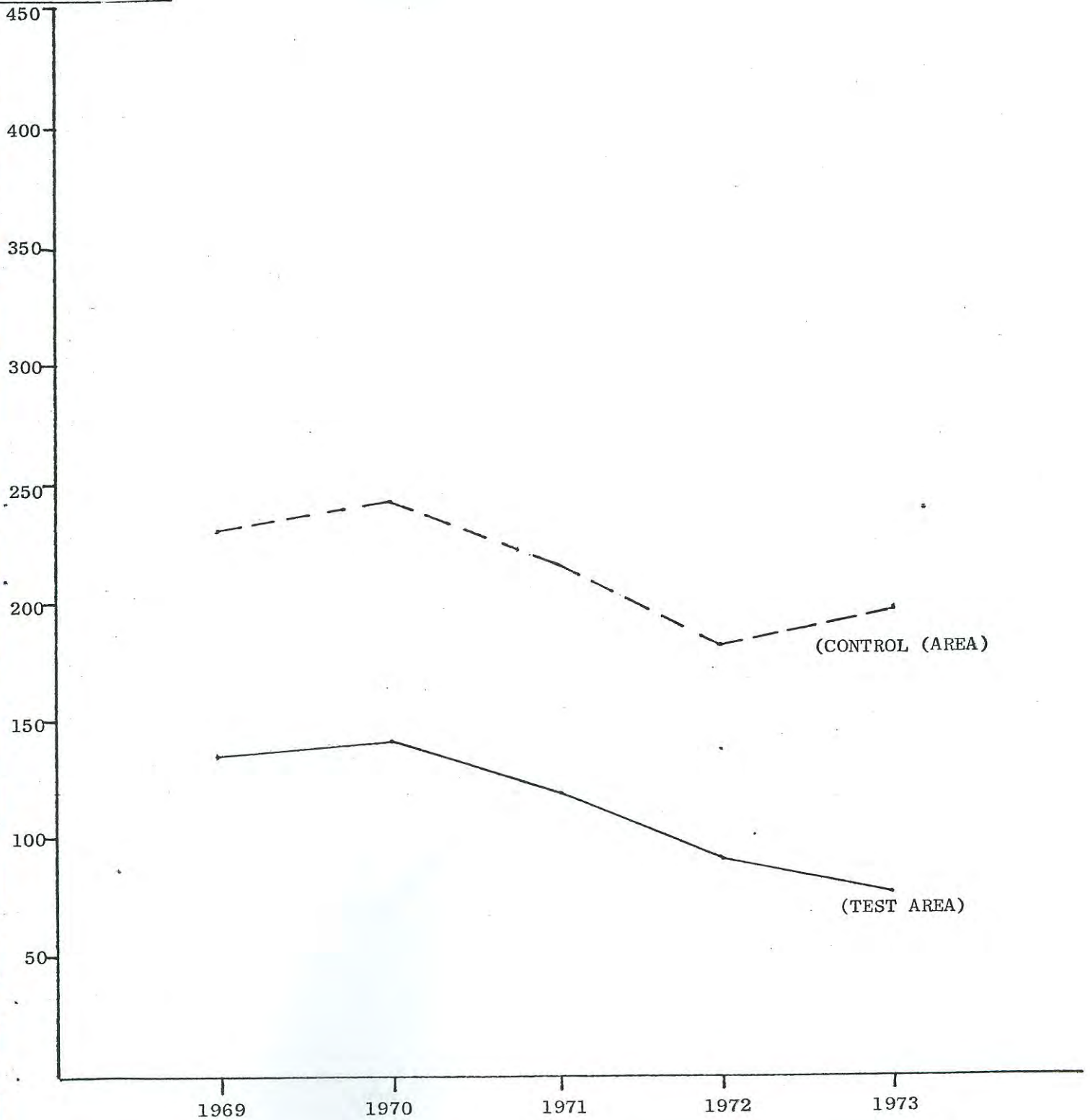


FIGURE 2.1

SELECTED NIGHT CRIME - AUTO THEFT

Auto  
Thefts

