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EVALUATION OF JUVENILE AID DIVISION DAYLIGHT CRIME PROJECT
Philadelphia Police Department (Subgrant #PH-76-C-5C-5-~~550~~)

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I. INTRODUCTION

ACQUISITIONS

This evaluation was undertaken at the request of the Governor's Justice Commission in Harrisburg in order to determine whether or not the Daylight Juvenile Crime Project conducted by the Philadelphia Police Department's Juvenile Aid Division was effective. The project was predicated upon the assumption that a relationship exists between truancy and daylight juvenile crime and that removal of truants is reflected in the reduction of daylight crime. Consequently, the project is directed toward the reduction of daylight crime through prevention by removing truants from the streets and returning them to their parents or to school. The project began effectively in November 1976 and was continued through September 1977. The major thrust of the project was applied during the period December 1976 through May 1977. The project was under the direct supervision of Inspector Thomas Roselli of the Juvenile Aid Division which is located at the Horn School at Frankford and Castor Avenues.

Unlike most evaluations, this was conducted after completion of the project and was not directed toward monitoring the activities of the project. The purpose of the evaluation is to determine whether there is an impact upon major daylight juvenile crime. Due to the limitations of the available data, an attempt was made to determine whether the project had an effect but was not directed toward determining the magnitude of the effect. The data that was available is in the form of the number of arrests classified in terms of time of day, police district, and whether arrests were for juveniles or adults. The basic assumption underlying the analysis used in the evaluation is that the conditions underlying the pattern of arrests remains constant so that a reduction in the actual amount of crime during different times during the day would be evident in the number of arrests.

II. PROJECT ACTIVITIES AND RESULTS

The project involved 16 experienced juvenile officers and one supervisor. All project personnel received one hundred twelve hours of in-service training provided by police command personnel, members of the District Attorney's office and the court system. Topics covered in the training program included the following:

Criminal Law
Department Procedures and Policy
Basic Psychology
Juvenile Delinquency
Communications
Integrity
Truancy
Gang Control
Crime Patterns

Race Relations
Municipal Referral Agencies
Crime Prevention
Juvenile Court Proceedings
Report Writing
Interview and Interrogation
Juvenile Sociology
Investigative Techniques
Self Defense

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Eight units of 2 officers each were assigned to various geographic areas throughout the city. These geographic locations which differ in total area and demographic characteristics were chosen on the basis of concentrations of crimes considered as Part I offenses determined by the Philadelphia Police Department's Detective Bureau. The units were deployed mainly in the vicinity of the following 11 high schools:

Martin Luther King	Benjamin Franklin
Olney	William Penn
Frankford	West Philadelphia
Thomas Edison	John Bartram
Simon Gratz	South Philadelphia
Edward Bok	

Benjamin Franklin and William Pennas well as South Philadelphia and Edward Bok are almost adjacent. Edison and Gratz are in the same vicinity. The eleven high schools are located in the main sectors of the city and enroll approximately 32000 students which represents roughly half the public high school enrollment.

The units concentrated in the vicinity of the eleven high schools during the morning hours. Truants found on the street were apprehended and returned to school or to their parents. During the afternoon hours, the units either remained in these areas or were deployed to others depending upon crime patterns established by the Detective Bureau. Although the primary function of the unit was to apprehend and process truants in a preventive mode, both juvenile and adult arrests were made by members of the unit when necessary.

Actual deployment of the special units associated with the project began in the latter part of November, 1976. The first full month of operation was December. Full operation continued through May, 1977 but tapered off in June. Activity was resumed in September, 1977, however, a school strike closed the schools for part of the month. Full operation of the units existed in October, which was the last month of the project. Table 1 presents the number of officer hours allocated to different activities of the unit by the months of effective operation of the project. The figures for October were not available (NA) in the material provided for this evaluation. Overall, 40-percent of officer time was spent in truant investigations, 39-percent in crime pattern investigation, 19-percent in administrative duties, and 2-percent of the time was spent in court.

Appearing in Table 2 are the number of truancies processed and the number of arrests made for each month of the project period. Most of the truants that were apprehended were returned to school (88-percent), while a small percentage were returned to their parents. Approximately 80-percent of the truants were male and 20-percent female. Of the total of 8677 truancies processed, 2959 correspond to 1171 repeaters with an average number of 2.53 truancies. Consequently, there were a total of 6889 individual truants in contact with the special units, of which 17-percent had more than one contact.

