PROJECT "ESCORT"

FINAL REPORT

OMB APPROVAL NO. 43-R0525

U. S. DEPARTMENT OF JUSTICE
LAW ENFORCEMENT ASSISTANCE ADMINISTRATION

DISCRETIONARY GRANT
PROGRESS REPORT

GRANTEE	LEAA GRANT NO.	DATE OF REPORT	REPORT NO.
City and County of Denver	75-DF-08-0002E	July 1, 1977	Final

IMPLEMENTING SUBGRANTEE: Denver Police Department

TYPE OF REPORT: ☐ REGULAR ☐ SPECIAL REQUEST ☒ FINAL REPORT

SHORT TITLE OF PROJECT: E.S.C.O.R.T.

GRANT AMOUNT: $429,964

REPORT IS SUBMITTED FOR THE PERIOD November 1, 1974 THROUGH March 31, 1977

SIGNATURE OF PROJECT DIRECTOR: F. A. Mercer Jr. Lt.

TYPED NAME & TITLE OF PROJECT DIRECTOR: Francis A. Mercer, Lieutenant

COMMENCE REPORT HERE *(Add continuation pages as required.)*

Narrative Attached

RECEIVED BY GRANTEE STATE PLANNING AGENCY *(Official)* | DATE

PROGRESS REPORTS--INSTRUCTIONS FOR LEAA DISCRETIONARY GRANTS

Grantees are required to submit Progress Reports on project activities and accomplishments. No fixed requirements as to length or detail have been established, although some general guidelines appear below. It is expected that reports will include data appropriate to the stage of project development and in sufficient detail to provide a clear idea and summary of work and accomplishments to date. The following should be observed in preparation and submission of progress reports:

a. Reporting Party. The party responsible for preparing the report will be the agency, whether grantee or subgrantee, actually implementing the project. Thus, where a State Planning Agency is the grantee but has subgranted funds to a particular unit or agency to carry on the project, the report should be prepared by the subgrantee.

b. Due Date. Reports are submitted by the subgrantee to its State Planning Agency on a quarterly basis (i. e., as of June 30, September 30, December 31, and March 31) and are due at the cognizant Regional Office on the 30th day following the close of the quarter (unless specified otherwise by LEAA). The first report will be due after the close of the first full quarter following approval of the grant (i. e., for a grant approval on May 1 the first report will be due for the quarter ending September 30. It will cover the five month period May through September). The award recipient's final progress report will be due 90 days following the close of the project or any extension thereof.

c. Form and Execution. Three (3) copies of each report should be submitted. However, five (5) copies must be submitted for all final reports. (If the grantee wishes to submit the same report to several agencies it may utilize LEAA Form 4587/1 (Rev. 9-75) as a face sheet completing all items and attach the report to it.) If continuation pages are needed, plain bond paper is to be used. It should be noted that the report is to be signed by the person designated as project director on the grant application or any duly designated successor and reviewed by the cognizant State Planning Agency.

d. Reporting Requirements. The reporting requirements noted in this section are designed to provide information which permits determination of the extent to which LEAA Discretionary Fund projects are contributing to the overall goals and objectives of the Agency. Reports will be submitted on a quarterly basis, unless otherwise directed. The first report will include, as concisely as possible, the following information elements:

1. Statement of project goals or objectives in tangible, measurable terms. The goals or objectives should denote the project's impact on the reduction of crime and delinquency, or the improvement of the criminal justice system, or both. Project goals or objectives should be consistent with LEAA's "Management-By-Objectives" planning concepts.

2. Statement of the problem in measurable terms.

3. Statement of hypotheses and working assumptions which provide the conceptual foundation and thrust for the project.

4. Statement of specific indicators and measures to be used to assess the results of the project in terms of both 1 above and intermediate project outputs. Data sources and appropriate collection methods will be noted in this paragraph.

5. Statement of the results achieved by the project during the first reporting period, utilizing the indicators developed in 4 above.

6. Statement of significant administrative, budgetary, and programmatic problems confronting the project during the first reporting period. Obstacles to progress are to be noted in concise, frank terms. Major administrative, budgetary, and programmatic developments which are expected to affect the ultimate course and substance of the project will be described as precisely as possible.

Subsequent progress reports will be required to address, as appropriate, the information elements contained in paragraphs 4 through 6 above, with the exception of that portion of paragraph 4 dealing with data sources and appropriate collection methods. Special reports, evaluation studies, and publications or articles related to the project which were issued during the reporting period should be attached to the progress report.

e. Dissemination. All three (3) copies of regular progress reports and all five (5) copies of final reports should be submitted to the subgrantee's State Planning Agency. After review the State Planning Agency will forward two (2) copies of the report and four (4) copies of the final report to the cognizant LEAA Regional Office. The Regional Office will route the reports to all interested LEAA units. Copies should also be provided to other agencies cooperating in or providing services to the project.

f. Special Requirements. Special reporting requirements or instructions may be prescribed for discretionary projects in certain program or experimental areas to better assess impact and comparative effectiveness of the overall discretionary program. These will be communicated to affected grantees by LEAA.

DENVER POLICE DEPARTMENT

PROJECT "ESCORT"

FINAL REPORT

PROJECT AWARD:

#75-DF-08-002E

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INTRODUCTION

This final report reflects operational activity of Project "ESCORT" during the 20 months of L.E.A.A. support for the project. The report stresses the crime specific impact of Project "ESCORT" and the use of motorbikes as a patrol mode. This report also includes a description of the project's history and organization so that a fuller understanding of Project "ESCORT" may be reached.

FINAL RESULTS

Project "ESCORT" has proven the value of a close linkage between a community and its police. These linkages, as expressed as police delegates in various community groups, have proved helpful to both the community and Project "ESCORT". The acceptance and trust Project "ESCORT" has received from the community has made the problem of crime reduction in the Capitol Hill area that much easier to solve through this "joint" effort.

Capitol Hill has become a safer neighborhood since the inception of Project "ESCORT". Street crimes in the target area have been reduced below the levels that existed in 1973. Project "ESCORT", in conjunction with the high intensity streetlighting program, can take credit for the reduction.

Another benefit of Project "ESCORT" has been the evaluation of motorbikes as a viable patrol vehicle. Valuable lessons were learned through the use of the Honda 200s and the Honda 360s on what type of motorcycle is best suited for street patrol duties in areas such as Capitol Hill in Denver.

PROJECT HISTORY

The Capitol Hill area (bounded by 20th Street on the North; York Street on the East; 6th Avenue on the South; and Broadway Street on the West) in Denver accounts for a significant amount of street crime in the city. The Capitol Hill area is about 2.3% of the city acreage and in 1970 contained about 8.6% of the city's population. It is densely populated (population 39,716 in 1970) compared to the rest of Denver. In 1973, this area had almost 12% of the city's homocides; over 27% of the rapes; almost 19% of the aggravated robberies; over 13% of the aggravated assaults; 13% of other assaults; almost 15% of the residential burglaries; and 8% of the non-residential burglaries.

In 1973 Capitol Hill experienced an increase in crimes committed in open space, on the street (rape, aggravated robbery, simple robbery) while residential and non-residential burglary decreased. This high percentage of street cirme is related to the physical make up and type of population in Capitol Hill. This section of Denver is typified by a mixture of residences, apartment houses, commercial establishments, parking lots, and entertainment enterprises. These entertainment enterprises appeal to the younger, more transient elements of the population and also to visitors attracted by the State Capitol Building Complex. In addition to a large transient population, there is a more stable population consisting of many young single people and older retired individuals. They reside in this area because of the low rents and the close proximity to inner city services (shopping, grocery stores, banks, hospitals, entertainment, etc.) which are convenient to their predominantly pedestrian and public transportation mode of travel.

Of critical impact is the fact that there are six hospitals in this area employing a large number of nurses who live within walking distance of their work. Because many Capitol Hill residents walk to their destinations, and since hospital shifts necessarily include late night and early morning hours, street crime offenders have an abundance of potential victims in this area of the city.

This area contains a wide diversity of income groups with over 20 percent of the area's families earning below $4,000.00, over 14 percent earning $15,000.00+, and over 25 percent earning between $8,000.00 and $15,000.00. The median family income is $7,388.00, while the median income for families and unrelated individuals is considerably lower at $4,413.00. The lifestyle reflects the low income level of the majority, where only 28 percent of the population has had the same residence for five or more years. While rents are reasonable in Capitol Hill, the same cannot be said for owning a home. Owner occupied units are a mere 5.32 percent of the housing stock, whereas renter occupied units account for 87.06 percent, and vacant units account for 7.62 percent.

The population of Capitol Hill is slightly over 70 percent white, with about 9 percent Spanish-American, 8 percent black, and 3 percent other ethnic groups. The largest age group in Capitol Hill is young adults 18 to 34 which make up 45 percent of the population. People over age 65 comprise another 19.6 percent of the population, while people 35 to 64 account for 28.5 percent. Children under 17 are less than 7 percent of the population. Females are in the majority in Capitol Hill at almost 55 percent. The large number of elderly and females in the area provides a greater number of potential targets in Capitol Hill than in other parts of Denver.

The crime problem in Capitol Hill necessitated a patrol mode that provided high visibility as a crime deterrent, easy accessibility by the public, and high mobility to cover a designated area with less manpower. It was felt that only a motorbike patrol unit was capable of meeting the above three criteria, as neither foot patrol nor vehicular patrol met all three.

Project "ESCORT" introduced an innovative patrol technique, motorbikes, which was tailored to address the peculiar demographic and geographic dimensions of the target area. These factors were believed to be major obstacles to the reduction of crime by more traditional methods of patrol. The patrol technique provides visibility, mobility, and maneuverability while preserving close personal contact between Police Officer and citizen. These patrol mode features are crucial to waging a successful attack on crime in the target area containing numerous patrol hazards, including high population density, large apartment complexes, small alleyways, numerous parking garages and extensive grassy malls with heavy foliage.

The overall thrust of residentially centered motorbike patrol with specially trained personnel deployed on the basis of crime trend analysis can have an immediate impact on open space street crimes. The victims of these crimes are predominately residents of the neighborhood who are victimized while walking or crossing streets, alleys, parking lots, or driving through the area. Conspicuously mobile, easily identified Officers on open motorbikes deter potential offenders, can apprehend offenders on foot near the scene of the crime, provide response time to victim emergency calls of less than two minutes and become personally familiar with the area and its

stable residents. Because motorbike Officers historically attract the public's attention and also appear to be more accessible to the public, the area residents soon identify with these Officers, use them as information sources, and simultaneously develop a greater feeling of trust and protective comfort from the frequent appearance of these Police Officers in the neighborhood.

After choosing the type of patrol mode, the correct type of motorbike had to be chosen on the basis of its suitability for patrolling the Capitol Hill area. Thus, the motorbike had to be small in size, highly maneuverable, quiet, powerful enough to accelerate a patrolman and his equipment to street traffic speeds in a "normal" period of time, and provide a low cost of maintenance. It was also deemed necessary to specify a four-stroke engine to reduce the amount of pollutants emitted from the motorbikes. On the basis of these criteria the Honda 200 motorcycle was chosen. This is a full fledged motorcycle with an overhead cam verticle twin-cylinder engine, five speed transmission, and front disc brake.

After the first nine months of operation, the maintenance costs on the Honda 200's were running higher than expected due to the extreme use the motorcycles were subjected to in the course of normal routine patrol (more on this subject in "Objective Achievement"). At this time the project director was given permission to purchase three Honda 360 motorcycles which had the maneuverability and operation cost of the Honda 200's but with a more powerful engine and generally heavier components and hopefully lower maintenance costs. The Honda 360's have fulfilled the needs and expectations of Project "ESCORT".

The manpower for Project "ESCORT" consists of 20 Police Officers

under the supervision of a Lieutenant and two Sargeants. The Officers were chosen from a group of volunteers on the basis of their records, their "style" of police work, and an interview with the Commanding Officer. An Officer in Project "ESCORT" must be self-motivated in finding work on the street, not dependent on radio calls as are the District patrolmen. The original "ESCORT" Officers were chosen from several Districts, the Traffic Division, and the Radio Room.

After the 20 patrolmen were chosen, they were transferred into Project "ESCORT" in two groups of ten to facilitate a two week motorcycle training program. This training program teaches safety, balance, and handling of the motorcycles so that it may be operated with complete confidence and safety by the "ESCORT" Officers under all patrol conditions.

The "ESCORT" Officers also had meetings and training sessions with many community groups (such as the retarded citizens). In fact, over 300 letters were sent to groups in the Capitol Hill area, explaining the function of Project "ESCORT" and the projects willingness to meet with these community groups. Before the Officers were assigned to the unit Lt. Horan and Sgt. Mercer met with 28 of the community organizations.

Project "ESCORT" officially started on March 16, 1975, when Lt. W.E. Horan and Sgt. F.A, Mercer were assigned to set up the office, start purchasing equipment, and develop the motorcycle training program. On April 7, 1975, Sharon Grosell was assigned to Project "ESCORT" as the secretary; on June 2, 1975, Peter Copeland began working as the Projects' Evaluation and Crime Analyst. The motorcycle mechanic began working on June 9, 1975. On June 16, 1975, the first

ten Officers began their motorcycle training program, with the second group starting its training on July 18, 1975. On August 1, 1975, Project "ESCORT" began its full operational patrol.

PROJECT ORGANIZATION

Project "ESCORT" patrols six densely populated police precincts in an area of the city which has a large pedestrian population. This special unit was designed to reduce street crime (rape, robbery, aggravated assaults, and commercial burglaries) through a saturation, high visability, motorbike patrol. The target precincts are within the boundaries of two police districts (District 2 and District 3). Not only does this force Project "ESCORT" to be on two different radio channels (channel 4 for District 2 and channel 3 for District 3) but to operate within the geographical responsibilities of two District Commanders.

Organizationally this has been handled by assigning a Lieutenant as the Commander of the team and as Project Director. The Project Director and the entire team operate as a special unit of the Uniform Patrol Division of the Denver Police Department, with the Lieutenant directly responsible to the Division Chief of Patrol.

The Lieutenant is assisted in project administration, personnel supervision, and manpower deployment by two full-time assigned Sergeants. The Evaluation Analyst is responsible to the Lieutenant but also supplies the tactical information and other crime analysis needs to the Sergeants to use in their manpower deployment planning. Twenty new police officers were added to the Denver Police Department's authorized strength of 1,375 sworn personnel, so that Project "ESCORT" could take twenty experienced officers into the program.

Every effort has been made to ensure a good working relationship with the regular District patrol officers since the "ESCORT" Officers are dependent on the District cars for backup, emergency

assistance, and prisoner transportation. The Project Director has routinely notified the District Stations of operational objectives, shift configurations, and personnel complements. Project "ESCORT" has also made its crime analysis data available to the two District Stations. The "ESCORT" Officers often exchange information with the District Officers on wanted parties in the target area, so as to avoid competition, thus ensuring the maximum impact of both the special unit and the District Officers.

OPERATIONAL TACTICS AND METHODS

For patrolling an area such as Capitol Hill in Denver, motorbikes offer several advantages over other means of patrol The Officers on motorbikes are just as accessible to the public as a beat patrolman while having more mobility than a patrolman in a car. The accessibility of Project "ESCORT" Officers coupled with their business security checks and meetings with community groups (such as Capitol Hill United Neighbors) has produced a tremendous rapport between the Project and the people in the community. Project "ESCORT" has been accepted as a part of the "neighborhood" and as a part in which the people of the community take pride. This feeling seems to make the people in the community more cooperative with the police and at the same time more willing to report crime.

Another advantage of motorbike patrol by Project "ESCORT" is that the response time to emergency calls has been less than one minute (on the average). This low response time can be attributed to the maneuverability of the motorcycles; the fact that motorcycles can be driven where automobiles cannot (a motorcycle can be driven almost anywhere one can walk); and the number of motorcycles patrolling the target area. The low response time has seemed to have the effect of reducing indoor aggravated robberies in the target area because these incidents are usually called in immediately to the police. However, in a crime such as pursesnatch there is usually a delay of at least five minutes before the police are even called.

Project "ESCORT" has been utilizing a saturation patrol technique that is directed by crime analysis. The part of the

target area to be patrolled is determined through crime analysis by location, time of day, type of crime, and description of the suspects. The response of Project "ESCORT" to any paticular crime situation is flexible in that the working hours can be changed as needed. The saturation patrol is coupled with an extensive field interview program to determine the names and addresses of people fitting the description of the suspects. The "ESCORT" Officers generally work in pairs in this patrol technique, not necessarily within the line of sight of each other, but close enough for quick cover.

Various crime analysis aids are available to the Project "ESCORT" (and District) Officers at the Project "ESCORT" office. An extensive file of contact cards (field interviews) are kept. Also available are daily suspect reports and field interview printouts from Denver Police Headquarter's Data Processing Unit. The Evaluation Analyst routinely matches suspects from offense reports (which are also easily accessed by the Officers) with contact cards and writes extensive suspect description summaries for the Officers. A 3' x 3' map of the target area provides a graphic display of the target crimes (black for rape, green for simple robbery, blue for aggravated robbery, orange for aggravated assault, and red for commercial burglary) and the shift they occurred on for a two month time period. The map is updated on a weekly basis.