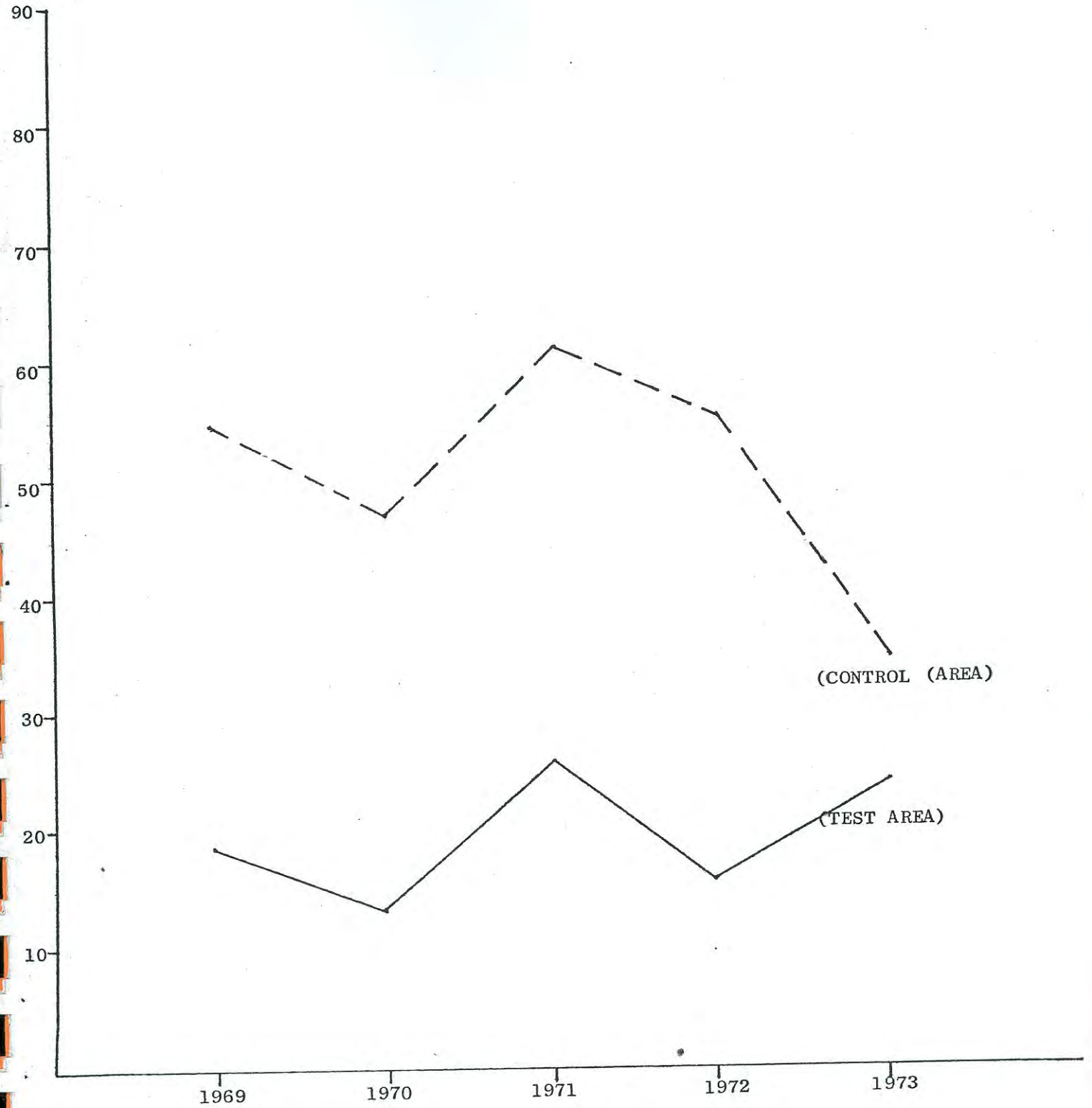


FIGURE 2.2



SELECTED NIGHT CRIME - PERSON RELATED