Excluding the months of November, 1976 and September, 1978, the average

Table 1. ALLOCATION OF TIME BY ACTIVITY
(Number of Hours)

	Truant Investigation	Pattern Investigation	Administration	Court	Total
November	524	484	254	65	1327
December	715	1654	513	81	2963
January	926	1178	653	67	2824
February	669	616	431	93	1809
March	1172	845	686	47	2759
April	788	1160	542	30	2520
May	1420	909	486	34	2849
June	958	623	246	30	1857
September	1015	560	179	2	1756
October	NA	NA	NA	NA	NA
Total	8187	8038	3990	447	20662
Percent	40	39	19	2	

Table 2. NUMBER OF TRUANCIES PROCESSED AND ARRESTS
MADE BY SPECIAL UNIT

	Truancies	Arrests
November	116	64
December	726	58
January	830	43
February	1092	33
March	1546	35
April	1332	41
May	1491	37
June	157	NA
September	242	NA
October	1145	NA
Total	8677	311

number of truancies processed per month is approximately equal to 1000. The months of November and September represent periods in which the units were not fully operative. Based upon past police records for the period 1974-76, the average number of monthly truancies processed by the Police Department citywide equals 135.

A followup effort through the schools was undertaken by the Juvenile Aid Division. The results are summarized in Table 3. Three separate follow-up efforts for varying numbers of truants were conducted through the schools during the months of February, March, and April of 1977. Overall, 30-percent of the truants were said to have improved, whereas 41-percent exhibited no change and 14-percent had worse truancy behavior. Since the schools will not divulge any information on specific truants, there is a question regarding the meaning of the numbers presented in the table.

Table 3. SUMMARY OF JAD FOLLOWUP EFFORT

	No Change	Improved	Worse	No Record	Total
February	147	105	22	63	337
March	209	171	28	66	474
April	255	168	152	105	680
Total	611	444	202	234	1491
Percent	41	30	14	16	

III. EVALUATION ACTIVITIES AND RESULTS

The goal of the evaluation is to determine whether the project had an effect in reducing major daylight juvenile crime. Consequently, it is necessary to isolate juvenile crime by time of day as a basis for the evaluation. Ideally, the basic data needed to perform the evaluation are reported crimes attributed to juveniles and adults separately. Since this is not available, the second best alternative is to use arrest data to identify juvenile and adult offenses and refer back to the corresponding reported crime to establish the time of occurrence. All data required must be categorized with the aid of a computer due to the number of variables to be considered and the volume of data processed.

Two separate data files are kept by the Police Department, one for arrests and the other for reported crime. The two files were designed independently in such a way that crossreferencing arrest and reported crime data is not possible using the computer and must be done manually. Due to the volume of data required for evaluation, therefore, it was not possible to obtain reported crime day categorized in terms of juvenile and adult offenses by time of day.

The data finally used in the evaluation is in terms of the number of arrests. This was obtained from the Police Department in the form of a computer printout providing the number of arrests classified in terms of the following characteristics:

Police District
Hour of the Day
Type of Crime
Status
Month
Year

The output consisted of monthly arrests for each individual police district for a 45-month period terminating with the next to the last month of the project period, or from January, 1974 through September, 1977. All data are broken down into status as a juvenile or an adult for the seven part I crimes: homicide, rape, robbery, aggravated assault, burglary, larceny, and auto theft.

In general, the approach used to determine whether the project had an effect is based upon isolating components of crime that are predictable for data prior to the time the special units were operative. This information then can be used to eliminate the predictable elements from

the data pertaining to the project period in order to determine whether the remainder is due to chance or whether it is significantly lower for daylight juvenile crime.

In order to isolate the predictable components, a special-purpose computer program called Flexicast was used which is based upon a number of statistical techniques that are united in one package in order to model time series data, or data recorded successively over time. There are three components of a series that are modelled by the program. These are a seasonal component, a trend-cycle component, and an autoregressive component.

A seasonal component represents a movement in the series that reoccurs year after year at the same time within a year. In the case of monthly data, seasonal variation corresponds to high or low points in the series that occur during the same month in successive years. The trend-cycle component corresponds to the general or overall "average-type" movement in a series. The autoregressive component is associated with that part of the series that is leftover after the seasonal and trend-cycle effects are removed. The part of the series that is leftover is measured in terms of residuals or differences between the actual observations and the corresponding values attributed to seasonal and trend-cycle effects. Using this model, an autoregressive effect occurs when part of a residual corresponding to a particular month is related to or can be predicted in terms of one or more residuals in previous months.