RESULTS OF OPERATIONS

To expand the frame of reference of the evaluation data, "ESCORT" target area data is presented in relationship to city wide (minus the target area) data, District Two data, and District Three data. This data on this table reflects total crime and is not limited to open space crime either in the target area or in the other comparison areas. A 1973 baseline is compared to the period of "ESCORT" operations of August 1, 1975 to March 31, 1977.

Rape has decreased in the "ESCORT" target area, the halo area, and in District Three from the 1973 baseline. Rape increased in District Two and city wide. The greatest percentage decrease occurred in the "ESCORT" target area while the city wide trend was to increase. This provides evidence that Project "ESCORT" patrol procedures are effective against rape in open space and indoors.

Aggravated assaults decreased everywhere from the 1973 baseline except in District Three. The decrease in the "ESCORT" target area was smaller than the decreases in the halo area, District Two, or city wide. This data tends to indicate that Project "ESCORT" has had little or no effect on reducing aggravated assaults regardless of place of occurrence.

Simple robbery increased from the 1973 baseline in all of the areas except District Two. The increases in the target area and halo area were very small and statistically insignificant from each other (two cases). Project "ESCORT" appears to have slowed the increase in simple robbery from the city wide rate of increase; however, this lower rate of increase appears to be the direct result of the decrease in open space simple robbery (see "Objective Achievements"), not indoor simple robbery.

"ESCORT" CRIME COMPARISON

	RAPE				AGGRAVATED ASSAULT				SIMPLE ROBBERY			
	1973	1975	# CHANGE	% CHANGE	1973	1975	# CHANGE	% CHANGE	1973	1975	# CHANGE	% CHANGE
TARGET AREA	235	166	-69	-29.4	451	401	-50	-11.1	369	374	+5	+01.4
HALO AREA	99	88	-11	-11.1	461	324	-137	-29.7	269	278	+7	+02.6
DISTRICT TWO	258	273	+15	+05.8	1,411	1,093	-318	-22.5	636	618	-18	-02.8
DISTRICT THREE	279	212	-67	-24.0	446	517	+71	+15.9	321	343	+22	+06.9
CITY WIDE TARGET AREA	624	634	+10	+01.6	2,941	2,512	-429	-14.6	1,020	1,105	+85	+08.3

Aggravated robbery decreased from the 1973 baseline in all the areas. However, the decrease in the target area was substantially larger than the other decreases. The target area experienced a decrease of over 31 percent from the 1973 baseline in open space aggravated robbery. This provides outstanding evidence on the value of an "ESCORT" type patrol in reducing aggravated robberies and other crimes where a response time of under 60 seconds could prove to be a deterrent.

Non-residential burglaries increased from the 1973 baseline in all the areas. In the target area, non-residential burglaries increased at a higher rate than in the halo area or city wide, but at a lower rate than District Two or District Three. The patrol mode of Project "ESCORT" appears ineffective as a means of reducing non-residential burglary.

"ESCORT" CRIME COMPARISON

	AGGRAVATED ROBBERY				NON-RESIDENTIAL BURGLARY			
	1973	1975	# CHANGE	% CHANGE	1973	1975	# CHANGE	% CHANGE
TARGET AREA	906	402	-504	-55.6	744	861	+117	+13.6
HALO AREA	463	315	-148	-32.0	939	1,057	+118	+12.6
DISTRICT TWO	1,117	784	-333	-29.8	2,730	3,305	+575	+21.1
DISTRICT THREE	757	677	-80	-10.6	1,941	2,432	+491	+25.3
CITY WIDE TARGET AREA	2,710	2,087	-623	-23.0	8,752	9,581	+829	+09.5

STATISTICAL TESTS

Three statistical tests were performed on data from the period August 1, 1975, to July 31, 1976 to further evaluate the effects of Project "ESCORT". These tests were:

A difference of proportions test that used the open space target crime (rape, aggravated assault, simple robbery and aggravated robbery) and commercial burglary in the target area as a precentage of total crime of that type (regardless whether open space or not) in the city 1973-74 and compared that percentage to one for 1975-76;

A least squares regression analysis was used for a trend study. Data were available only for the general type of target crime (rape, aggravated assault, simple and aggravated robbery, and burglary) without regard to whether the crime occurred out of doors or not or was a residential or non-residential burglary. Crime rates were predicted for 1975-76 on the basis of the previous four years data and were compared to actual crime rates;

The Chi Square test was used to determine if Project "ESCORT" had a statistically significant higher number of arrests per man-day than the District Officers operating in patrol cars. District Two in Denver was chosen for comparison because its area most closely resembled the demographics of the target area.

COMPARATIVE TEST RESULTS

	DIFFERENCE OF PROPORTIONS TEST	LEAST SQUARES REGRESSION ANALYSIS	CHI-SQUARE TEST
RAPE	SIGNIFICANT DECREASE IN CRIME	SIGNIFICANT DECREASE IN CRIME (LOW CORRELATION)	SIGNIFICANTLY MORE ARRESTS
AGGRAVATED ASSAULT	DECREASE, BUT NOT SIGNIFICANT	SIGNIFICANT DECREASE IN CRIME (LOW CORRELATION)	SIGNIFICANTLY MORE ARRESTS
SIMPLE ROBBERY	DECREASE, BUT NOT SIGNIFICANT	SIGNIFICANT DECREASE IN CRIME	SIGNIFICANTLY MORE ARRESTS
AGGRAVATED ROBBERY	DECREASE, BUT NOT SIGNIFICANT	SIGNIFICANT DECREASE IN CRIME	
BURGLARY	INCREASE, BUT NOT SIGNIFICANT	SIGNIFICANT INCREASE IN CRIME	SIGNIFICANTLY MORE ARRESTS

ALL SIGNIFICANCE MEASURED AT THE .05 LEVEL OF CONFIDENCE

ANALYSIS OF RESULTS

RAPE

The results of all three tests indicate that there has been a significant decrease in the rate of Rape in the target area. The results of the Least Squares Regression Analysis must be tempered though because of the low correlation level between the number of crimes and year of occurrance. Overall, the type of motorcycle patrol used in Project "ESCORT" can be said to be an effective means of reducing Rape.

AGGRAVATED ASSAULTS

Even though Project "ESCORT" has made significantly more arrests for Aggravated Assault than District Two, this has had no clear cut effect on the rate of Aggravated Assault. The Difference of Proportions Test showed a very slight decrease in Aggravated Assaults while the Least Squares Regression Analysis showed a significant decrease but a very low correlation. While Project "ESCORT" may have had some effect on reducing Aggravated Assaults, the test results are too ambiguous to make a definite statement.

SIMPLE ROBBERY

Simple Robbery has been reduced by Project "ESCORT". While the Difference of Proportions Test does not yield a significant result, it is very close to being significant. The Least Squares Regression Analysis does yield a significant result though with a very high correlation between number of crimes and the year of occurrance. This test also takes into account the high rate of growth of Simple Robberies in the target area. These results along with the rate of arrest that is significantly higher support the above conclusion.

AGGRAVATED ROBBERY

The results for Aggravated Robbery are very similar to the results for Simple Robbery. The Difference of Proportions Test yielded a near significant decrease and the Least Squares Regression Analysis showed a significant decrease in Aggravated Robberies with a very high correlation. Project "ESCORT" was able to produce a significantly higher arrest rate for Robbery primarily through its high mobility and quick response time (60 seconds). Thus, Project "ESCORT" was able to lower the rate of Aggravated Robbery.

DIFFERENCE OF PROPORTIONS TEST

The formula used in this test was:

$$Z = \frac{P_1 - P_2 - \frac{N_2 + N_2}{2N_1N_2}}{\sqrt{\frac{P_1Q_1}{N_1} + \frac{P_2Q_2}{N_2}}}$$

Where P_1 = the percentage of total city crime of that type in 1973-74

P_2 = the percentage of total city crime of that type in 1975-76

N_1 = total city crime of that type in 1973-74

N_2 = total city crimes of that type in 1975-76

$Q_k = 1 - P_k$

In this test, commercial burglary in the target area was used as a percentage of the city's total non-residential burglary.

RESULTS

PERCENTAGES OF TOTAL CITY CRIME

	AUG. - JULY 1973 - 1974	AUG. - JULY 1975 - 1976	Z VALUES
RAPE	8.3	4.7	2.39
AGGRAVATED ASSAULT	5.5	5.3	0.27
SIMPLE ROBBERY	22.1	18.5	1.84
AGGRAVATED ROBBERY	10.5	8.6	1.78
COMMERCIAL BURGLARY	6.3	6.9	-1.36

LEAST SQUARES REGRESSION ANALYSIS

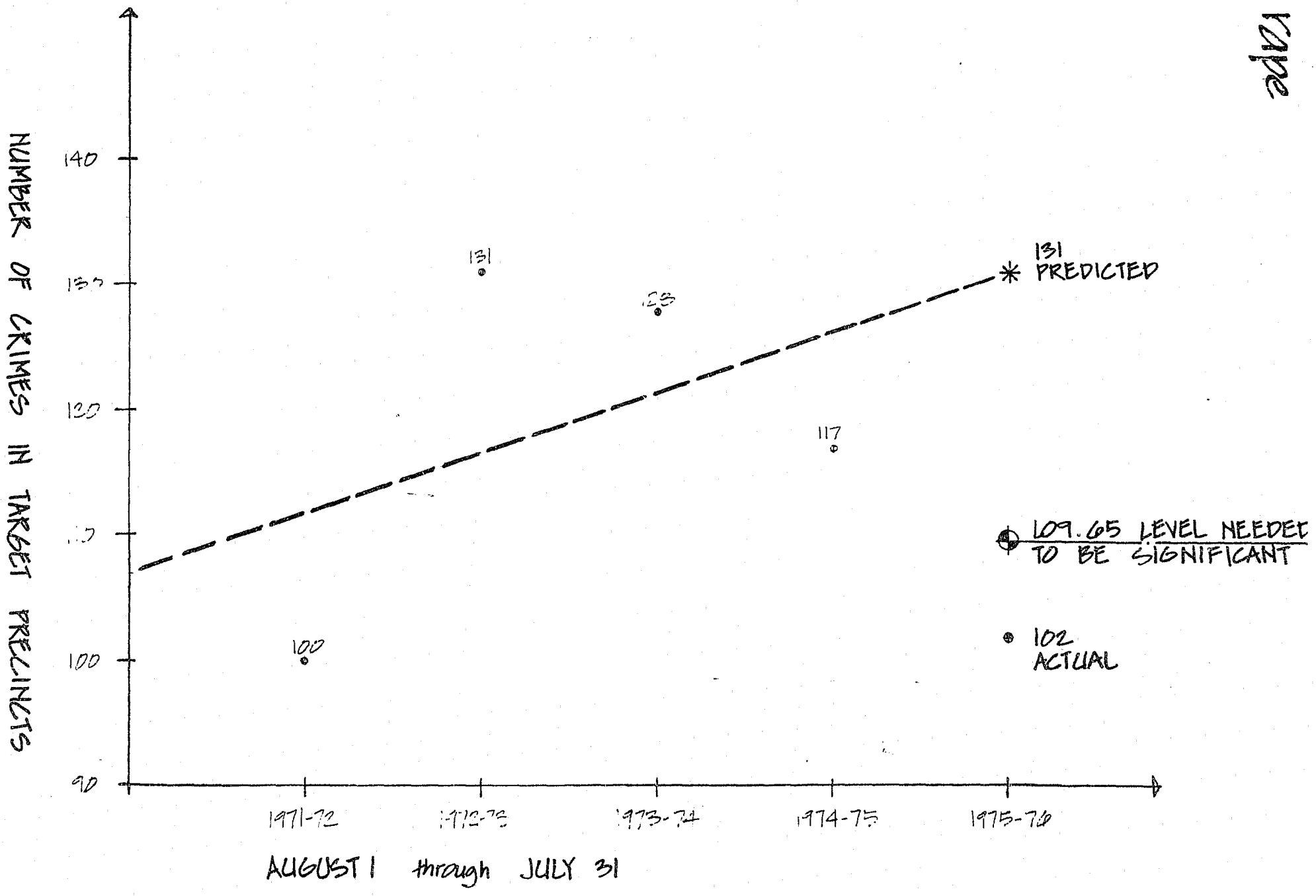
The data used in this test do not directly reflect the target crime data. These data are not limited to open space target crimes and commercial burglary but include crime of the first four types that occurred indoors and residential burglaries.