Person Related  
Crimes

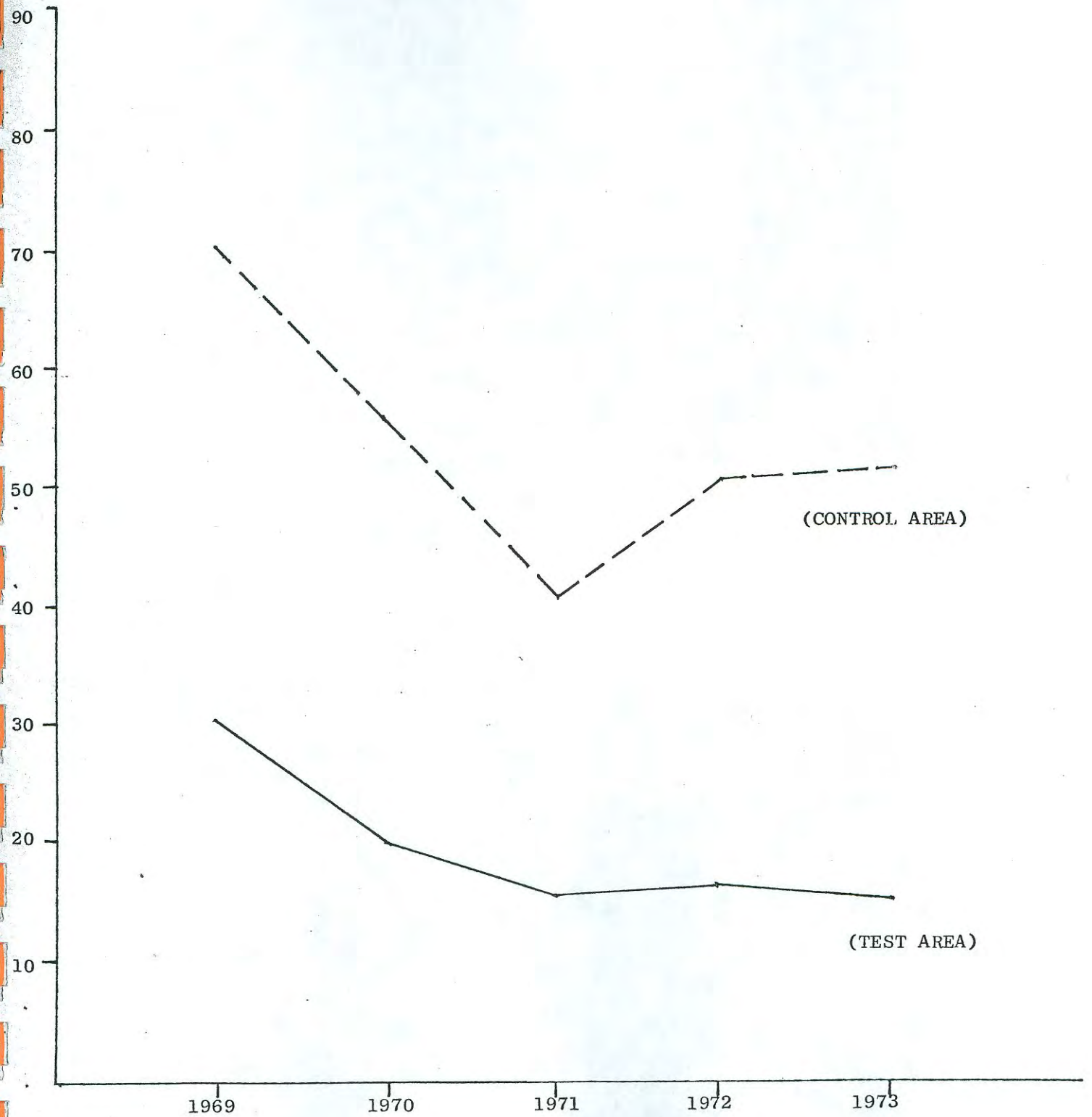
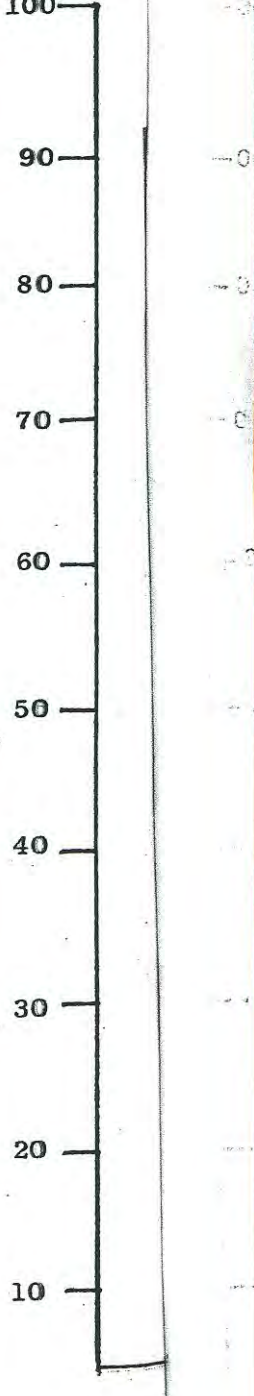