Aside from the details associated with the statistical methods involved, the program performs the following main steps:

1. Determines whether seasonal variability is present in the series. If so, seasonal factors in the form of indexes are computed. Seasonal variability is removed from the input data, or the original series.
2. Outliers or extreme observations are removed from the series.
3. The trend-cycle component is modelled in terms of one or more straight lines.
4. Residuals are computed which represent the differences between the input data adjusted for seasonal variation and the trend-cycle component.
5. The residuals are analyzed to determine whether autoregressive effects exist. If so, the autoregressive effects are modelled.
6. Forecasts are made for any desired period of time. Forecasts are accompanied by an error range specifying the limits within which a future observation will fall with a 95-percent probability.

A typical output of the program is presented in Figure 1. The output corresponds to all arrests made in the City of Philadelphia during the period January, 1974 and September, 1977 between 12 midnight and 8 A.M. in the morning. In this particular case, seasonal variability is present in the series which is indicated at the top along with seasonal

FIGURE 1. AN EXAMPLE OF THE OUTPUT OF
THE FLEXICAST PROGRAM

ADULT + JUV - III ALL DISTRICTS UNHOQUIED											...FORECAST REPORT	
**STABLE SEASONALITY PRESENT AT THE 1 PER CENT LEVEL												
FINAL SEASONAL FACTORS												
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
80.9	85.0	90.4	81.6	109.5	115.8	131.5	122.7	108.5	99.5	93.6	79.8	
INPUT DATA CHARACTERISTICS												

PERIOD	INPUT DATA	ADJ. DATA	RESIDUAL	OUTLR	BRKPT	INTERCEPT	SLOPE					
JAN 74	74 346.0	416.9	34.0	NO	YES	382.9	5.474					
FEB 74	74 320.0	387.9	-1.4	NO	NO							
MAR 74	74 343.0	321.0	-72.2	YES	NO							
APR 74	74 348.0	421.7	22.4	NO	NO							
MAY 74	74 416.0	386.5	-18.3	NO	NO							
JUN 74	74 438.0	379.6	-38.5	NO	NO							
JUL 74	74 545.0	414.6	-130.1	NO	NO							
AUG 74	74 321.0	418.0	97.0	NO	NO							
SEP 74	74 457.0	420.1	-36.9	NO	NO							
OCT 74	74 427.0	429.4	2.7	NO	NO							
NOV 74	74 382.0	387.5	5.1	NO	NO							
DEC 74	74 358.0	449.2	91.2	NO	NO							
JAN 75	75 463.0	435.1	-27.9	NO	NO							
FEB 75	75 459.0	418.1	-40.9	NO	NO							
MAR 75	75 451.0	505.1	54.1	NO	NO							
APR 75	75 372.0	443.2	71.2	NO	NO							
MAY 75	75 325.0	486.2	161.2	NO	NO							
JUN 75	75 349.0	478.9	129.9	NO	YES	475.9	-4.917					
JUL 75	75 335.0	480.7	145.7	NO	NO							
AUG 75	75 510.0	417.8	-192.2	NO	NO							
SEP 75	75 484.0	443.7	-40.3	NO	NO							
OCT 75	75 463.0	463.3	0.3	NO	NO							
NOV 75	75 454.0	485.6	31.6	NO	NO							
DEC 75	75 349.0	437.4	88.4	NO	NO							
JAN 76	76 320.0	389.4	69.4	NO	NO							
FEB 76	76 383.0	447.6	64.6	NO	NO							
MAR 76	76 315.0	352.8	37.8	YES	NO							
APR 76	76 320.0	386.4	66.4	NO	NO							
MAY 76	76 409.0	376.4	-32.6	NO	NO							
JUN 76	76 332.0	469.8	137.8	NO	NO							
JUL 76	76 313.0	368.2	55.2	NO	NO							
AUG 76	76 544.0	448.1	-95.9	NO	NO							
SEP 76	76 423.0	393.1	-30.1	NO	NO							
OCT 76	76 389.0	370.8	-18.2	NO	NO							
NOV 76	76 365.0	390.1	25.1	NO	NO							
DEC 76	76 360.0	376.0	16.0	NO	NO							
JAN 77	77 488.0	327.0	-161.0	NO	NO							
FEB 77	77 327.0	384.7	57.7	NO	NO							
MAR 77	77 389.0	462.1	73.1	NO	NO							
APR 77	77 382.0	469.3	87.3	YES	NO							
MAY 77	77 413.0	378.3	-34.7	NO	NO							
JUN 77	77 382.0	330.9	-51.1	NO	NO							
JUL 77	77 435.0	330.2	-104.8	NO	NO							
AUG 77	77 388.0	321.9	-66.1	NO	NO							
SEP 77	77 366.0	339.8	-26.2	NO	NO							
FORECAST												