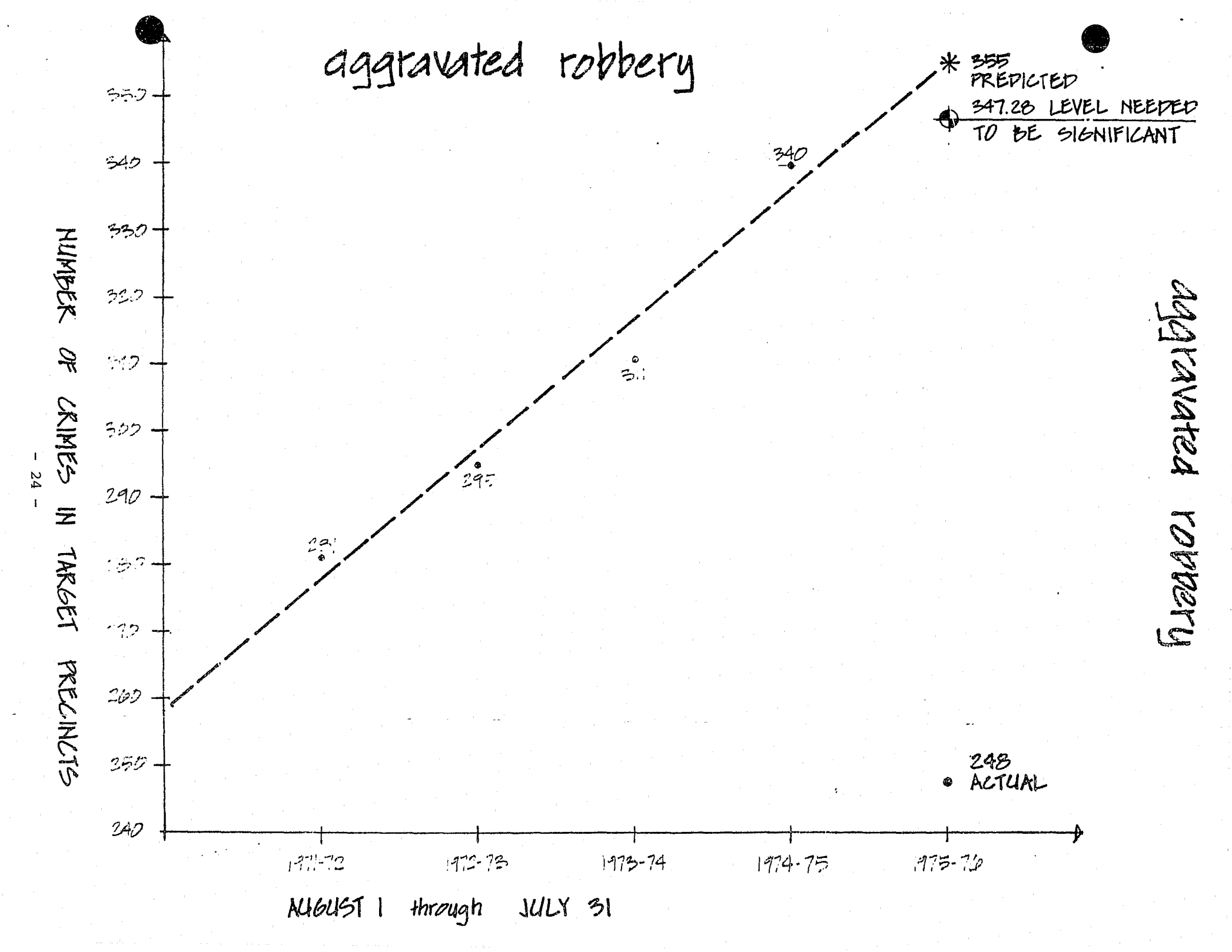
RESULTS

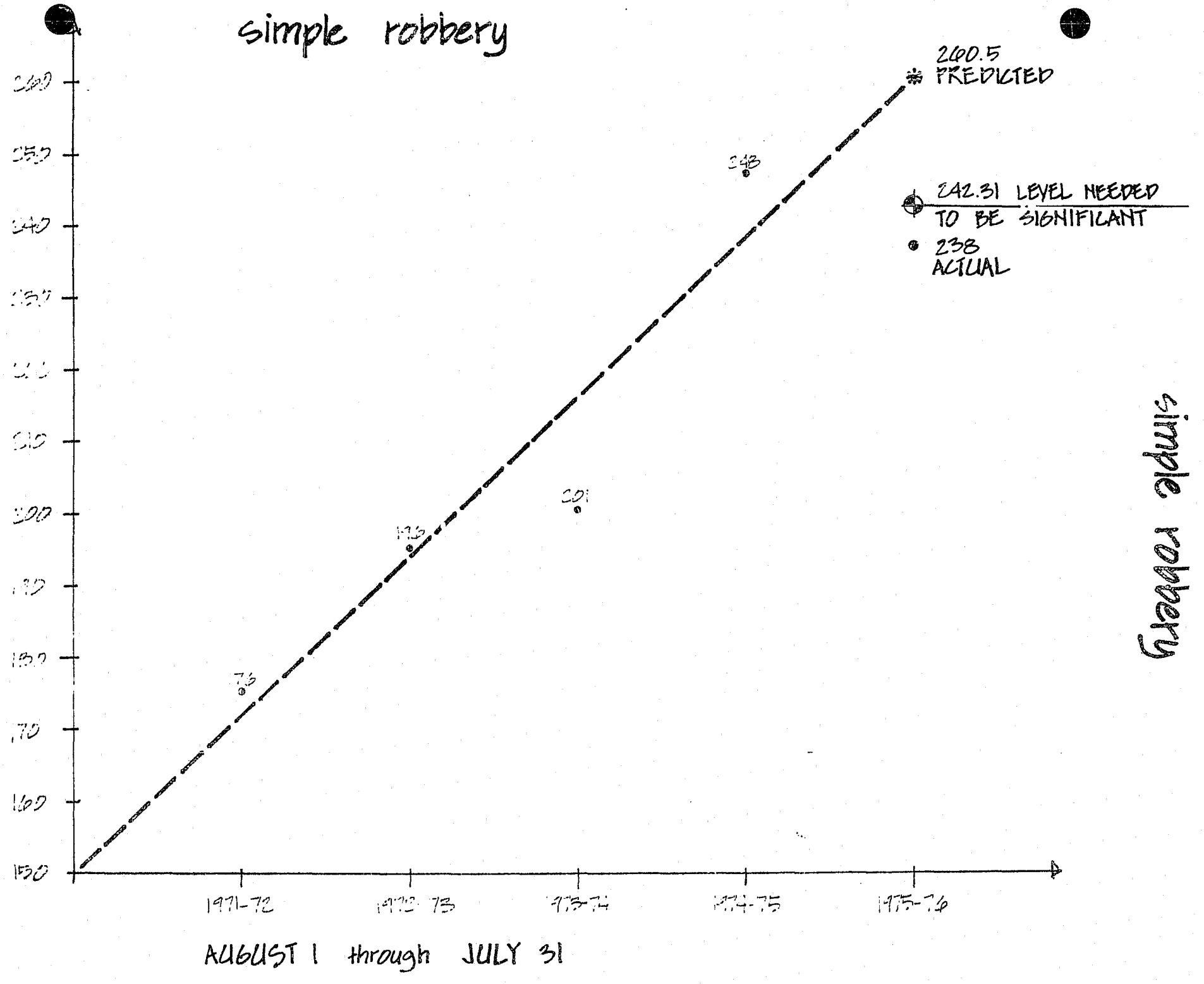
$y = bx + a$

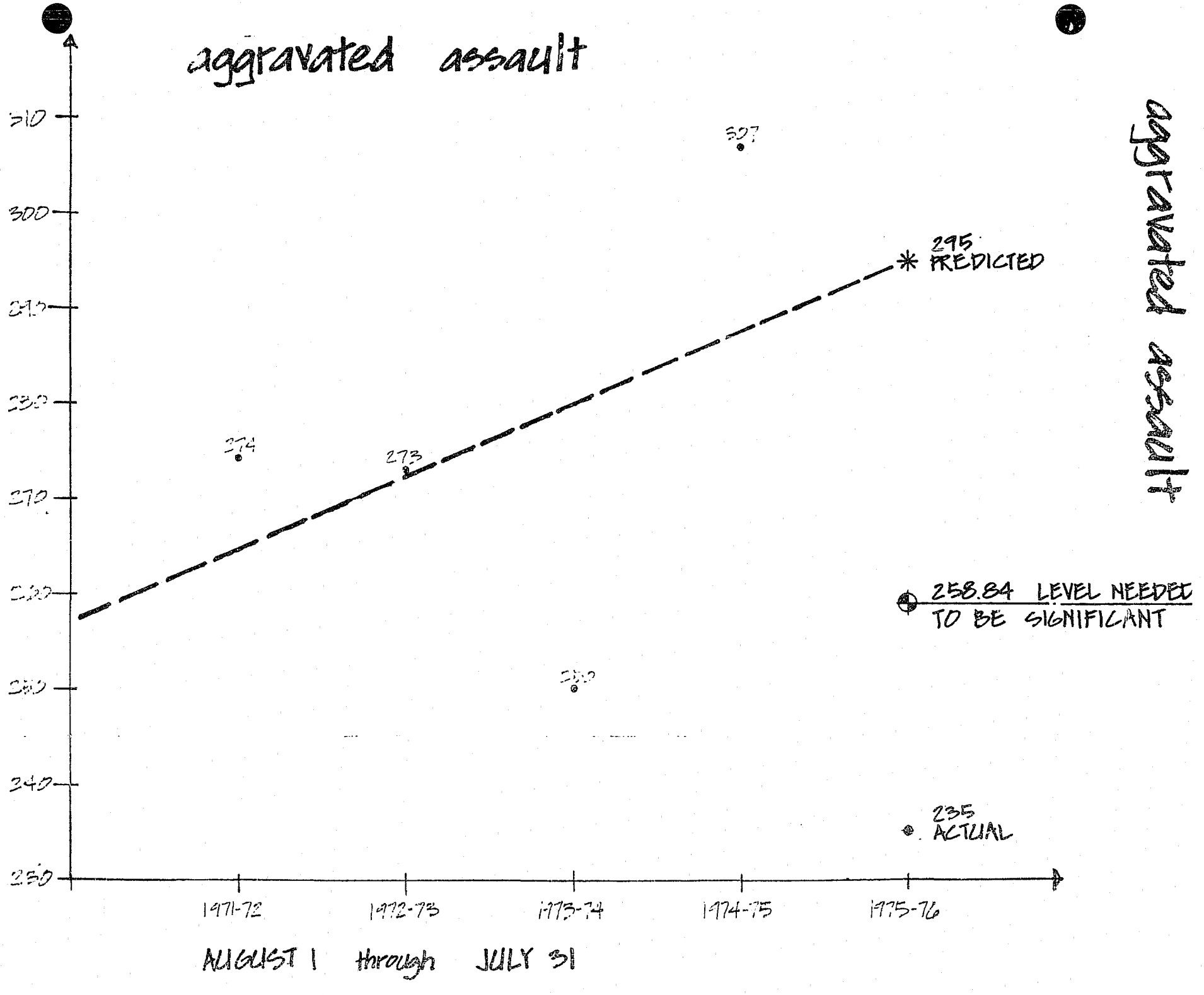
	b	a	predicted y	actual y	r^2	$s_{y|x}$
RAPE	4.8	107	131.0	102	.1953	10.89
AGGRAVATED ROBBERY	19.3	258.5	355.0	248	.9676	3.95
SIMPLE ROBBERY	22.1	150.0	260.5	238	.8763	9.28
AGGRAVATED ASSAULT	7.6	257.0	295.0	235	.1750	18.45
BURGLARY	-77.9	2,251.5	1,862.0	2,000	.6530	63.49

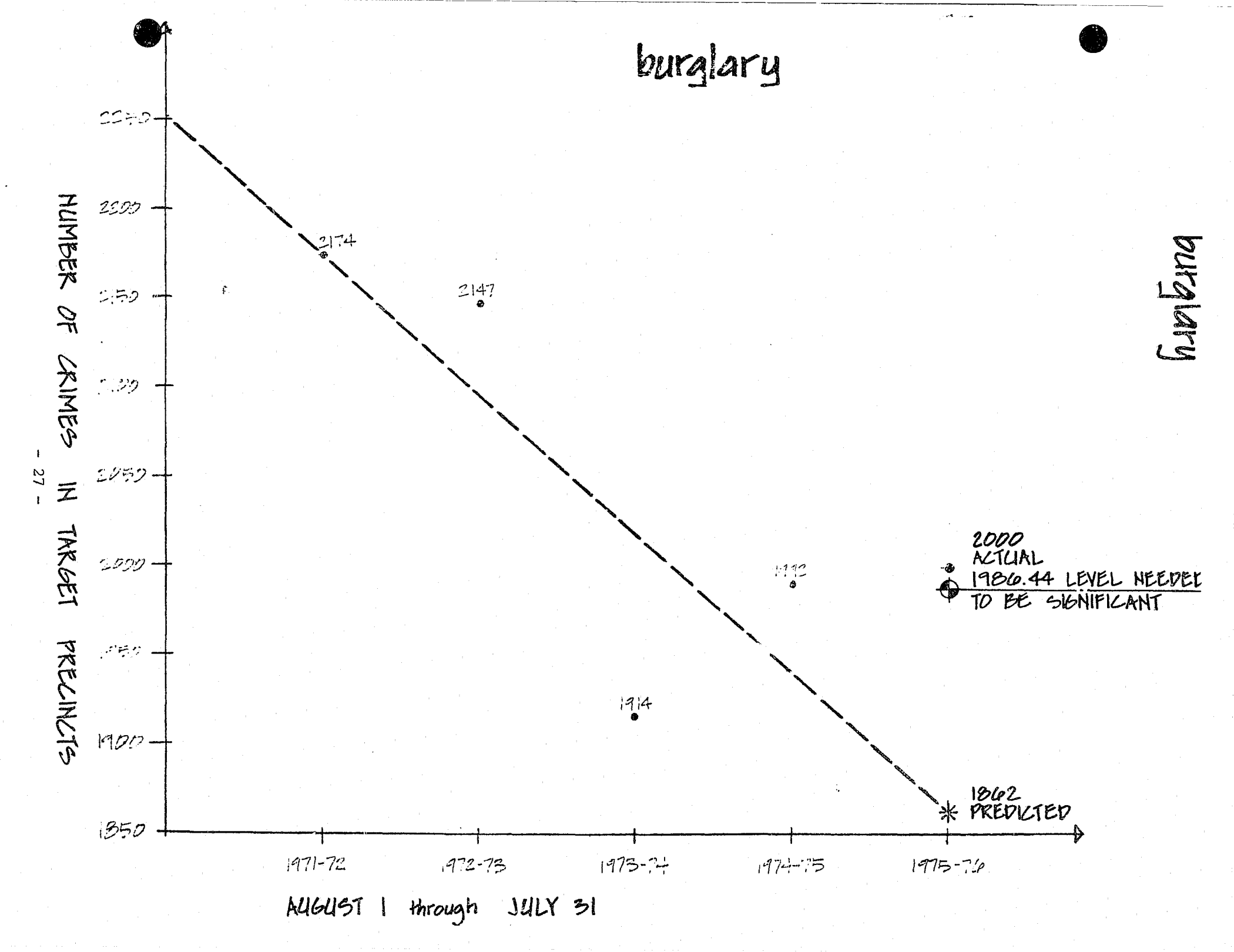
rape


rape
NUMBER OF CRIMES IN TARGET PRECINCTS
140
120
100
90
131
PREDICTED
117
109.65 LEVEL NEEDED TO BE SIGNIFICANT
102
ACTUAL
1971-72
1974-75
1975-76
AUGUST 1 through JULY 31


aggravated robbery
* 355
PREDICTED
347.28 LEVEL NEEDED
TO BE SIGNIFICANT
340
295
248
ACTUAL
350
340
330
290
260
240
1972-73
1973-74
1974-75
1975-76
AUGUST 1 through JULY 31
NUMBER OF CRIMES IN TARGET PRECINCTS
aggravated robbery


simple robbery
2600.5
PREDICTED
242.31 LEVEL NEEDED
TO BE SIGNIFICANT
238
ACTUAL
NUMBER OF CRIMES IN TARGET PRECINCTS
AUGUST 1 through JULY 31
1971-72
1972-73
1973-74
1974-75
1975-76
simple robbery


aggravated assault
NUMBER OF CRIMES IN TARGET PRECINCTS
310
300
290
280
270
260
250
307
274
273
252
295
PREDICTED
258.84 LEVEL NEEDED
TO BE SIGNIFICANT
235
ACTUAL
1971-72
1972-73
1973-74
1974-75
1975-76
AUGUST 1 through JULY 31
aggravated assault


burglary
NUMBER OF CRIMES IN TARGET PRECINCTS
2174
2147
1914
2000
ACTUAL
1986.44 LEVEL NEEDED
TO BE SIGNIFICANT
1862
PREDICTED
1971-72
1972-73
1973-74
1974-75
AUGUST 1 through JULY 31
burglary

CHI-SQUARE TEST

The Chi-square test was done on four types of arrests: rape, aggravated assault, robbery, and burglary.

For each category of arrest, a 2 x 2 matrix was created which included arrests by Project "ESCORT" between August 1, 1975 and July 31, 1976, arrests by District Two for the same time period, the number of man-days worked by Project "ESCORT" Officers in that time period and the number of man-days worked by District Two Officers in that time period.

RESULTS

The results of this Chi-square test must be greater than 3.841 to be significant at the .05 level of confidence.

	X^2
Rape	7.48
Robbery	26.20
Aggravated Assault	16.09
Burglary	11.13

OBJECTIVE ACHIEVEMENT

Project "ESCORT" was charged with seven primary objectives which were oriented toward street crime reduction and demonstrating that morotbike patrol was a safe, efficient, and effective means of patrol. These objectives and a review of Project "ESCORT"s progress toward their achievement are presented below:

OBJECTIVE 1: Reduce open-space day and nighttime rape within the 6 precinct target area by 30% of the 1973 reported frequency.

During the 20 months in which Project "ESCORT" was in operation, open-space rape in the target area was reduced by 45 percent. This exceeded the project objective. At the same time, the halo area experienced an increase of 76 percent. Thus, there appears to have been some displacement of crime. However, since there was a reduction of 36 cases in the target area and only an increase of 16 cases of rape in the halo area there has been a suppression of rape.

OBJECTIVE 2: Reduce open-space day and nighttime robbery within the 6 precinct target area by 30% of the 1973 reported frequency.

Robbery has been broken into simple robbery and aggravated robbery to give more explicit results. Open-space simple robbery has been reduced 12.9 percent below the 1973 baseline in the 20 months of operations. While not meeting the program objective, simple robbery was reduced by a larger amount in the target area than the halo area.

Open-space aggravated robbery was reduced 31.4 percent below the 1973 baseline, exceeding the program objective. There were no indications that crime was displaced to the halo area in the 20 month period, as that area also had a reduction in aggravated

CRIME INCIDENCE RATES FOR THE REPORTING PERIOD

RAPE

August 1, 1975 to March 31, 1977

TARGET PRECINCT	NUMBER OF CRIMES	1973 BASELINE	INC. OR DEC. FROM BASELINE #	INC. OR DEC. FROM BASELINE %	# CRIMES IN PREV. TIME PERIOD	INC. OR DEC. FROM PREV. TIME PERIOD #	INC. OR DEC. FROM PREV. TIME PERIOD %
1. 202	7	11	-4	-36.4			
2. 203	6	9	-3	-33.3			
3. 204	11	16	-5	-31.3			
4. 301	8	12	-4	-33.3			
5. 302	4	13	-9	-69.2			
6. 303	8	19	-11	-57.9			
TOTAL	44	80	-36	-45.0			
HALO PRECINCTS							
1. 101	1	0	+1	+100.0			
2. 102	0	3	-3	-100.0			
3. 114	6	6	---	---			
4. 201	5	4	+1	+25.0			
5. 205	8	1	+7	+700.0			
6. 210	7	5	+2	+40.0			
7. 304	9	2	+7	+350.0			
8. 307	1	0	+1	+100.0			
TOTAL	37	21	+16	+76.2			

CRIME INCIDENCE RATES FOR THE REPORTING PERIOD

SIMPLE ROBBERY

August 1, 1975 to March 31, 1977

TARGET PRECINCT	NUMBER OF CRIMES	1973 BASELINE	INC. OR DEC. FROM BASELINE #	%	# CRIMES IN PREV. TIME PERIOD	INC. OR DEC. FROM PREV. TIME PERIOD #	%
1. 202	62	79	-17	-21.5			
2. 203	29	41	-12	-21.3			
3. 204	59	57	+2	+03.5			
4. 301	47	52	-5	-09.6			
5. 302	35	21	+14	+66.7			
6. 303	37	59	-22	-37.3			
TOTAL	269	309	-40	-12.9			
HALO PRECINCTS							
1. 101	22	23	-1	-04.3			
2. 102	19	20	-1	-05.0			
3. 114	9	9	---	---			
4. 201	52	61	-9	-14.8			
5. 205	38	41	-3	-07.3			
6. 210	17	20	-3	-15.0			
7. 304	45	36	+9	+25.0			
8. 307	6	10	-4	-40.0			
TOTAL	208	220	-12	-05.5			

CRIME INCIDENCE RATES FOR THE REPORTING PERIOD

AGGRAVATED ROBBERY

August 1, 1975 to March 31, 1977

TARGET PRECINCT	NUMBER OF CRIMES	1973 BASELINE	INC. OR DEC. FROM BASELINE #	INC. OR DEC. FROM BASELINE %	# CRIMES IN PREV. TIME PERIOD	INC. OR DEC. FROM PREV. TIME PERIOD #	INC. OR DEC. FROM PREV. TIME PERIOD %
1. 202	39	74	-35	-47.3			
2. 203	21	44	-23	-52.3			
3. 204	36	59	-23	-39.0			
4. 301	41	39	+2	+05.1			
5. 302	27	40	-13	-32.5			
6. 303	37	37	---	---			
TOTAL	201	293	-92	-31.4			
HALO PRECINCTS							
1. 101	20	12	+8	+66.7			
2. 102	10	31	-21	-67.7			
3. 114	15	21	-6	-28.6			
4. 201	27	47	-20	-42.6			
5. 205	30	51	-21	-41.2			
6. 210	18	23	-5	-21.7			
7. 304	25	19	+6	+31.6			
8. 307	5	2	+3	+150.0			
TOTAL	150	206	-56	-27.2			

robbery, though not as large.