FIGURE 3

**% of Criminal  
Night Crime**



-9-  
SELECTED NIGHT CRIMES - COMPARISON OF  
DIFFERENT TIME PERIODS

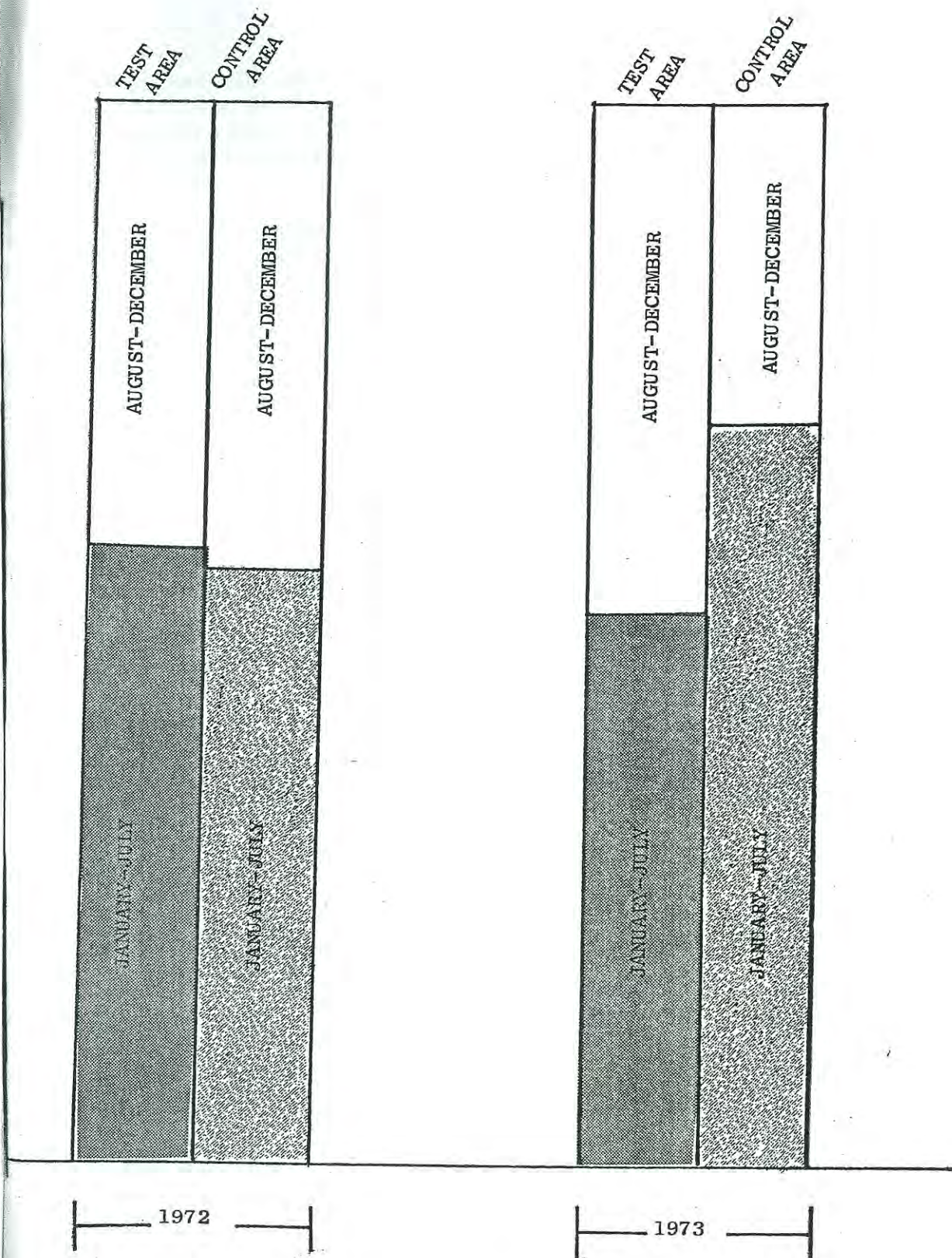


FIGURE 4



Person related crimes also displayed somewhat dissimilar patterns for the test and control areas after introduction of the lights; ie., the control area showed a slight increase in such crimes while the test area showed a slight decrease. These differing trends were not as marked, however, as in the case of property related crimes.

When auto thefts were examined alone, the existing pattern between the test and control areas was broken after introduction of the lights. In this instance, the control area experienced a decided drop in auto thefts whereas the test area actually encountered an increase.

Another finding of interest is the fact that an unusually large amount of the control area's 1973 night crime occurred sometime during the first seven months of 1973 (see Table #4 and Figure #4). Whereas the expected amount of night crime, without regard for any seasonal variation, for a seven month period would be 58.3% of the total, and whereas the average amount of night crime occurring from January through July in the control area during the 1970-72 period was 59.4%, the comparable figure for 1973 jumped to 72%. And while the control area registered this substantial increase in the amount of night crime experienced during January-July, 1973, the test area showed a decrease in the amount of such crime from an average of 60.8% to the 1973 figure of 54.5%.

In terms of the resident survey, five additional responses were received after filing the preliminary report. These five responses have been included in a revised tabulation of all responses to the survey which appears as Appendix A to this report. The five responses fall into the pattern of previous responses in that they strongly indicate "feeling safer" with the new lights.

The police survey was complete at the time of the preliminary report and therefore there is no new data to present.

### Conclusions

Nothing in the final data presented in this report would call for a change from the primary conclusion made in the initial report; namely, that "although the crime data analyzed from this small section of Milwaukee re-lit with sodium vapor lighting is too small to prove conclusively that these lights have reduced night crime, the combination of the crime statistics with the police and resident surveys does point toward a significant positive impact on crime, criminal detection, and resident psychology."

Since the police and resident survey findings are for all intents and purposes the same as set forth in the preliminary report, the following discussion relates to the crime data findings.

In a sense, one of the most interesting aspects of the final tabulations on night crimes within the test area and the control area is the variance of such actual amounts from projections made based upon January-July data. The preliminary report made projections for calendar year data based upon January-July, 1973 data



(and reference to the 1972 comparable period), yet the actual figures varied considerably from such projections and, in fact, did not reflect an up-turn in night crime incidence in the control area as was estimated.

It appears from the actual data that the first seven months of 1973 were atypical of previous years' and also that the trend established during these months did not persist through the remainder of the year. The unusualness of the January through July data is more striking for the control area than the test area but in both instances it is apparent that, all other things being equal, something forced the variance from previous patterns.