PERIOD	TREND	TOTAL FORECAST		95% ERROR RANGE								
OCT 77	338.241	306.352		49.416								
NOV 77	333.324	325.459		49.208								
DEC 77	328.408	296.877		42.761								
JAN 78	323.491	294.963		43.689								
FEB 78	318.574	261.833		40.210								
MAR 78	313.658	268.784		50.006								
APR 78	308.741	238.948		45.618								
MAY 78	303.825	217.643		51.569								
JUN 78	298.908	222.673		56.304								
STATISTICS												

FIT STATISTICS												
NO. OF POINTS: 42				%FIT DUE TO TREND: 92.10%				S.D. OF SLOPE .396				
A.R. ORDER: 9				%TOTAL FIT: 77.10%				REMAINING ERROR 22.87				

factors for each month. As an example, the factor for August equal to 122.7 indicates that due to seasonal variation in the month of August arrests are 22.7-percent higher than the yearly average between midnight and 8 A.M. The original data with the seasonal effect removed appears in the third column under "input data characteristics" entitled ADJ. DATA.

A "yes" in the BRKPT column indicates a change in the trend-cycle component. Alongside the "yes" in this column are the slope and intercept identifying the line that describes the series from that point to the next breakpoint. In the example presented, two straight lines describe the trend-cycle component.

At the bottom of the figure forecasts are given for 9 months following the original series. The "trend" column provides estimates of the trend-cycle component based upon the last linear piece prior to the forecast period. The "total forecast" column provides the estimate of arrests for each of the months which includes the trend-cycle component, seasonal variation for that month, and whatever part of the residual analysis that was modelled previously in terms of the autoregressive model. If the values in the "95-percent error range" column are added to and subtracted from the total forecast two limits are obtained representing a band of error within which 95-percent of future observations for that month should fall.

Other information accompanies the output. Some of this is presented at the very end of the figure. The information of greatest interest are the "%-fit" figures. The percent fit due to trend equal to 62.10 percent indicates that 62.1% of the variability in the data after adjustment for seasonal variation is accounted for by the trend-cycle. The "percent total fit" figure indicates that the trend-cycle and the autoregressive component account for 77.15% of the variability in the adjusted data.