OBJECTIVE 3: Reduce open-space day and nighttime aggravated assaults within the 6 precinct target area by 30% of the 1973 reported frequency.

Open-space aggravated assualt was reduced 10.7 percent below the 1973 baseline. This reduction did not meet the program objective nor did it equal the reduction of 23.3 percent in the halo area. It doesn't appear that high visibility, directed, motorbike patrol has a deterrent effect on aggravated assault.

OBJECTIVE 4: Reduce commercial burglaries within the 6 precinct target area by 25% of the 1973 reported frequency.

Commercial burglary was the only target crime to increase above the 1973 baseline level. In the target area commercial burglary increased 12 percent above the baseline during the 20 months of operation, which is a larger increase than the 9.9 percent increase in the halo area. For some reason, neither the frequent conspicuous patrol nor the quick response time had any observable effect in reducing commercial burglary.

OBJECTIVE 5: Increase the number of police on-sight apprehensions of suspects associated with the offenses of burglary, robbery, rape, and aggravated assault by 10% over the past two-year average.

Due to the unavailability of data on police on-sight apprehensions a substitute test was incorporated. That test (Chi-Square Test in "Results of Operations") compared the arrests per man-day of Project "ESCORT" with District Two and the results showed that Project "ESCORT" made significantly more arrests per man hour for rape, robbery, aggravated assault, and burglary. In the period between August 1, 1975 and March 31, 1977, Project "ESCORT" Officers made 25 arrests for rape, 105 arrests for aggravated assault, 42 arrests for simple robbery, 90 arrests for aggravated robbery, and 222 arrests for burglary. During this 20 month period there were 45 on-sight

CRIME INCIDENCE RATES FOR THE REPORTING PERIOD

AGGRAVATED ASSAULT

August 1, 1975 to March 31, 1977

TARGET PRECINCT	NUMBER OF CRIMES	1973 BASELINE	INC. OR DEC. FROM BASELINE #	INC. OR DEC. FROM BASELINE %	# CRIMES IN PREV. TIME PERIOD	INC. OR DEC. FROM PREV. TIME PERIOD #	INC. OR DEC. FROM PREV. TIME PERIOD %
1. 202	32	44	-12	-27.3			
2. 203	11	46	-35	-76.1			
3. 204	33	31	+2	+06.5			
4. 301	39	31	+8	+20.5			
5. 302	31	18	+13	+72.2			
6. 303	21	17	+4	+19.0			
TOTAL	167	187	-20	-10.7			
HALO PRECINCTS							
1. 101	15	20	-5	-25.0			
2. 102	11	22	-11	-50.0			
3. 114	13	12	+1	+08.3			
4. 201	43	53	-10	-18.9			
5. 205	20	32	-12	-37.5			
6. 210	26	36	-10	-27.8			
7. 304	26	22	+4	+18.2			
8. 307	4	9	-5	-55.6			
TOTAL	158	206	-48	-23.3			

CRIME INCIDENCE RATES FOR THE REPORTING PERIOD

COMMERCIAL BURGLARY

August 1, 1975 to March 31, 1977

TARGET PRECINCT	NUMBER OF CRIMES	1973 BASELINE	INC. OR DEC. FROM BASELINE #	INC. OR DEC. FROM BASELINE %	# CRIMES IN PREV. TIME PERIOD	INC. OR DEC. FROM PREV. TIME PERIOD #	INC. OR DEC. FROM PREV. TIME PERIOD %
1. 202	199	164	+34	+20.7			
2. 203	64	86	-22	-25.6			
3. 204	161	132	+29	+22.0			
4. 301	161	159	+2	+01.3			
5. 302	61	61	---	---			
6. 303	72	39	+36	+92.3			
TOTAL	718	641	+77	+12.0			
HALO PRECINCTS							
1. 101	230	134	+96	+71.6			
2. 102	124	142	-18	-12.7			
3. 114	93	86	+7	+08.1			
4. 201	131	105	+26	+24.8			
5. 205	105	141	-36	-25.5			
6. 210	32	37	-5	-13.5			
7. 304	75	52	+23	+44.2			
8. 307	29	48	-19	-39.6			
TOTAL	819	745	+74	+09.9			

felony crimes, of which 34 led to arrest. It does appear that the Project "ESCORT" Officers do make more on-sight apprehensions for the target crime than do District Officers.

OBJECTIVE 6: Demonstrate that motorbikes are a safe patrol mode by achieving a mileage-accident ratio equal to the Police Department's automobile fleet record.

In 237,261 miles of operation Project "ESCORT" had 12 accidents that resulted in a loss of 13 man-days of sick leave. During the same period, the Denver Police automobile fleet experienced 411 accidents in 8,452,704 miles of operation. The accident/mile ratio for Project "ESCORT" is 5.1×10^{-5} while the ratio for the Denver Police automobile fleet is 4.9×10^{-5}. These accident/mile ratios are virtually identical and this serves as proof that motorbike patrol is no more dangerous than patrol in automobiles when a proper motorcycle tarining program is given to the Officers.

OBJECTIVE 7: Demonstrate that motorbike patrol is not rendered infeasible due to maintenance and repair downtime by losing only 3% of patrol time on account of this variable.

Downtime figures on the motorcycles have been made complicated due to the working hours at the Denver Police Garage. For the first 10 months of the Project, the garage worked 4 days a week, for 10 hours per day. They later switched to a 5 day week of 8 hours per day. Thus, any time a motorcycle was turned in for repair before a weekend or at the end of a work shift, the total time from that point until the repair was finished was recorded as the downtime.

For the period of August 1, 1975 until December 31, 1976, the motorcycles experienced 15,845 hours of downtime. In that period the "ESCORT" Officer worked 46,360 manhours. These figures

say that repair downtime was 34.2 percent of patrol time. This figure is exaggerated because of the factors mentioned previously and because the motorcycles would not normally be used for at least 8 hours per day of the downtime.

The Honda 200s have had numerous mechanical problems that have developed because of the small size of the motorcycle and the type of patrol duty they are called upon to perform. One major problem developed as early as the training sessions. The standard clutch on the Honda 200 was not heavy enough to stand the stop and go riding of the Officers weighing over 200 pounds. To remedy this problem, the clutches were beefed-up and larger rear sprockets were installed.

Another problem with the Honda 200s has been an excessive amount of flat tires. While this is not a major mechanical malfunction, it has caused the majority of downtime. Other major problem areas with the Honda 200s have been in the area of the engine cam bearings, the cam bearing oil seals, and various electrical problems.

In May of 1975, Project "ESCORT" purchased three Honda 360 motorcycles to test as possible replacements for the Honda 200s. These have proved far superior to the Honda 200s in terms of maintenance. The standard clutches on the Honda 360s have proved to be sufficiently heavy-duty for the heaviest Officers, even in the most extreme use. The larger tires on the Honda 360s are not nearly as prone to flats as are the Honda 200 tires. Also, no non-scheduled engine or electrical maintenance has been required for any of the Honda 360s in their first ten months of operations (average mileage 8,184).

After 257,400 miles of operations on the Honda 200s and 24,551 miles on the Honda 360s, their operation and maintenance costs per mile are shown below, compared to the vehicles from the rest of the Denver Police Department:

	Honda 200	Honda 360
maintenance per mile	12.0	8.2
operation	1.0	1.2
total cents per mile	13.0	9.4

	Three wheel motorcycle	Solo motorcycle (Harley-Davidson)	Sedan
maintenance per mile	10.3	12.6	4.1
operation	1.9	1.5	4.8
total cents per mile	12.2	14.1	8.9

As can be seen from the above data the Honda 360 is the cheapest motorcycle per mile to run of the four types listed. Even though a sedan's total cost per mile is .5 cent less than the Honda 360's, it would take 740,000 miles of driving for the sedan to equal the cost of the motorcycle if initial costs were $5,000.00 for the sedan and $1,300.00 for the motorcycle.

The 20 months of operations of Project "ESCORT" included two winters. During this time, weather prohibited riding only 52 days, which reflects the mild climate experienced in Denver.

APPENDIX A

PATROL STATISTICS
August 1, 1975 to March 31, 1977

Average Class One Time	9.1%
Average Class Two Time	19.6%
Average Class Three Time	14.6%
Average Patrol Time	56.9%
Action Class One - Radio Calls	
Action Class Two - Own Initiative	
Action Class Three - Other	
Average Response Time (in seconds)	59
Number of On-Sight Felony Crimes	45
Number of On-Sight Felony Crimes Leading to Arrest	34
Number of Class Two Arrests	2,892
Total Arrests	3,585
Number of Contact Cards	9,171
Number of ID Checks Leading to Arrest	184
Number of People Stopped, No CC Made	1,462
Number of Traffic Tickets	1,536
Time Spent Issuing Tickets	1.8%

APPENDIX B

1970 Demographic Data on the Capitol Hill Area of Denver
(Bounded by Braodway St. on the West; York St. on the East;
6th Ave. on the South; and 20th Ave. on the North)

POPULATION	39,716
ETHNICITY	
White	31,522 (79.4%)
Spanish, Sur-name American	3,649 (9.2%)
Black	3,302 (8.3%)
Other	1,243 (3.1%)
AGE	
5 - 17	2,653 (6.7%)
18 - 34	17,877 (45.0%)
35 - 64	11,300 (28.5%)
65 +	7,779 (19.6%)
SEX	
Male	17,885 (45.0%)
Female	21,828 (55.0%)
MARITAL STATUS	
Single	13,763 (37.6%)
Married	13,693 (37.5%)
Widowed or Divorced	9,106 (24.9%)
HOUSEHOLD RELATIONSHIP	
Head of Primary Family	7,445 (32.2%)
Primary Individual	15,669 (67.8%)
EDUCATION	
8 Years	2,719 (18.2%)
12 Years	7,624 (50.9%)
College +	4,635 (30.9%)
Median	12.5 years
LABOR FORCE	
Employed	21,754 (94.4%)
Unemployed	1,299 (5.6%)
Not in Labor Force	12,805
INCOME (Family)	
$0 - $3,999.00	1,574 (20.5%)
$4,000.00 - $5,999.00	1,274 (16.6%)
$6,000.00 - $7,999.00	1,774 (23.1%)
$8,000.00 - $9,999.00	760 (9.9%)

INCOME (Family) - Cont.

$10,000.00 - $14,999.00	1,209 (15.7%)
$15,000.00 +	1,094 (14.2%)
Median Family	$7,388.00
Median Family and Unrelated Individual	$4,413.00

OCCUPANCY

Owner occupied	1,331 (5.3%)
Renter occupied	21,782 (87.1%)
Vacant	1,907 (7.6%)

MOBILITY

Same Residence (5+ years)	9,380 (27.9%)
Different Residence (last 5 years)	24,256 (72.1%)

APPENDIX C

LESSON PLAN

LESSON TITLE: Patrol and safety procedures

TIME: Approx. one (1) hour

SCOPE: Comprehensive explanation of those patrol and safety procedures believed necessary to enable the individual officer to fulfill his mission safely and thoroughly, night and day, under all weather conditions.

OBJECTIVES: A high performance record combined with a low accident frequency rate.

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1. PATROL PROCEDURES:

A. You must keep firmly in your mind that you are basically a footman, furnished with transportation to more frequently and thoroughly cover you assigned area.

B. You are expected to perform the duties normally associated with foot patrolmen.

C. In traffic work, make only those cases you did as a footman. Pursuit of fast vehicles is strictly forbidden. You are NOT a pursuit vehicle.

D. You are not an emergency vehicle. You may not enjoy the privleges of an emergency vehicle. While you have a red light, you do not have a siren.

E. Of the more than 300,000 police officers in this country, motor scooter patrolmen represent only a small percentage. It is a fairly new concept in police patrol, and the requirements are high. You must be energetic, interested, physically fit, understand community relations, and have the ability to deal with the citizens without friction. Any attemp to emulate motorcycle officers will only result in the classification "Second Class Motorcycle Men". Due to your position of being "first", you have the opportunity to set high standards. Develop the reputation of being an outfit that is hard to join, demanding of you once a member, and with a record of exceptional performance in your field.

F. On patrol, dismount frequently and mix with the public. Create the impression that if needed, you will be there in a minimun of time. Be a salesman for your outfit and department.

1. Patrol Procedures. Con't.

G. Cleanliness of both machine and uniform is most important. You will have an opportunity, initially, to be under close public scrtiny. You will represent the whole department.

H. On regular patrol, you will patrol at slower speeds. Supervising officers will insist on this requirement. Tearing up and down the street serves no useful purpose and destroys the value of the motorized footman concept.

I. Scooters will not be used, normally, to pursue speeding vehicles. Scooter patrol is a concept of foot patrol and the scooter should be used and regarded as simply officer transportation.

J. You will not patrol without your radio and at all times be available to the radio.

K. No person, other than the officer assigned, shall ride on the scooter unless ordered by competent authority.

L. In responding to a reported crime, or pursuing a fleeing suspect who is on foot, use necessary speed, but use it discreetly. You will be of little value if involved in an accident. Constant use and practice with your scooter will enable you to maneuver in such a manner that you will be able to respond quickly, safely, and complete your mission.

M. In chasing asuspect fleeing on foot, remember immediate apprehension may leave some fight in him. Proper pacing when possible, leaves a winded and non-resistant prisioner.

N. Do not use a "Patterned Patrol". Vary your route for surprise factor.

2. SAFETY PROCEDURES:

A. General:

(1) Survey your assignment early in tour of duty for road conditions.

(2) Always wear your helmet on patrol.

(3) Keep a safe distance from other vehicles. Scooter needs plenty of room to stop.

(4) Avoid sudden stops and quick turns.

(5) Keep your eyes on the road ahead and do NOT look down when shifting.

2. Safety procedures. Con't.

(6) Avoid loose grave, sand, oil slicks, leaves, etc., while patrolling.

(7) Pay attention to parked vehicles while patrolling. (Door openings, pulling from curbs, etc.)

(8) Drive between moving or standing vehicles only when neccessary, then only with extreme caution.

(9) Do not apply front hand brake on slippery surfaces such as oil slicks, snow, loose dirt, painted lines. Painted lines on the roadway are treacherous when wet, and care should be taken when turning or stopping on them.

(10) Never pass between curb lane traffic, and the curb. You are in the driver blind spot, and he may move over to turn right, park, and squeeze you against the curb.

(11) If it becomes necessary for you to stop an auto, never attempt to do it from the right side. The operator is in postion to either intentionally or unintentionally, crowd you off the road or into the curb.

(12) Two wheeled vehicle riding seperates the men from the boys. The men use the machine as a fine tool to work with, The boys use it as a pretty toy to play with. Horseplay, stunting, and showing off, usually are signs of immaturity.

(13) Always leave yourself an out. Never box yourself in.

(14) Size up the traffic picture as far ahead as possible, be alert for the unexpected movement of other vehicles around you.

(15) Make doubly sure that you give proper turn signals, and well in advance. This is one secret for safe riding.

(16) Do not trust your mirror. Always look before changing your position on the roadway.

(17) Never trust completely other operators' signals.

(18) When making turns, keep both feet on the scooter.

(19) At intersections, remember, a large percentage of scooter accidents are those in which the scooter is hit from the side. Left turn, right of way violations are frequent.

2. Safety procedures. Con't.

(20) At red lights, keep constnat check to the rear.

B. NIGHT OPERATION:

(1) Keep lenses clean for maximum light.

(2) Check all light before tour of duty.

(3) Darkness limits visibility for all. Dark affects your depth perception.

(4) For safety in riding, use lights in dusk and peroids of reduced visibility.

(5) Your patrol speed makes you vulnerable at night to rear end accidents. Watch to the rear.

(6) Night time, turn signals must be more pronounced.

(7) Do Not wear sunglasses at night.

(8) Value of clean vehicle.

(9) When stopping, or slowing, tap brakes to warn following motorists.

C. WET WEATHER

(1) Visibility of both you and other motorists is lowered.

(2) Road conditions are more hazardous.

(3) Stopping distances lengthen up to four times.

(4) Watch for fallen leaves.

(5) Avoid sudden stops and foot starts.

(6) Limitbilities of raincoast and boots while riding.

(7) Be extra alert for pedestrians.

(8) Use of lights for better visibility.

(9) Apply power gently when starting.

(10) Danger of painted lines on street., also manhole covers.

(11) Danger of front brake use.