Since no known institutional factor has changed in either the test or control area, it is tentatively concluded that such change is attributable to street lights. Because of the small amount of data, the conclusiveness of this statement is left open. It is, however, interesting to note that sometime during the seven months following introduction of the lights, there was a surge in night crime in the control area and somewhat of a slackening of crime in the test area. The crime displacement hypothesis would seem to fit this situation.

The fact that there was a tapering off of the trend, established during the first seven months, in the last five months seems to be quite natural as both residents and criminals become accustomed to the lights.

Unfortunately, the analysis tools used in this study could not identify the exact time during the seven month period when the greatest amount of change from past patterns occurred.

The data also suggest that the lights have a differential impact on types of crime. Property-related crimes seem to have been more affected than person-related crimes in the test area. This impact is composed of two contrary tendencies; 1. a decrease in property related crimes, other than auto theft, after the introduction of new lights, and 2. an increase in auto theft during the same period.

The auto theft data also serves to focus attention on the need for further research with respect to the whole question of measuring the exact light impact. Auto thefts have fluctuated considerably from year to year, both within the test and control area, in the past. This most likely is a result of the lack of large amounts of data to work with (simply because of the limited amount of funding available for relighting purposes) and because of the present inability to wed such crime data to other pertinent data and develop a rate or index. In other words, the fluctuation in auto thefts might be smoothed out if we had a viable measure of auto activity in the area and could divide through the thefts by this amount. For instance, the rate of auto thefts after light introduction could actually be decreasing if the number of parked cars (at night) had been increasing.

The problem of structuring night crime rates also extends itself to crimes other than auto theft. Trying to accurately assess population for a small area on an annual basis poses many difficulties, not the least of which may be the fact that resident population is most likely not a proper reflection

of night-time outdoor activity. On the other hand, some types of property related crime, burglary for instance, should not be compared against population factors at all.

In the final analysis, the project has uncovered some interesting relationships between the sodium vapor lights and night crime, but it also suggests a number of new hypotheses and areas for research. Likewise, the police and resident perceptions corroborate the crime data findings and also give rise to new research areas.



SODIUM VAPOR STREET LIGHT SURVEY  
EASTSIDE, FOURTH ALDERMANIC DISTRICT

N=294

(1) Do you have sodium vapor (new brighter, amber-colored) street lighting

<u>241</u> where you live	<u>5</u> N.A.
<u>48</u> nearby, but not on your block	

(2) Compared with old lights, do you think the new street lights are generally

<u>284</u> better	<u>2</u> N.A.
<u>6</u> same	
<u>2</u> worse	

(3) Since the new lights have been installed in your neighborhood, do you feel generally

<u>241</u> safer =	<u>4</u> N.A.
<u>3</u> not as safe	<u>1</u> D.K.
<u>44</u> same	<u>1</u> Don't go out at night

(4) Have the new lights permitted you to go out more during the evening than you had before?

<u>153</u> yes	<u>22</u> N.A.	<u>6</u> Don't go out at night
<u>106</u> no	<u>5</u> D.K.	<u>2</u> same

(5) Do you feel this new lighting has helped to increase pedestrian safety in your area?

<u>262</u> yes	<u>4</u> N.A.
<u>24</u> no	<u>4</u> D.K.

(6) Do you believe that the new street lighting has helped to reduce crime in your neighborhood?

<u>206</u> yes =	<u>38</u> D.K. <sup>1</sup>
<u>39</u> no	<u>11</u> N.A.

(7) Are you generally satisfied with the street lighting program?

<u>262</u> yes	<u>14</u> N.A.	<u>1</u> Don't go out at night
<u>14</u> no <sup>2</sup>	<u>3</u> D.K.	

<sup>1</sup> Most of the "don't Knows" in #6 said "I think so, but I don't have the statistics.<sup>2</sup> Most of the "noes" in #7 said that the sodium vapor program should cover the whole city and conversion should be implemented faster.