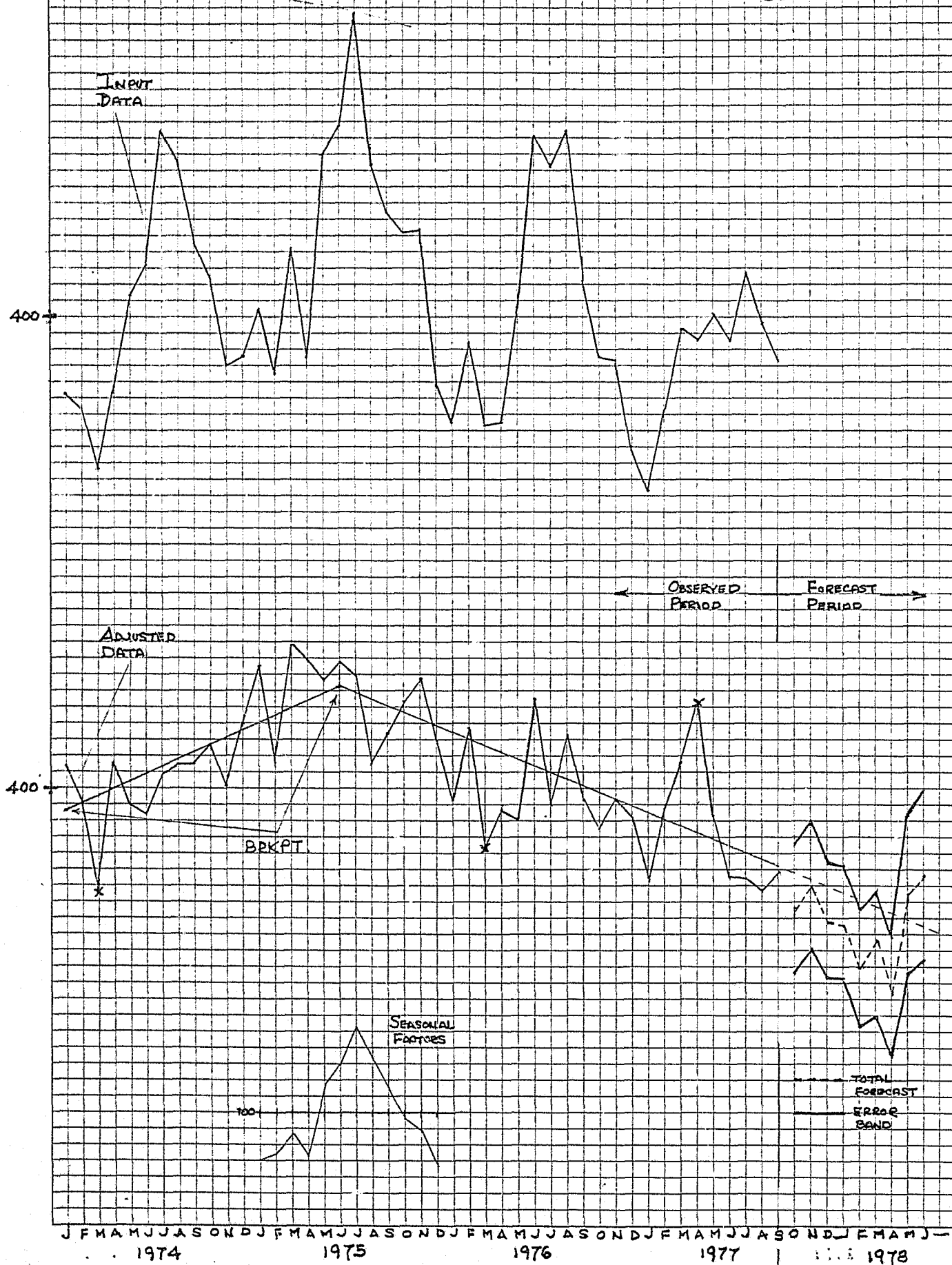
Some of the results shown in Figure 1 are presented graphically in Figure 2. The series plotted at the top of the graph is the original series or input data. This series appears very erratic with wide swings between high and low figures. The second series that is presented is the adjusted data with the seasonal effect removed. Notice the wide swings are not present. Consequently, these movements are attributed to seasonal variation. It is especially interesting to note the three large peaks in the original series reoccurring during the summer months which are markedly dampened in the adjusted series.

The thin lines drawn through the adjusted data represent the trend-cycle component. More traditional approaches would employ a single smooth curve instead of linear pieces to describe this movement. The overall effect described is the same however. That is, a general rise in arrests occurs between January, 1974 and June, 1975 and then there is a general decline in arrests from June, 1975 to the end of the series.

The remaining variability between the adjusted series and the lines represents the residuals which are modelled for autoregressive effects. These are combined with the seasonal and trend-cycle effects to provide forecasts which is indicated by the jagged dashed line between October, 1977 and June, 1978. The two lines about the forecast line represent the error bands within which there is a 95-percent chance that future

FIGURE 2. TOTAL ARRESTS - ALL DISTRICTS
(12 MIDNIGHT - 8 AM.)

~~4 SQUARES = 50 ARRESTS -~~



values will fall. The error band is used to account for random variability not accounted for by the model.

Different series of data involving either juveniles or adults and different times of day for different districts exhibit different patterns. Some have different seasonal factors whereas others have none. Some show a steady overall increase which is indicated by a single straight line that is steadily rising. Oscillatory movements would occur if 3 or more linear pieces were fitted to a series. Generally, more data is needed for this to occur.