(12) Make no sudden change of direction. Everything an operator does when riding a scooter on a slippery roadway must be done more delibertly, more smoothly, and never abruptly.

C. Wet weather. Con't.

(13) Avoid sharp turns, slow before starting to turn.

D. ALL TURNS (Diagram on blackboard) :

(1) Right turns

(2) Left Turns

(3) U-Turns

E. EMERGENCY RUNS:

(1) YOU ARE NOT an emergency vehicle, and do not have authority to operate as one.

(2) Use common sense when time is important.

LESSON PLAN

LESSON TITLE: Basic riding techniques

TIME: One (1) hour

SCOPE: The necessary steps to put the scooter in motion, and the riding techniques for unusual conditions.

OBJECTIVES: To familiarize each student with the mechanics necessary to put the scooter in operation properly, and to develop necessary skills and knowledge to make the scooter do what the rider wants it to under all riding conditions.

(As outlined in the booklet "Instructors Manual for Training Motorcycle Riders", prepared by the Traffic Institute, Northwestern University).

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1. SAFETY ON A MOTOR SCOOTER:

A motor scooter is a versatile , high response machine. It cannot, without risk, be handled as casually as an automobile. Two things make a higher level of performance necessary for safety in motorcycling than in car driving; first, the stability of the machine is not built in, it is provided by the rider, and second, the rider is exposed rather than protected. Sloppy operation that could be tolerated in a car has no place on a motor scooter. That is why motorcycling requires so much attention to mastering proper habits and why certain attitudes are unsuitable. It is also why riding can be a matter of deep satisfaction and proper pride.

2. ALERTNESS:

Watchfulness is the key to safety in motor scooter riding. More accidents occur because riders are trapped in situations from which they cannot escape than in any other way.

The way to avoid these situations is to recognize them in time to escape them. Some specific rules:

A. Never ride into a space you cannot see your way clear to ride out of. Always be sure you have enough room.

B. Constantly scan the road ahead for gravel, grease, oil, leaves, debris, or obstacles. Anything on the ground that can move, can cause a spill.

2. Alertness. Con't

C. Always ride at least a block ahead of yourself. Train yourself to see hazards at least that far ahead.

D. Anticipate the unexpected movements of drivers and allow for them.

E. Please, no daydreaming.

3. SKILLS AND HABITS:

You must be able to make the motor scooter do what you want it to almost as if it were part of you. Do not try difficult maneuvers, high speed, or competition while you have the slightest tendency to fumble with the controls. Some habits are especially worth remembering:

A. Never apply brake fully and sharply while turning. Doing so will make the tires slip on the road and you lose control.

B. Keep the right hand low and the wrist bent slightly downward with the throttle grip hooked in the fingers rather than in the palm of the hand. This is so that if you are bounced you will not accidently open the throttle.

C. Do not oversteer at higher speeds. Turn the front wheel very gradually into curves. Turns too sharp for the speed will cause wheel slipping.

D. Master the proper combinations of front and rear braking. Too much rear braking will cause rear wheel slipping and "fishtailing", especially on turns. Use of front wheel brakes during turning and with moisture, ice, snow, or any loose material on the roadway will cause slipping and loss of control.

4. PUTTING THE SCOOTER IN MOTION:

The following steps are necessary to put the scooter in motion. Before putting the scooter in motion these steps should be memorized.

A. Be sure scooter is in neutral and clutch engaged.

B. Start the engine.

C. Push off stand.

D. Squeeze the clutch (disengage) with the left hand.

E. Press gear shift lever down into first gear.

4. Putting the scooter in motion. Con't

F. Set the throttle (right hand) at a fast idle.

G. SLOWLY engage the clutch. CAUTION, EXPLAIN WHY.

H. Proceed in low gear.

5. SLIPPING THE CLUTCH AND GEAR SHIFTING:

The action of the clutch is to disengage the engine from the transmission gear box. The throttle controls engine speed. To get into motion quickly and smoothly, you must match engine power to the power required by the scooter.

The gear box contains several gears of different sizes. These are used for low, medium, and high speeds. You will patrol the majority of time in third gear.

In your initial practice sessions in gear shifting, you may notice the scooter begin to jerk and jump. The engine may even die. If this starts to happen, slowly disengage the clutch. This action is called "slipping the clutch" and enables the engine power to match cycle speed. The clutch slippage acts as a buffer between cycle transmission and engine.

Good clutch and throttle coordination is necessary for smooth gear shifting. It will take practice to master it.

A. To decrease power and speed:

(1) Disengage clutch by squeezing left hand.

(2) Simultaneously regulate throttle speed by turning throttle control off with right hand.

B. To increase power and speed:

(1) Slowly engage clutch by relaxing left hand.

(2) Simultaneously regulate speed by opening throttle control with right hand.

C. Clutch slipping and throttle coordination:

(1) Keep left hand on clutch when it is fully engaged.

(2) Slowly disengage clutch by squeezing left hand until engine appears to race, motor scooter loses speed.

(3) To re-engage, coordinate throttle speed with that of scooter.

C. Clutch slipping and throttle coordination. Con't.

(4) This maneuver has many uses, some are: speed, control in close formation, speed control in some turns, speed control in heavy traffic, etc.

D. Successive gear procedure:

(1) Disengage clutch by squeezing left hand

(2) Close throttle (fraction of second after clutch is disengaged).

(3) Shift gear lever up to next gear.

(4) Slowly release clutch lever (engage).

(5) Simultaneously feed gas with right hand.

(6) Try to closely match scooter speed and engine speed to prevent jerky motion of scooter.

(7) Have enough momentum in selected gear.

E. Downshifting:

This procedure is the reverse of that for shifting to higher gears. To reduce the abrupt shock that occurs with speed reduction in shifting from higher to lower gears, the engine speed must be increased (step 5) before the clutch is further re-engaged (step 4).

(1) Disengage the clutch by squeezing left hand.

(2) Shift gear lever down to next gear.

(3) Increase throttle speed.

(4) Re-engage the clutch slowly.

6. RAPID ACCELERATION:

Rapid acceleration to a higher gear is frequently necessary.

A. Be certain you have a clear, unobstructed road ahead.

B. Disengage the clutch.

C. Shift to selected gear.

D. Open throttle with right hand rapidly and simultaneously engage the clutch rapidly.

E. Grip handlebars firmly. It is important after re-engaging.

6. Rapid acceleration. Con't.

the clutch. The scooter may jump or spring foward. You must be firmly seated on the scooter to avoid falling off.

F. Be certain the engine speed is matched with the gear range and scooter speed.

7. STARTING IN HIGH GEAR:

At times it is necessary to start the motor scooter in second, third or fourth gear. This is not a recommended procedure, and it is normally used when a malfuction prevents proper starting, or in cases of shifting mistakes. In performing this task, it is necessary to:

(1) Increase engine speed.

(2) Slip clutch.

8. RIDING PROCEDURES:

A. Turns:

Making turns on a motor scooter differs from an automobile. To successfully execute a turn, you must master the following: Throttle for speed, slipping clutch, leaning of your body (balance control). To increase speed while turning, simply increase power and lean more in the direction of the turn. To decrease speed, decrease power and lean less. This will not decrease speed quickly. To decrease speed quickly, use the REAR brake GENTLY, especially if the speed is high or the turn diameter small. Strong brake application while turning is sure to cause side slipping and more so if the street is wet or has debris on it. To turn more sharply, first decrease speed by reducing power, with the throttle, by slipping the clutch, or by a little braking, or by some of all three. To turn less sharply, turn the handlebars less and lean less.

B. SHARP TURNS AT MODERATE SPEED:

It is frequently necessary to make sharp turns at moderate speeds. To do this:

1. Maintain a speed high enough so that you have control of the scooter.

2. Lean the scooter over further than your body. Your body weight will maintain the scooter in an upright position. As the scooter leans, it will curve a natural turning arc. Centrifugal force helps maintain the scooter at the proper angle.

C. TURNING AT HIGH SPEEDS:

At high speeds, turning the scooter is greatly different than from turning at lower speeds. Lean the scooter and your body at the same angle. Your body should be in the same plane, or line as that of the scooter. It should be leaned at the same angle as that of the scooter. The scooter will tend to follow naturally the turn of the arc. There are two possible conditions that may arise hindering your turn:

1. You may not be leaning sufficiently toward the inside of the curve. In this case, you can run off the roadway on the outside of the curve. To correct this, you must lean the scooter and your body over further or reduce speed.

2. Another difficulty is over-leaning. If you lean too much as you go into a curve, you can run off the roadway on the inside of the curve. To correct this, straighten up the scooter so that you are leaning at the correct angle, or increase the speed for the angle at which you are leaning. The latter should be done with extreme caution.

3. Radii of some curves change as you progress through them. These radius changes may be quite abrupt, and you must compensate for these differences.

   A. Always enter curves at a safe speed. This means slowing BEFORE entering the curve.

   B. Begin to accelerate as you proceed through the curve.

   C. Accelerate rapidly as you approach the end of the curve.

   D. Do not lock front or rear wheel while riding through any curve, except to avoid an accident.

9. FRONT BRAKE STOPPING:

The rear wheel brake has limited ability to stop the scooter. This will be demonstrated on the skill course. If it is necessary to stop more quickly, the front wheel brake can be used. Use the following procedure for this purpose:

1. Disengage the clutch.

2. Close the throttle.

3. Apply the front brake.

9. Front brake stopping. Con't.

Although these are shown as three operations, they should be done almost simultaneously. Slowing will be rapid. A word of CAUTION - You must ride the scooter to a complete stop. At high speeds a long distance will be required. Do not apply front brake on slippery surfaces, oil slicks, snow, or loose dirt. Do not apply either brake so hard as to stop the wheel from turning except in those cases of emergency. If you lock the front wheel, you cannot steer and will lose control of the scooter.

10. LOCKED REAR WHEEL SLIDE FOR EMERGENCY STOP:

In emergency stopping, it is important that the scooter be stopped in a minimum distance. This usually results in a locked rear wheel. To experience the sensation and practice control:

1. Proceed at speed of 15 to 30 M.P.H. (see instructor)
2. Disengage the clutch and close the throttle.
3. Push the rear brake firmly, applying as much pressure as possible and continue until the scooter stops.

The rear wheel should be locked and stop rotating. Keep your hands firmly on the handlebars and grips. The rear of the scooter may swerve from side to side because of the abrupt and vigorous brake pressure. DO NOT ATTEMPT TO CORRECT FOR THESE MOVEMENTS. Just keep the front wheel aimed in the direction of travel until the scooter comes to a stop.

11. FAST STOP:

Situations will arise when you must stop rapidly but not make an emergency stop. To make a fast stop:

1. Apply rear brake with steady, firm pressure.
2. Apply front brake simultaneously.
3. Disengage clutch quickly and close throttle.
4. Sit square in the seat.
5. If the scooter begins to broadslide, that is change direction by moving from side to side:
   a. Release pressure on rear brake gradually until scooter corrects itself and resumes straight line.
   b. OR - Hold balance by leaning away from the direction to which the rear end is sliding.

11. Fast Stop. Con't.

Notice the sole difference between this method and the emergency stopping procedure is the correction for broadsliding. In the emergency stopping procedure we assume that valuable braking distance will be lost if we permit the release of pressure on the rear brake pedal. In the fast stop, we do not have an emergency condition confronting us. Hence, we can adjust the scooter to prevent broadsliding and falling. ACTUALLY, A WELL EXECUTED QUICK STOP WILL STOP YOU IN LESS DISTANCE THAN SLIDING THE REAR WHEEL.

12. SLIPPERY SURFACES:

It is important to know how to ride on slippery surfaces. Wet pavements and slick spots, especially snow, can be hazardous. If, however, you know how to control the scooter, these hazards can be minimized. Watch for thes surfaces ahead. Reduce your speed BEFORE reaching them. Keep these points in mind:

1. The more slippery the surface, the more nearly vertical the scooter must be kept.

2. Do not try sharp turns on slippery surfaces. Avoid any turns, if possible.

3. Slow before starting to turn. The more slippery the surface, the more slowing is needed BEFORE the turning movement.

4. Use proper clutch and throttle co-ordination.

5. Avoid use of front wheel brake.

6. Be extremely cautious when crossing iron grillwork on bridges.

13. BUMPS AND OBSTACLES:

Not all roads are smooth, consequently, you must know how to guide and control the scooter over bumps and obstacles. Make certain that you keep correct riding posture. Hit the obstacle head on, that is, approach it at a right angle. This is decidedly different from driving a car. If the obstacle is hit at an angle, the front wheel will be twisted and the scooter will be thrown out of control. This means that the scooter must not be turned away from the object before striking, but instead may have to be turned toward it. Grab the handlebars firmly so that the front wheel is not jerked out of control. Rise from the seat for bumps so that your lower abdomen, spine and kidneys will not be hurt. Use knees and legs for springs. Speed must be enough so that the scooter will continue without much slowing in it's original direction. Too little speed will stall the scooter at the obstacle or slow it so that it is out of control. Too much

13. Bumps and obstacles. Con't.

speed will give an unnecessary jolt. Do not apply brakes, front or rear, while passing the obstacle. Braking, if any, should be done BEFORE striking the obstacle. It is very important, obviously, to detect the obstacle as far in advance as possible so as to have time to adjust speed and postiion.

14. SHALLOW DITCHES:

Before entering the ditch, cut speed and close throttle quickly. At the bottom of the ditch, increase throttle stongly enough to give sufficient power to pull out smoothly from the bottom of the ditch. Make certain to keep rear wheel in motion and free from spinning, sliding or getting stuck at the bottom of the ditch.

15. HILLS

Hills, referred to here, are small hills with gentle slopes. Do not confuse them with those used for hill climbing competitions. Make certain you have sufficient power to climb the hill, shift to lower gear if engine starts to "lug". When going downhill, shut throttle off. Shift to lower gear. When necessary, apply rear brake only. If off the roadway, watch grass. It is slippery and especially so if dew has fallen.

16. "U" TURNS:

As a scooter rider you must be able to start, ride, stop and make "U" turns on hills. Considerable practice is necessary for you to attain proficiency. In starting on a hill, make certain the brake is applied to keep the scooter from rolling. Remember to utilize proper clutch and throttle co-ordination since ample power is needed to climb hills. A turn ending in an uphill direction requires more power than one ending in a downhill direction.

17. DRIVING AMONG OBSTACLES:

Driving among standing cars and other objects requires use of many of the maneuvers you will have learned. This is done at low speeds because of clearances and visibility. Watch for door openings and operators pulling out and away from curbs.

18. DRIVING PRACTICE:

After an accident, it is easy to think what you did wrong. But if you are smart enough to think of those bad driving practices beforehand and avoid them, you will go far toward avoiding the accident. The most important of these practices is a kind of strategy that keeps you from having to brake and steer at the same time. It requires adjustment of speed for the general road and traffic situation so as to give yourself time and

18. Driving practice. Con't

room in which to avoid hazards after you detect them. It means reducing speed before you start to turn so that braking will never have to be done while you turn. It means slowing before you reach an obstacle of a bad road surface so that you can maneuver around or across it. Always follow cars at a greater distance than you would when driving one. Some drivers instinctively and suddenly reduce speed if they see a police officer behind them. Remember you cannot stop as fast on a motor scooter as drivers of cars without danger and you cannot steer aside and brake strongly at the same time. Never change lanes for any reason without looking over your shoulder to see traffic conditions. Remember--- when riding a scooter, if you get hit --- YOU GET HIT.

LESSON PLAN

LESSON TITLE: Introduction to the scooter.

TIME: Approx. one (1) hour.

SCOPE: Familiarize the student with the nomenclature of the scooter.

OBJECTIVES: Safe operation of the scooter requires of each student the ability to manipulate the various controls without hesitation. The initial response during periods of stress must be automatic, instantaneous, and correct. Positive knowledge of each control, its location, and purpose will provide the student with a technical knowledge necessary to sucessfully operate the vehicle.

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1. BODY:

A. Make of scooter:

Honda CB200T

B. Technical Specifications:

Cruising speed - - - 55 M.P.H.

Fuel consuption - - - 67 M.P.G.

Horsepower - - - 17 at 4400 R.P.M.

Engine:

Type: Four stoke, twin cylinder OHC

Displacement: 198 CC

Transmission - - - Five speed, constant mesh

Brakes - - - Front --- Mechanical Disc.
Rear --- Internal expanding shoe

Suspension - - - Front --- Telescopic fork
Rear --- Swing arm

Tire size - - - Front --- 2.75-18
Rear --- 3.00-18

Ignition system - - - Battery 12V and Ignition coil.

B. Technical Specifications. Con't.

Starting system - - - Electric and kick start.

Dimensions and capacities:

Wheelbase - - - 50.8 inches
Dry weight - - - 291 pounds
Overall length - - - 76.2 inches
Overall width - - - 28.3 inches
Seat height - - - 30.7 inches
Fuel capacity - - - 2.4 gallons
Color - - - metallic silver

Electrical equipment:

Headlight - - - high-low beam
Tail light
Stop light
Turn signals
Red light

C. Working parts

1. Ignition:

A. 12V. battery - ignition coil
B. Key - used for ignition, fork lock, and seat.
C. Always lock when leaving.
D. How to stop engine:
   1. Neutral
   2. Ignition switch
   3. Kill switch
C. Always shut off engine when dismounting

2. Choke:

A. Location
B. How used

3. Fuel lever:

A. Location
B. How used
   1. closed
   2. normal
   3. reserve

4. Starter:

A. Where located
   1. Electric and kick start

5. Lights (check daily)

C. Working parts. Con't.

A. Explain switch operation

B. (1) Headlight - high-low beam
(2) Turn Signals
(3) Red light
(4) Brake light - for safety, must work
(5) Tail light - " " " "

6. Brakes (check daily)

A. Front wheel
(1) right handlebar
(2) usage

B. Rear wheel
(1) Pedal location
(2) how used

7. Horn
A. Location of switch

8. Clutch
A. Lever location
B. Usage

9. Gas (throttle and control)
A. Where located
B. Usage

10. Gear shift lever
A. Where located
B. How used
C. Neutral position
D. Neutral light

11. Carburator
A. Location

12. Gasoline filler cap
A. Location
B. How to open

13. Oil filler cap
A. Location
B. Dip stick

14. Tires
A. Valve location
B. Tire pressure
C. Danger of over or under inflation

15. Muffler

C. Working parts. Con't .

16. Rear view mirror
    A. Minimum value
    B. Don't trust - look and be sure

17. Windshield

18. Jiffy stand and kick stand

DENVER POLICE DEPARTMENT

MOTORCYCLE TRAINING CLASSES

SYLLABUS OF INSTRUCTION

Objective. To provide motorcycle operation training to officers preparing to become enforcement riders and to acquaint them with riding techniques utilized by experienced motor officers.

Summary Statement. The attached syllabus outlines the basic plan of instruction for those officers attending In-Service Motorcycle Training classes.

Purpose of Training. The motorcycle training course is intended to develop special skills required in the operation of a motorcycle and to introduce officers, after attaining a proficient level of basic riding ability, to motorcycle enforcement.

General Contents of the Motorcycle Training Course. The course consists of riding exercises and the development of mechanical knowledge. It is categorized into three main phases and totals 82 hours. The exercises begin with relatively simple maneuvers increasing in complexity as the course progresses. Safety and defensive riding tactics are stressed throughout the training.

1. BASIC RIDING SKILLS (40)

PURPOSE: To develop coordination, balance, control, and the confidence necessary for proficient operation and to familiarize participants with the handling characteristics of the Harley-Davidson 74 and the Moto Guzzi motorcycles.

PRESENTATION: Lecture and demonstration followed by individual and group practice. Training exercises include close-quarter turning maneuvers, negotiating various cone patterns, hill climbing and dirt riding, emergency stopping procedures and balance techniques.

2. NOMENCLATURE AND PREVENTATIVE MAINTENANCE (8)

PURPOSE: To provide a familiarization with the mechanical operation of a Harley Davidson 74 and Moto Guzzi and to develop the skills needed to properly maintain a police motorcycle.

PRESENTATION: Lecture and demonstration followed by actual maintenance of an assigned motorcycle by each participant. Individual tool kits are provided to permit the participants to make certain adjustments and repairs. Maintenance charts and bulletins, and examples of worn equipment are used as training aids to fortify the presentation of proper maintenance procedures.

3. HIGHWAY AND ENFORCEMENT RIDING SKILLS (34)

PURPOSE: To provide traffic experience and riding techniques required to safely operate a motorcycle as an enforcement vehicle. Emphasis is placed on the development and utilization of sound riding judgement.

PRESENTATION: Lecture and discussion aided by snap shots. Riding practice is conducted in selected areas to expose

HIGHWAY AND ENFORCEMENT RIDING SKILLS (continued)

the participants to a variety of traffic conditions found in business, residential, and rural areas and on freeways. Night riding and simulated enforcement problems are included.

January 1972
REG/rmj

M O T O R C Y C L E

T R A I N I N G

C O U R S E

BY

Tech. R. E. Gray
Traffic Division
Denver Police --

(Material obtained from Course at California Highway Patrol Academy)

c. Push rods

d. Heads

e. Cylinder

f. Lower end (engine case)

g. Oil pump case

h. Gear Case

i. Distributor head

7. Others

a. Starter Motor

b. Battery

c. Compensating sprocket

d. Primary chain - adjustable shoe

e. Clutch assembly

f. Transmission

g. Rear chain

Electrical System:

1. Switch
2. Generator
3. Coil
4. Spark plug
5. Battery
6. Voltage regulator
7. Circuit breaker - 15 degrees apart on firing

Carburetor:

1. Handle throttle
2. Choke

Exhaust Line: Explain

1. Front Brake (cable)

2. Rear brake (hydraulic)

    a. Master and wheel cylinder

Seat Adjustment

Handling the machine:

1. Backing up

    a. Straddling

    b. Side sitting in seat

2. Picking up machine

    a. Balance on machine

    b. Lift tire to ground

    c. Both grips

    d. Roll bike down on bar and bounce machine up all in one motion.

Kick Stand:

1. Locking bar

2. Locking bar bracket

Bring out Motorcycle: Explain other parts not on stripped model

1. Clutch handle or foot

2. Throttle grip

3. Ignition switch

4. Turn signal switch

5. Bikes start in gear or out

6. Horn button

7. Red light switch

8. High--low beam switch

9. Warning light switch

10. Gas tanks

    a. Cross over tube

    b. Holds 3.7 gallons

c. Reserve supply system - 1.3 gallons

d. Explain reserve switch

e. Close both switches on gas valves at night

11. Starting

a. Pull choke out

b. In neutral

c. Switch on

d. Throttle open 1/4

e. Starter

1) Battery too low - kick start

f. Slow down to idle

g. Never accelerate just before stopping

h. To clear from flooding

1) Turn off switch

2) Turn off gas valve

3) Open throttle all the way

4) Turn over several times

5) Repeat starting procedure

Start Machines:

1. Put motorcycle on training wheels

2. Explain gear shifting

3. Allow each man to try shifting pattern while on trainer

Battery Care:

1. Fill to 1/4 inch above plates

Oil Tank:

1. Do not add until oil level is below add line

2. NEVER OVERFILL

3. Never throw filter away

Tool Kit:

1. Tire gauge
2. Pliers
3. Screw driver
4. 7/16 combination
5. 1/2 combination
6. 9/16 combination

Adjustments:

1. Adjust handle bar and seat to fit its rider
2. Check clutch cables every morning and throughout the day
3. Explain the breaking feeling
4. Inspect the footboards for rivots and sharpness
5. Tires
   a. Air pressure: front 20 rear 24
6. Check battery water
7. Check oil level

PART TWO

First Riding Course:

1. Starting - stopping
2. Easy turns - rear brake only
3. Shifting - first and second gear

REFER TO DIAGRAM I

Points to Remember:

1. KNOW YOUR SURFACE -- PAY ATTENTION TO IT!!!
2. Brake first then turn
3. Avoid braking hard, so you won't go into a skid

ANTICIPATE

Ride assigned course until instructor satisfied that performance is adequate

* Call men into formation and explain how to find neutral.....

Discuss Posture:

1. Kidneys
2. Professionalism

Riding Maneuvers:

1. Go into U-turn maneuvers single file
2. Go for a ride that is short and fast - up to 45 MPH
3. Stop in file and give instructions for figure 8
   a. Keep feet off pavement once bike is moving
   b. Look where you are going to turn, not in front of you
   c. Front tire should not turn one (1) inch from left to right in maneuver.

DEMONSTRATE THE FIGURE 8

4. Separate men into groups of two and have them practice
5. Go in single file: left and right U-turns at intersections
6. Street ride: street U-turns and double U-turns on wider streets
7. Column pull-outs
   a. Start off and put both feet up before you turn
   b. Practice with men
8. Now go for a ride

* Assemble in line

REFER TO DIAGRAM 2

Explain Diagram:

1. Weave in and out of cones
2. Don't start until motorcycle in front is past the third cone

* Go for a ride - come back and assemble in line

Explain Dirt Riding:

1. Help pick up downed motorcycle

2. Go for a ride on dirt

* Assemble and go for a ride to cool off motorcycle

END DAY ONE

D A Y T W O

PROCEDURES FOR THE DAY:

1. Go for a long ride with U-turns to loosen up
2. Assemble and practice figure eights
3. Go through all maneuvers
    a. Stop - start
    b. Column pull-outs
    c. Figure eights
    d. Cone weaves
    e. U-turns
4. Practice column pull-outs
5. Go for a ride in the dirt in column
6. Assemble
    a. Discuss clutch and relaxing
    b. Hang ups in the dirt
    c. Don't sit in the saddle when someone is helping you
    d. Talk about cone maneuvers and putting your feet down if necessary
    e. Go over the engine RPMs and clutch movements
7. Set up and go through DIAGRAMS 3 and 4: cone maneuvers
8. Go for a ride and go into a circle maneuver
9. Introduce front brake and rear brake
10. Rear brake: rear wheel lock-up
    a. For emergency only
    b. Never use it to show off
    c. Anytime you lay the motorcycle down - you are an accident
    d. Should be practiced in the field from time to time

1) When you are in need of a new tire

2) Never do it alone

3) Do it out of the sight of the public

e. Demonstrate at various speeds: 35-70 MPH rear only

f. Demonstrate at various speeds: both brakes

g. Have men practice

1) Turn off gas - push in clutch

2) Push on the brake pedal smoothly but hard

3) Be sure to keep the handle bars straight ahead

4) Relax and keep body from moving - enjoy it

5) Two (2) times at 15 MPH

Two (2) times at 20 MPH

Two (2) times at 25 MPH

11. Front Brake

a. Front wheel will not lock up on pavement - on dirt it will

b. Demonstrate front brake only at 25-30 MPH

c. Have men practice: disengage clutch

1) Two (2) times at 15 MPH -- front brake only

2) Two (2) times at 20 MPH -- front only

3) Two (2) times at 25 MPH -- front only

12. Go for a ride, single column U-turn maneuvers

13. Assemble: explain animals on the roadway

14. Explain lock-wheel turn out

a. Look where you are to turn

b. Don't look down

c. Lean hard in the direction you are to turn

d. Pick up feet as soon as possible

15. Practice on the cone maneuver

REFER TO DIAGRAMS 3 AND 4

16. Go for a ride and assemble on the dirt for rear wheel lockup
    a. Release throttle, bring in clutch
    b. Lock up rear brake only
    c. Hold until you stop - don't shift your weight in the saddle
    d. Let rear end slide if it wants to. Relax and enjoy it
    e. Don't let off of brake if you start sliding to a side
        1) You might get a whipping action if you do
        2) If you want to get off the brake, do it slowly
17. Explain broad slide by shifting your weight and using your rear brake only
    a. 10 MPH is fast enough
    b. Once brake is locked, do not let up
18. Go for a ride and assemble
19. Practice lock wheel pull outs
20. Explain circle turn scraping footboards, to learn how far you can lean.
    a. Use second gear and look around (you won't get so dizzy and
    b. you will keep better balance).
21. Go for a ride, doing U-turns and going into DIAGRAM 2
22. Have slow race: 3 times only
    a. Winner is one who takes longest time to go from point "A" to point "B" without putting a foot down or letting the engine die.
23. Practice lock wheel turn out
24. Ride cones in soft dirt

REFER TO DIAGRAM 8

26. Secure for the evening

END OF DAY TWO

D A Y T H R E E

PROCEDURES FOR THE DAY:

1. Simple column ride to loosen up
2. Separate and practice figure eight
3. Column ride - DIAGRAM 2 - in and out of cones and go for a ride
4. Separate and practice scrape circles
5. Long ride with slanted hit hill U-turns
6. Separate for lock wheel turn out practice
7. Explain with the use of cones, 2 and 4 column riding
   a. Raise left hand with 2 fingers for 2 column
   b. Raise left hand with 4 fingers for 4 column
   c. Man in back goes to left
   d. Man on right determines speed and distance
   e. To go back to single column - go to column of 2 then one.
   f. Dress is always to the right except turning left
   g. Vacancies are filled from the men directly in line

      NEVER BY CROSSING

   h. Go for ride and practice
8. Practice cone maneuvers - DIAGRAMS 3 and 4
9. Practice rear wheel lock up
   a. Two (2) at 20 MPH - rear brake only
   b. Two (2) at 25 MPH - both brakes
   c. Two (2) at 30 MPH - both brakes
10. Competitive drill - DIAGRAM 6
    a. Keep feet up
    b. Run 3 times

11. Short ride in column of 2

12. Practice dirt broadslides

13. Practice lockwheel pull outs

14. Go for a ride practicing 2 and 4 column riding

15. Explain high speed cone weaving - DIAGRAM 7

    a. Should only be used in emergencies

    b. Helps coordinate balance and speed

    c. Use third gear at 30 MPH

16. Rear wheel lockup practice

    a. Two (2) at 20 MPH

    b. Two (2) at 25 MPH

    c. Two (2) at 30 MPH with both brakes

17. Column pull out practice

18. Demonstrate and explain -- line stop and take off -- cone stop turn out practice

* Pick up cones and secure for the day

END DAY THREE

DAY FOUR

PROCEDURES OF THE DAY:

1. Go for a ride to loosen up
2. Weave through the cones - DIAGRAM 2
3. Go for a ride - then separate and practice large circle (board scraping)
4. Ride - then practice lockwheel pull outs
5. Practice the 30 MPH cone weaves - DIAGRAM 7
6. Rear brake practice
   a. Two (2) at 20 MPH - rear brake only
   b. Two (2) at 25 MPH - both brakes
   c. Two (2) at 30 MPH - both brakes
7. Incline pullouts
   a. Explain techniques of taking off and demonstrate
   b. Practice up and back
   c. Pullout to the right then left
8. Ride - then go through the cone patterns - DIAGRAMS 3 and 4
9. Go for a long ride - change position of men at different times
   a. Fast accelerate
   b. Slow maneuvers
   c. Weaves
   d. Dirt
10. Practice column pullouts
11. 2 x 4 takeoffs
    a. Two 2 x 4's placed at length of wheelbase
    b. Coordinate the clutch and throttle without spinning the tire
    c. Demonstrate and have men do it 5 or 6 times
12. Go to the dirt hills

END OF DAY FOUR

D A Y F I V E

PROCEDURES OF THE DAY - MANEUVERS

1. First Exercise
   a. Practice close U-turns
   b. Slanted hill U-turns
   c. Circle maneuvers
      * Long ride to cool bikes
2. Second Exercise - Brake exercise
   a. Two (2) at 20 MPH - rear brake only
   b. Two (2) at 25 MPH - both brakes
   c. Two (2) at 30 MPH - both brakes
   d. Two (2) at 35 MPH - both brakes
      * Long ride to cool bikes
3. Third Exercise
   a. In-line column - figure 8 - intertwining
      * Long ride to cool bikes
4. Fourth Exercise

   REFER TO DIAGRAMS 9 and 10

5. Fifth Exercise

   REFER TO DIAGRAM 11

   a. Approach at 40 MPH in third gear
   b. Do not lock up rear tire
   c. Drive 40 feet at 40 MPH - at end (reaching cone) cramp front wheel brake tight on the rear brake (do not lock up) make sharp left, then right. Speed: approx. 0-5 MPH at this point.
6. Explain - DIAGRAM 12
   a. Triple light control. Approach at 30 MPH, at 30 feet from lights, respond to lights as indicated, proceed if light green.

b. If there is no green light, but an amber, proceed through amber.

c. If all are red, stop at the light line.

7. Explain - DIAGRAM 13 - timed excercise

a. Run men through in a group

b. Repeat separately

c. Each man repeats exercise 3 times - timed

8. Cleaning

a. Have men clean motorcycle and put away

b. Call men in office individually - give verbal evaluation

9. Assign full-dress motorcycles

a. Show men windshield adjustment

1) At 1-2 inches below eye level

2) Watch for windshield cracks

b. Make other adjustments

c. Have men clean new motorcycle

1) Pride

2) Safety

a) by cleaning, find loose nuts and bolts

END OF DAY FIVE

D A Y S I X

Posture

1. Hunched looks bad - not professional
2. Hard on kidneys

Tire Pressure (Air)

1. Front 20-22
2. Rear 22-24

Clean Your Own Machine for Two Reasons

1. Pride
2. Check for nuts and bolts loose

Radio

1. Receiving - uses very little amps
2. Transmitting - uses a tremendous amount
   a. Have engine running to transmit
   b. Key mike for 2 seconds, then talk
      1) While moving, talk in a normal tone - never scream into it

Road Surface

1. Cause of 1/3 of all motorcycle accidents
   a. Sand and gravel on pavement
   b. Grease strip - center of lane
      1) Watch where you put your foot down when stopping
   c. While waiting for green light, look where you will be going to see what is ahead of you
   d. Manhole covers
      1) Loose
      2) Wet
      3) Broken

e. Paint

1) Hot day

2) When wet

3) When turning

f. Large obstacles in roadway

1) Motorcycle in vertical position

a) Take at as close to 90 degree angle as possible

2) Slow down if you can

3) Last second accelerate to lift front end

4) Do not swerve

a) You might go down or hit the object at an angle and throw you off

5) Drive as though no one sees you - never think that you are seen.