For purposes of this evaluation, the Flexicast program was used to model the predictable elements in arrest data during the period prior to the operation of the project. Forecasts and error bands were generated from the model for the project period. The basic approach used is to determine whether juvenile arrests fall below the lower error bound. The criterion used was that if 2 or more points out of the first seven months of the project period during the daylight hours fall below the lower bound, the project had a significant effect since the result is beyond what chance alone would produce.

Three types of comparisons were considered for control purposes. The first involved comparing the results for juvenile arrests during daylight hours (8 A.M. - 4 P.M.) to a similar analysis for the hours 4 P.M. - 12 midnight, since the project was not operative during the latter period which immediately follows the time it was in operation. The second control comparison involves adult arrests for the same two points. The assumption here is that a similar effect should not occur with respect to adults and therefore adult arrests should fall within the error band and not be significant.

The third control involved an attempt to compare arrests in police districts in which the special units operated with arrests in those districts not covered by the units. Comparisons made on this basis were extremely difficult and are discussed in the next section concerning all limiting factors of the evaluation analysis.

Although data received from the Police Department included all districts, all Part I crimes, and all times of the day, certain portions of the data were not considered. Police districts associated with the parks and the airport were automatically excluded since the amount of arrest activity in these regions is consistently minimal. Similarly, the number of arrests for rapes and murder are not large enough to provide a meaningful analysis. Therefore, rape and murder were excluded. Furthermore, a judgement was made that the midnight to 8 A.M. data was not necessary for purposes of this study.

Tables 4-7 appearing on subsequent pages present the results of tests which show some indication of project effectiveness. Table 4 presents a comparison between juveniles and adults which indicates significantly low residuals for both time periods for juveniles and non-significant results for adults. These results are based upon data for all 5 major crimes combined on a citywide basis.

Table 5 also considers results for the city as a whole, but isolates

Table 4. RESULTS OF TEST FOR PROJECT EFFECTIVENESS
All Districts and All Crimes

	Juvenile	Adult
8 A.M. - 4 P.M.	Significant	Not Significant
4 P.M. - 12 Midnight	Significant	Not Significant

Table 5. RESULTS OF TEST FOR PROJECT EFFECTIVENESS
All Police Districts

BURGLARY	Juvenile	Adult
8 A.M. - 4 P.M.	Significant	Not Significant
4 P.M. - 12 Midnight	Significant	Significant

LARCENY	Juvenile	Adult
8 A.M. - 4 P.M.	Significant	Not Significant
4 P.M. - 12 Midnight	Not Significant	Not Significant

individual crimes. Of the 5 major crimes considered, burglary and larceny showed a significant result for daylight juvenile arrests. In both cases, the daytime results are not significant for adults. Disparate patterns, however, exist for the period between 4 P.M. and 12 midnight.

Table 6 provides a comparison between juveniles and adults for all districts in which the special units operated. These districts include those containing the 11 high schools as well as those to which the units were deployed on the basis of crime pattern studies. The results were developed on the basis of separate studies of each of the 5 major crimes considered. Aggravated assault, burglary, and larceny were significant for juveniles for the daylight period of 8 - 4. Significant results, however, occur for juveniles between 4 and midnight for burglary and larceny. All the results for adults were non-significant.

Table 6. RESULTS OF TEST FOR PROJECT EFFECTIVENESS
17 Districts Where Units Deployed

AGGREGATED ASSAULT	Juvenile	Adult
8 A.M. - 4 P.M.	Significant	Not Significant
4 P.M. - 12 Midnight	Not Significant	Not Significant

BURGLARY	Juvenile	Adult
8 A.M. - 4 P.M.	Significant	Not Significant
4 P.M. - 12 Midnight	Significant	Not Significant

LARCENY	Juvenile	Adult
8 A.M. - 4 P.M.	Significant	Not Significant
4 P.M. - 12 Midnight	Significant	Not Significant

Table 7 provides comparisons between results for police districts in the vicinity of the 11 high schools of morning concentration and a selection of districts not in the vicinity of these schools. A significant result exists for juveniles during the daylight period for aggravated assault, burglary, and larceny, however a consistent non-significant result is not present for the 8 - 12 period. The results for adults are consistently non-significant.