6) DIAGRAM 14

DIAGRAM 15

CONTINUED

1 OF 2

7) Double riding passes on two lane roadway

DIAGRAM 16

a) Outside rider first, then move to inside

b) Inside rider then moves out, passes and becomes outside rider

8) Be aware of the blind spots of a vehicle

a) Never drive in those positions

DIAGRAM 17

Splitting of vehicles

1. Rule of thumb to remember - 10 MPH is the maximum speed to travel over vehicle's speed
2. When stopping at a light, for your safety, never be the last in line
   a. Split and go to the intersection or
   b. Split and go up one car and stay between them.
      1) A good enforcement maneuver
      2) You are up front and can watch for traffic violators
3. Check your motorcycle for stability
   a. Steering head bolt

b. Upper motor mounts

c. Lower Motor mounts

d. Rear shock for position and their bushings

e. Rear thrust bearing

1) Loosen slightly - then torque to 100 ft. pounds

4. Oil light

a. If it comes on, pull over and stop

b. Oil Level OK - start engine and watch for circulation

c. If circulating, possible defective light switch and drive in and have it fixed

5. Stopping violator

Procedure 1: Pull alongside offender - give motion to stop and point to curb to designate stopping point. Fall in behind vehicle. When stopped, park motorcycle so it is at an angle to the offenders rear view mirror (to note reaction of occupant). Make certain motorcycle is in good supportive position.

Procedure 2: Follow normal precautionary measures when approaching offender

Further Motorcycle Practice:

1. First Exercise

a. Go for ride in large parking area for maneuvers

1) U-turns to loosen up

2) Cones and DIAGRAM 2 procedures

* Long ride to cool off motorcycles

2. Second Exercise - 40 MPH brake turn

REFER TO DIAGRAM 11

3. Third Exercise

REFER TO DIAGRAMS 9 and 10

4. Fourth Exercise - braking

   a. Two (2) at 15 MPH - Rear brake only

   b. Two (2) at 20 MPH - Rear only

   c. Two (2) at 25 MPH - Front and rear brakes

   d. Two (2) at 30 MPH - both brakes

5. Fifth Exercise - Column pullouts

6. Sixth Exercise - Slanted hill U-turns

7. Demonstrate use of the siren

   a. Have men practice

8. Go highway driving in columns of 2

9. Secure for the day

END OF DAY SIX

D A Y S E V E N

Run through designated routes

Return at dark and go through designated maneuvers and routes

D A Y E I G H T

Day procedures - run through designated routes

D A Y N I N E

PROCEDURES OF THE DAY

1. Morning
    a. VASCAR setup on highway
    b. Accelerating and stopping procedures
    c. Practice
2. Afternoon
    a. RADAR or VASCAR setup in City
3. Call men in separately for final evaluation

* * *

March, 1972

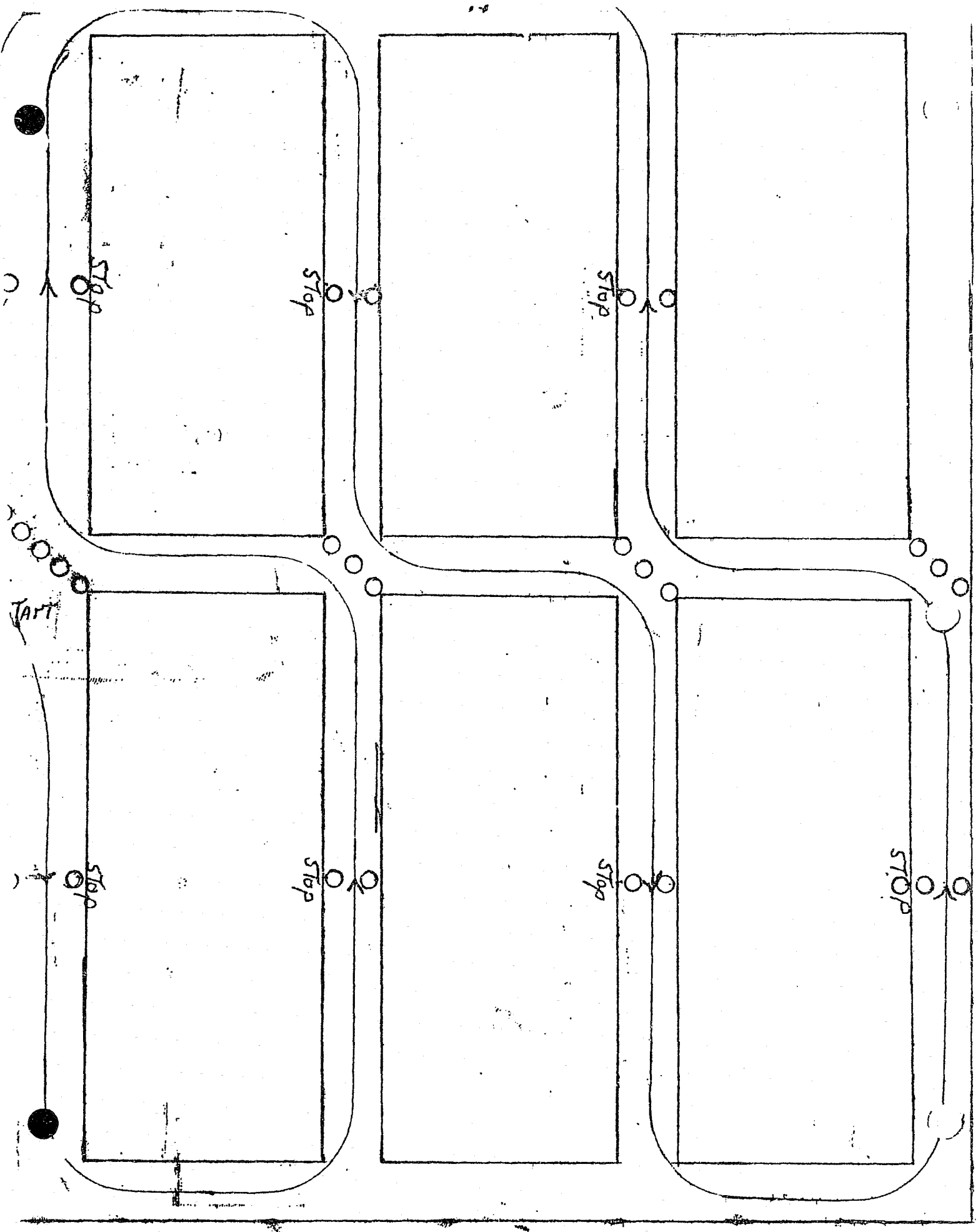


DIAGRAM #1

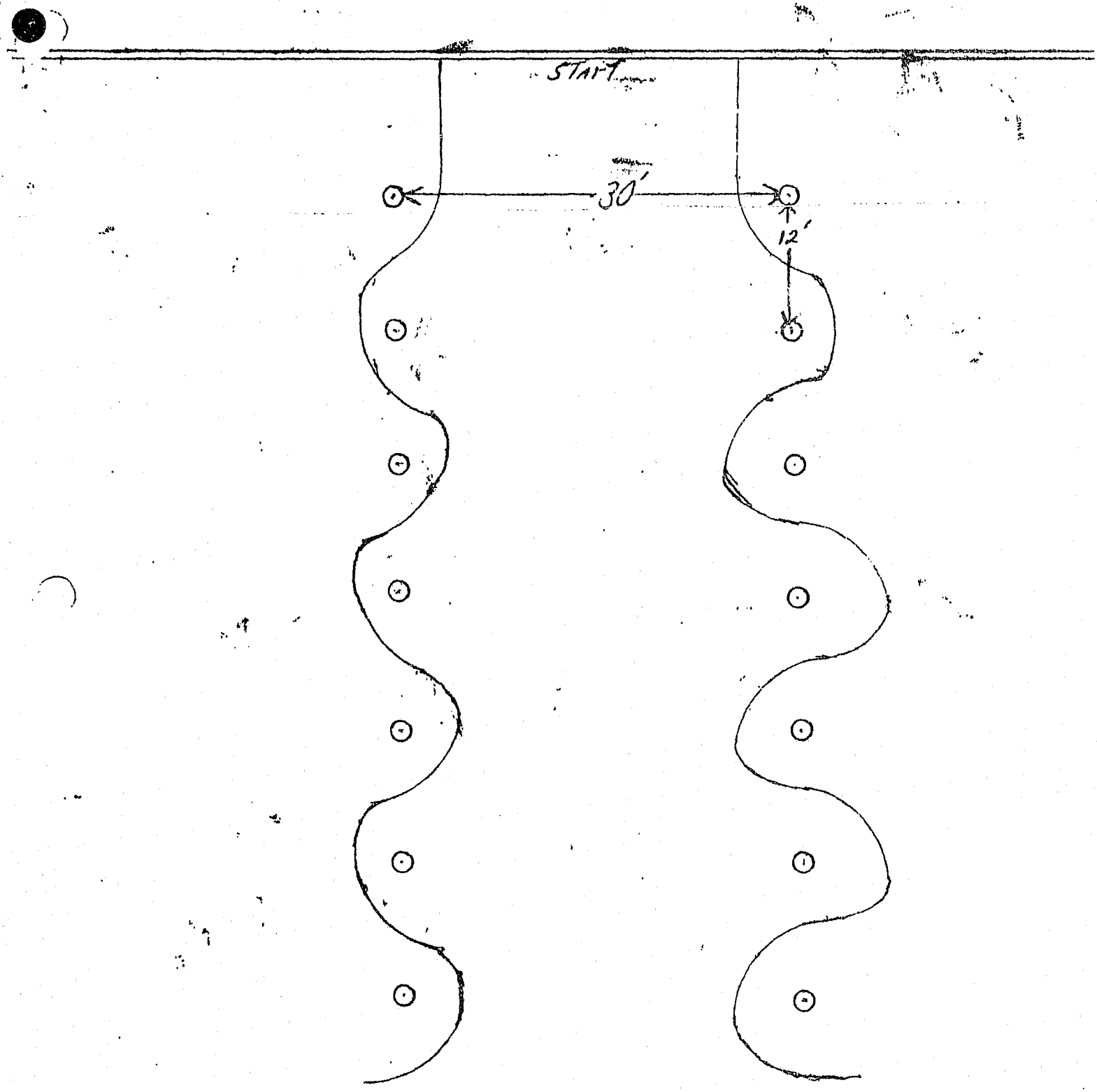
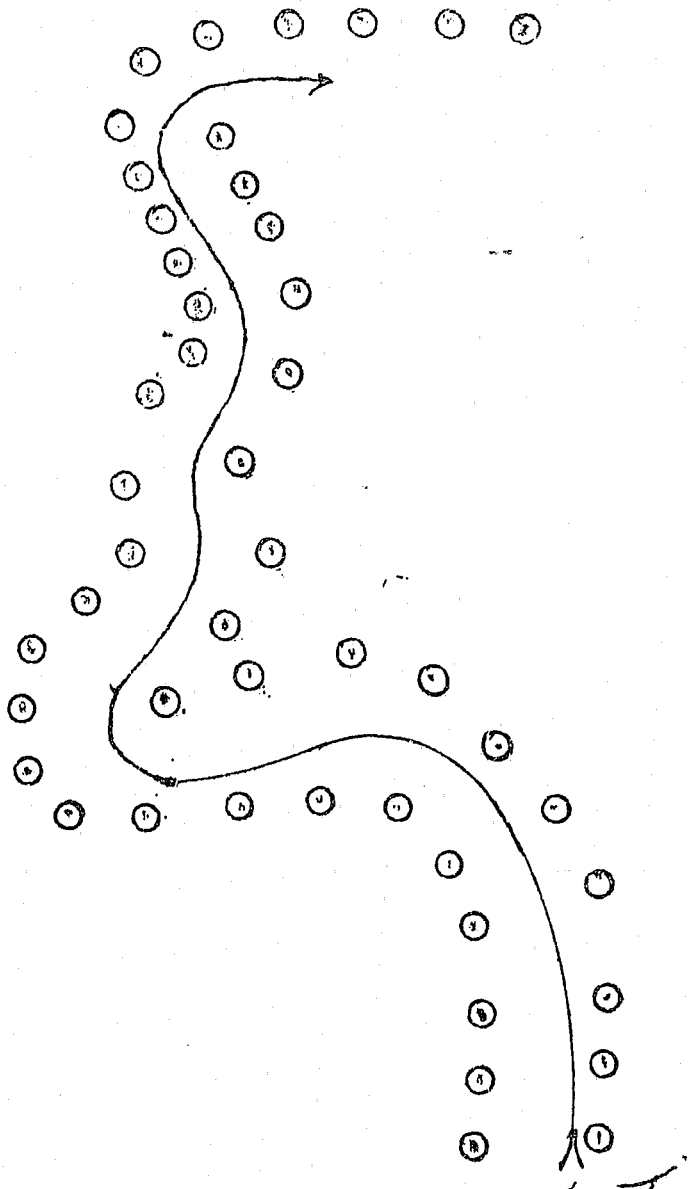


Diagram #2



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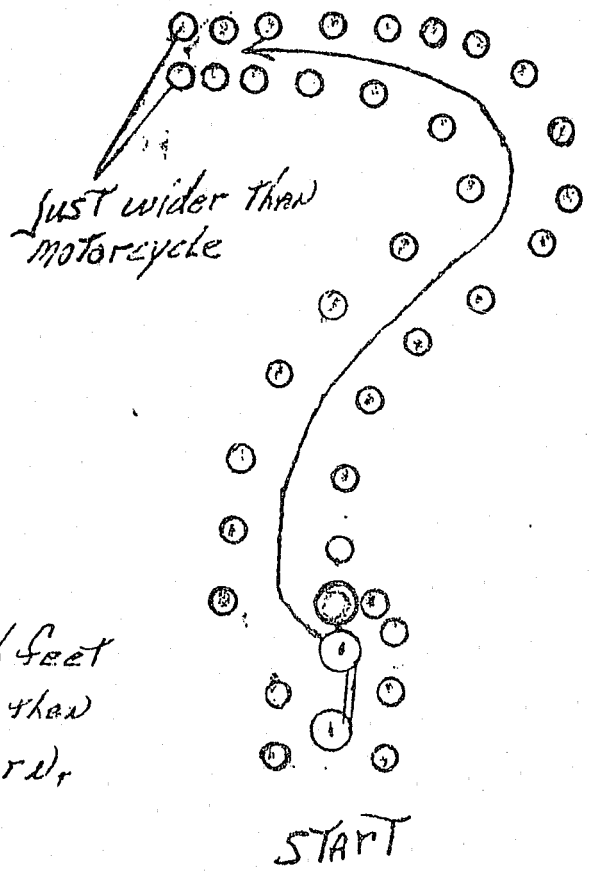
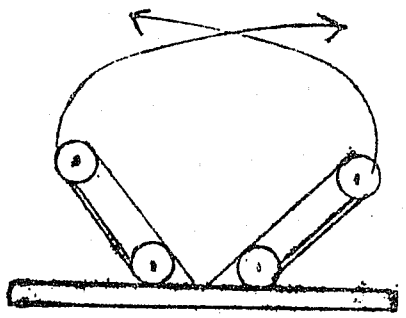


Before starting put both feet on the pegs, balance, then go through the pattern.

Diagram #4



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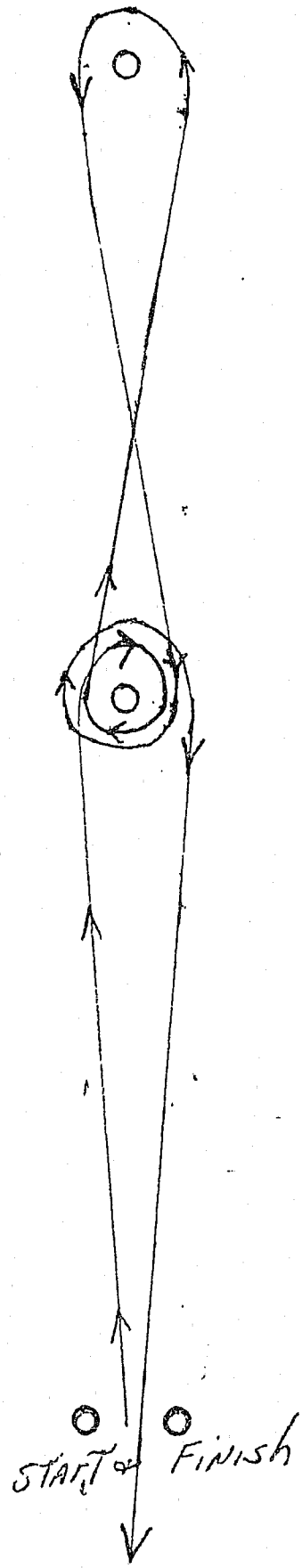
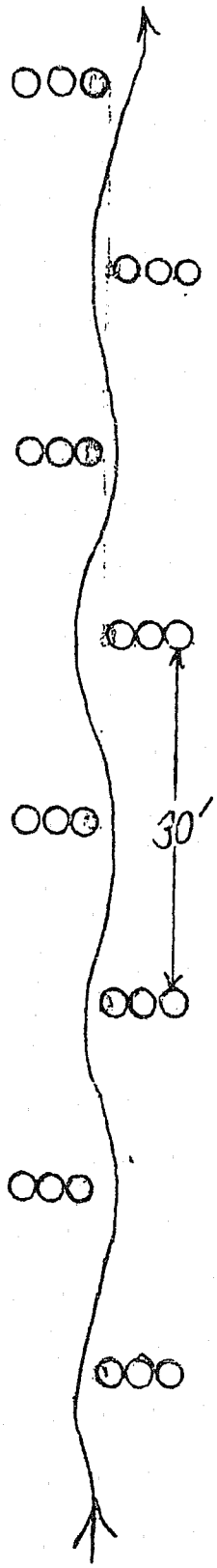


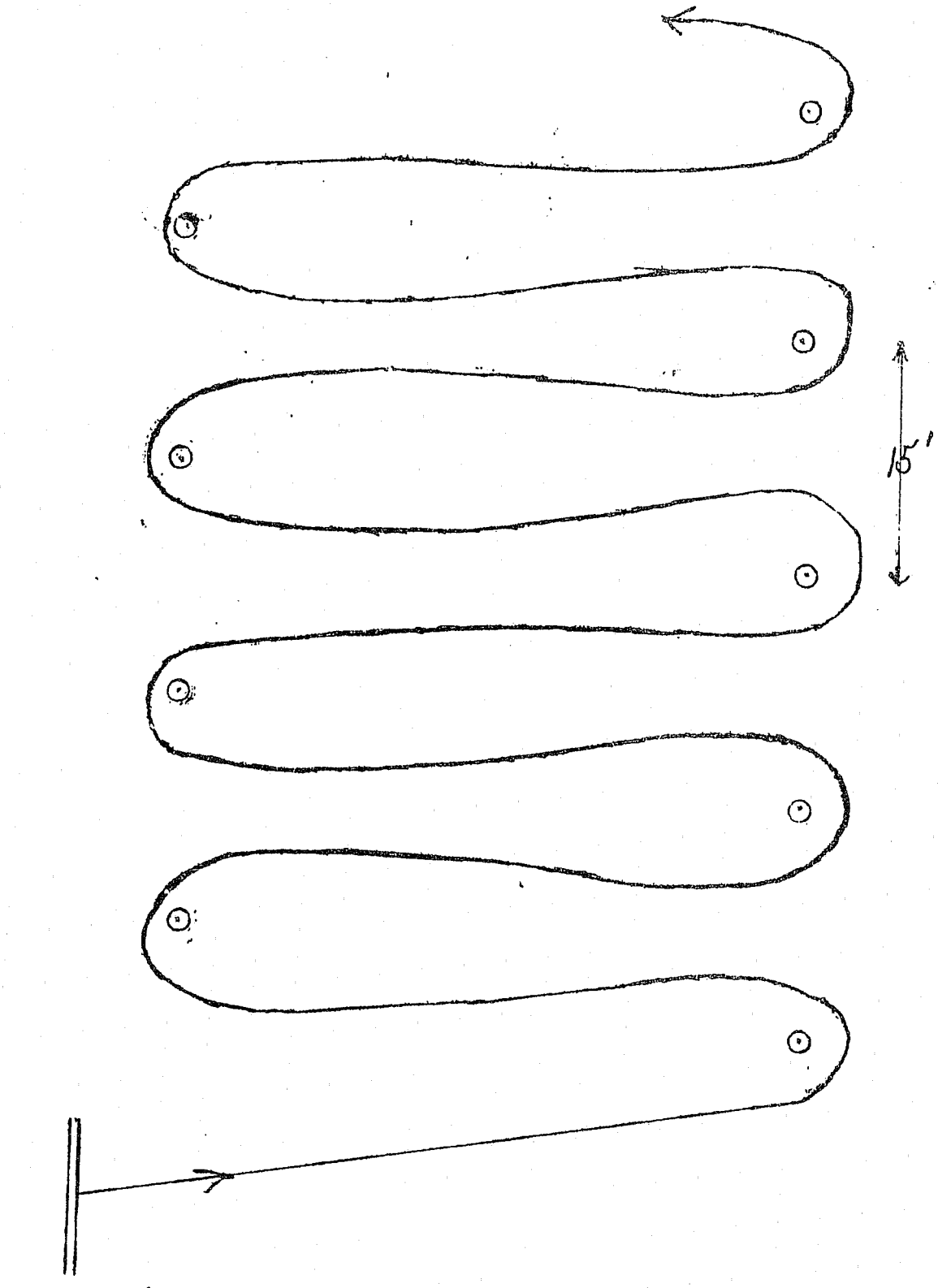
DIAGRAM #6



30 mph in 3rd gear

Diagram #7

START



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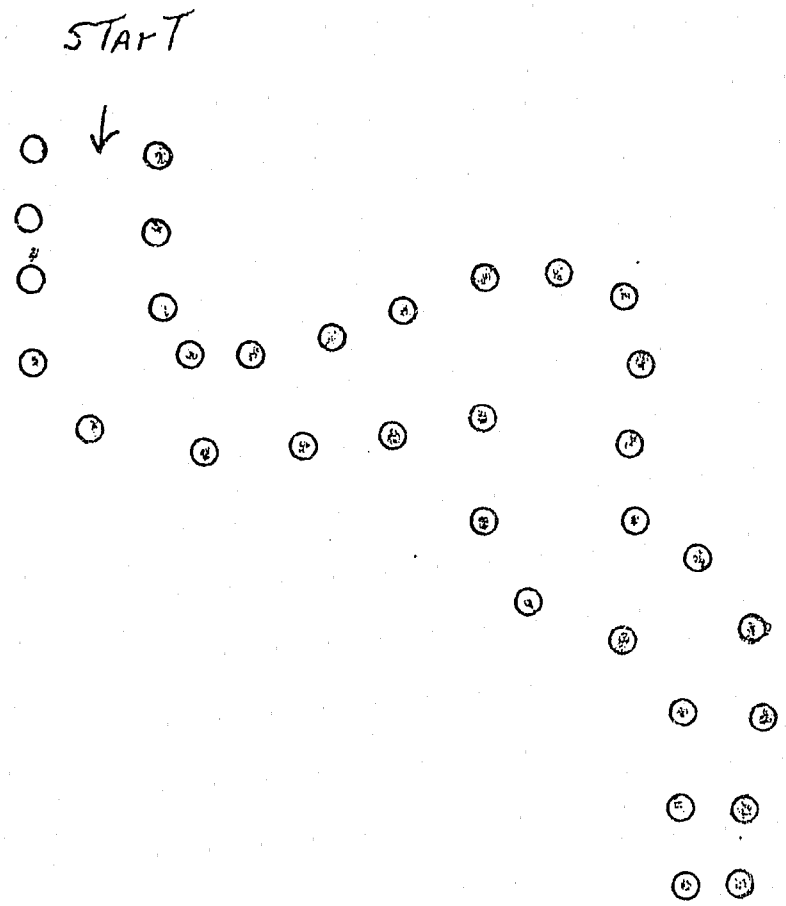

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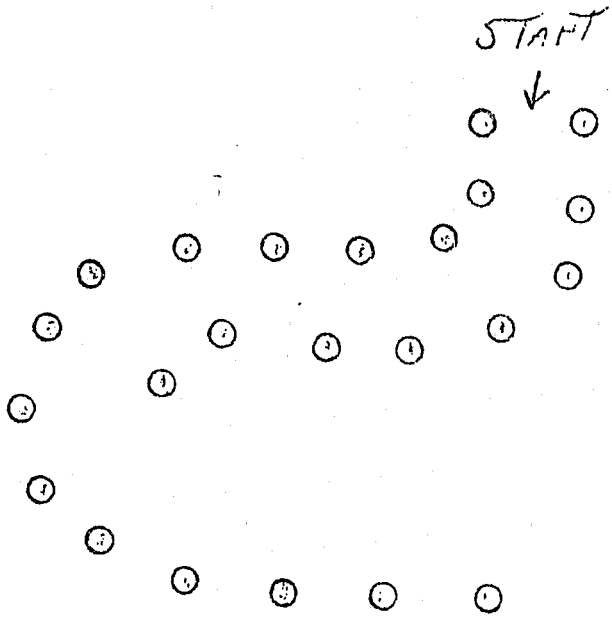

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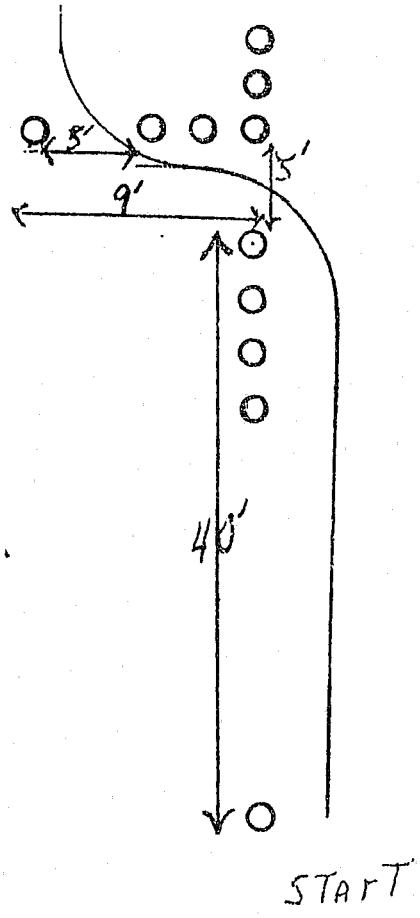

Diagram #11

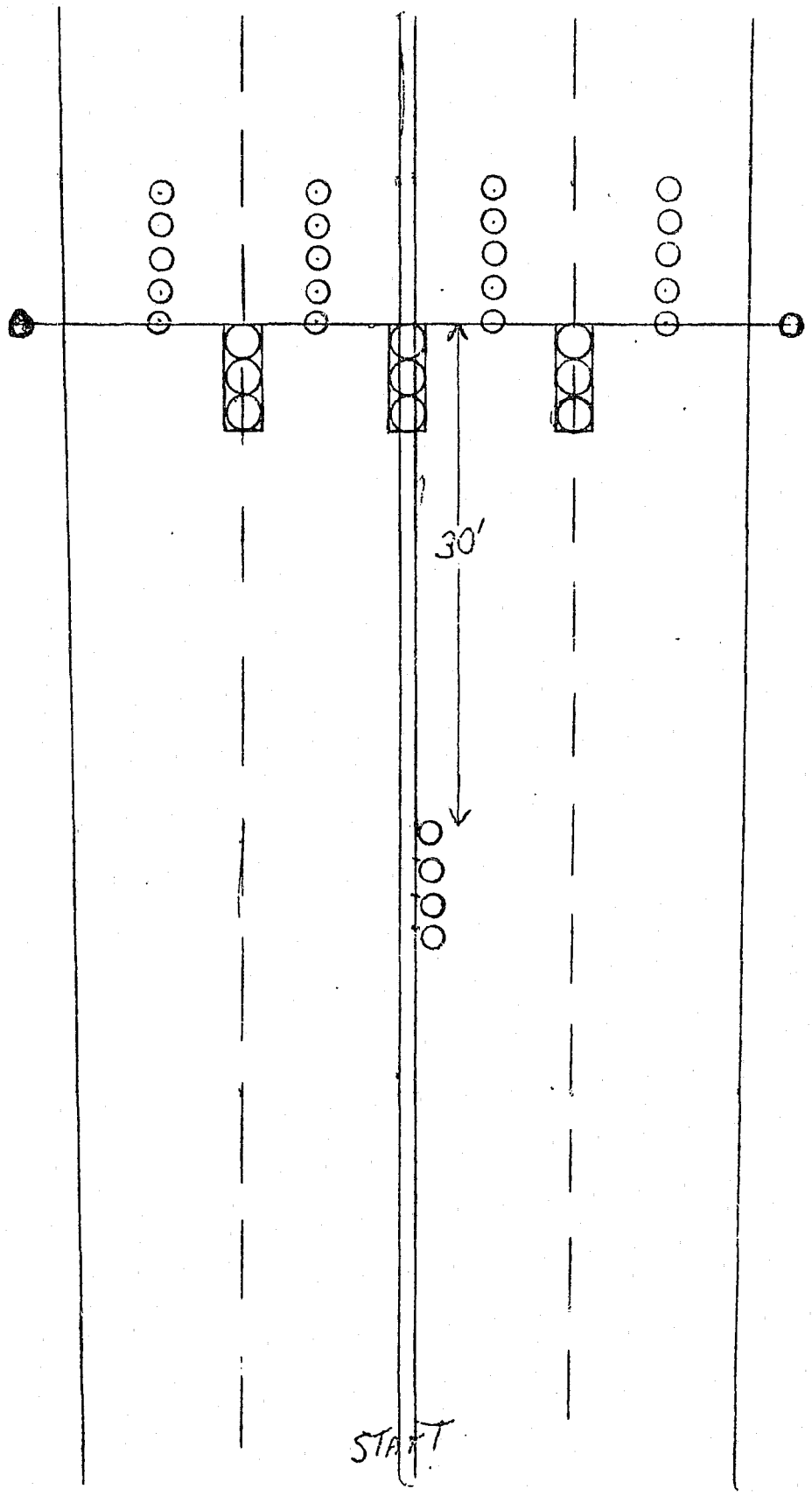

Diagram #12

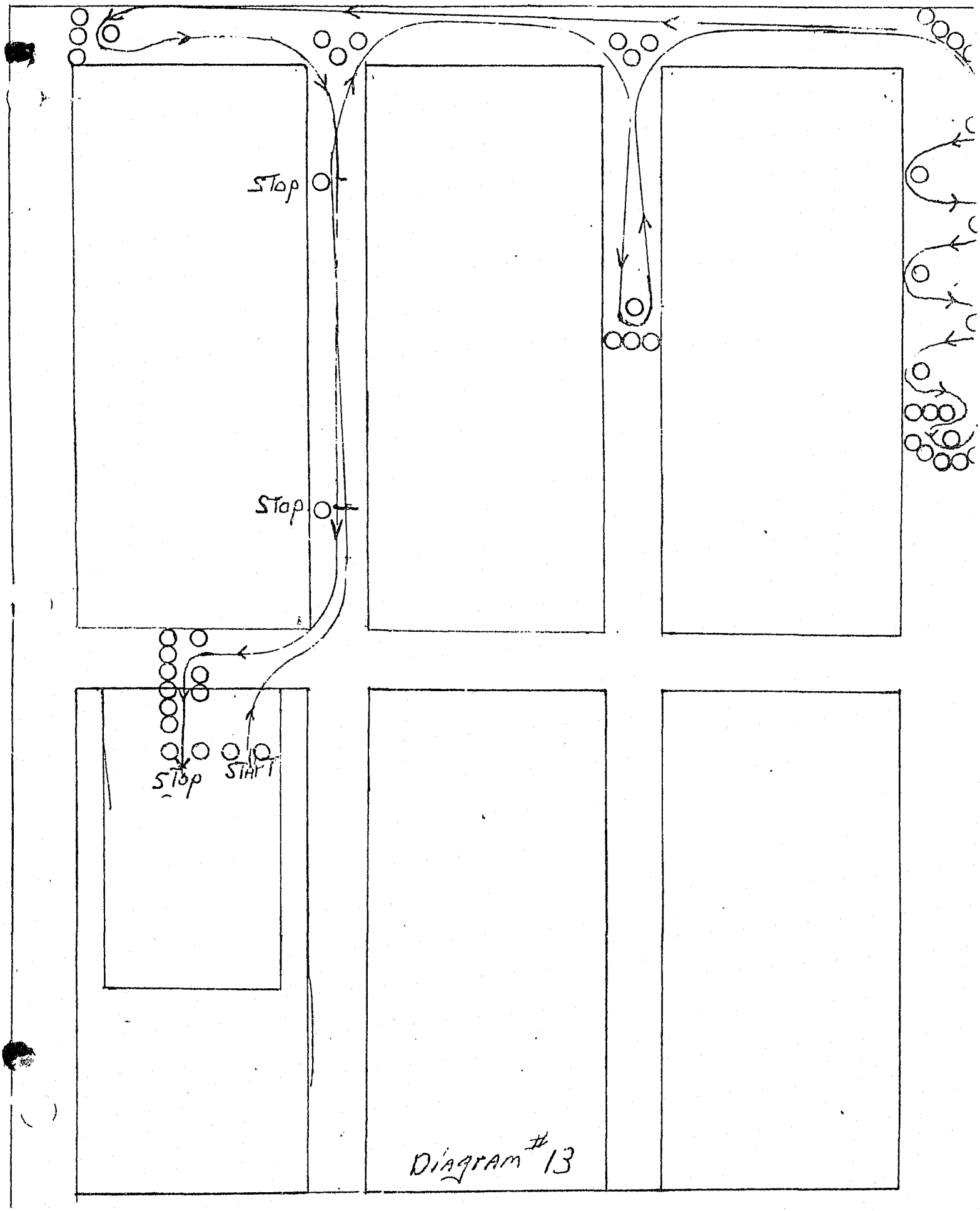

Diagram # 13

END