Table 7. RESULTS OF TEST FOR PROJECT EFFECTIVENESS

AGGREGATED ASSAULT	Districts in Vicinity of 11 Schools	Districts Not in Vicinity
8 A.M. - 4 P.M.	Significant	Not Significant
4 P.M. - 12 Midnight	Not Significant	Not Significant

BURGLARY	Districts in Vicinity of 11 Schools	Districts Not in Vicinity
8 A.M. - 4 P.M.	Significant	Not Significant
4 P.M. - 12 Midnight	Significant	Not Significant

LARCENY	Districts in Vicinity of 11 Schools	Districts Not in Vicinity
8 A.M. - 4 P.M.	Significant	Not Significant
4 P.M. - 12 Midnight	Significant	Not Significant

IV. LIMITING FACTORS

The analysis used in this evaluation is based upon a number of assumptions and limitations which relate to the data used, control factors, and the nature of the underlying model. It already has been mentioned that reported crime data should be used instead of the number of arrests. On the one hand, arrest data suffers from the limitation that

it may include more than one individual that is arrested for the same crime and also may not maintain the same relation among the number of actual crimes in each crime category. Moreover, arrest data is strongly influenced by the way in which crime fighting resources are allocated to different parts of the day.

The most serious deficiency of arrest data is that the time of arrest does not necessarily indicate the time that a crime is committed. Based upon discussions with members of the Police Department, it was found that it is reasonable to assume that for some crimes apprehension is done "on the spot" and that arrest follows closely in time. The overriding assumption, however, associated with the use of arrest data in this evaluation is that there is an element of constancy in patterns of arrest over time and that changes in crime patterns during the course of a day are directly reflected in the number of arrests during the same time periods.

Due to the way in which the special units associated with the project were deployed, it was extremely difficult to isolate police districts where the units were not operative. This problem is compounded by the fact that police district and school boundaries are not coincident so that determination of the police districts that should be associated with the main schools of concentration is in part arbitrary. Moreover, police districts are not homogenous with respect to demographic characteristics related to crime and therefore should be isolated and matched on this basis. Separate analyses were attempted for all individual police districts in order to obtain more detailed comparisons, however, the number of arrests were too small to provide a meaningful analysis.

The model used in the analysis is a "time series model" which can describe patterns occurring over time but cannot automatically supply reasons why these patterns occur. Assuming proper controls are exercised, it is possible to associate events with patterns existing in the data. This is essentially what was done in this evaluation. The extent to which the model explains individual series used here varies. There are some indications that other factors beside time should be considered.

V. CONCLUSIONS AND RECOMMENDATIONS

Based upon the results of the analysis used in this evaluation, there appears to be some evidence that the project had a positive effect upon the reduction of juvenile crime. The comparisons between results for juveniles and adults indicate that a significant reduction of juvenile arrests has taken place during the project period. Whether or not one is willing to attribute this wholly to the truancy program depends upon how the significant results frequently occurring in the two time periods during the day can be interpreted.

It is possible that the daytime program had a carryover effect into the later period. On the other hand, other activities in the community as well as the Police Department may have contributed to the significant results. Overall, the evidence points to a reduction of burglary and larceny, and to a lesser extent aggravated assault.

Beside the comparisons presented in Table 7 regarding district comparisons, other combinations were tried during the course of the analysis. As indicated earlier, it is difficult to attach great meaning to these comparisons since the units were deployed to varying degrees in many of the City's police districts. A general impression that developed when examining different combinations of districts is that the concentrated effort about the 11 high schools was more effective than the deployment of the units to other areas of the City. Due to the way in which this impression was generated, it is not one which can be objectively documented. Furthermore, the total size of the project team was small and obviously diluted when deployed throughout the City. Whether a larger unit operating in the same manner would be more effective cannot be demonstrated with the data used.

If further research or measurement of the effectiveness of a similar project is to be made in the future, there are some additional factors that should be considered. Some documentation of the magnitude of the truancy problem should be sought. Moreover, a measure of the amount of crime actually attributable to truants would be useful in assessing the magnitude of the effect of removing varying numbers of truants from the streets. Data of this kind does not appear to be currently available.

Based upon earlier remarks, an obvious improvement in the analysis would result from using reported crime data provided this can be classified according to juvenile and adult offenses. Furthermore, the analysis was based upon data that included weekends. It is difficult to know what effect this may have had on the results and should be isolated if the proper data becomes available.

An especially important factor to consider for future investigations of this kind is the prior selection and matching of police districts. Although perfect control obviously is impossible, prior selection of districts in which special units operate and ones where they do not would provide a basis for a more effective evaluation.

END