A STUDY OF THE PARKING PROBLEM AT THE UNIVERSITY OF TEXAS

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A STUDY OF THE PARKING PROBLEM AT THE UNIVERSITY OF TEXAS

by

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THESIS

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PREFACE

The parking problem at The University of Texas first came to my attention in the fall of 1947 when I reported for duty. Like everyone else, I attributed the situation to postwar conditions, and reluctantly parked in overcrowded alleys and makeshift parking lots. Two years later, when I started studying traffic and parking habits throughout the United States, I became more aware of the local problem. After discussing it with several faculty members, I formulated this study.

For a field as broad as parking it is not possible to give a comprehensive coverage of all aspects in a study of this nature. The basic phases of a typical parking survey have been applied with the view of accumulating and presenting factual data which may be utilized in conjunction with other studies to alleviate the situation.

I wish to take this opportunity to acknowledge the help and constructive criticism received from Professor John A. Focht, supervisor; Professors William E. Barker and Hugo Leipziger-Pierce, members of the supervising committee; and Dr. John R. Stockton, who assisted in the statistical portion of the study. Also I would like to express my appreciation to the faculty members, sororities and fraternities who gave their time to collect the student questionnaires.

WALTON O. THREADGILL
Major, Corps of Engineers
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23 April 1951

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CHAPTER I

INTRODUCTION

GENERAL PROBLEM

The parking problem in the United States has become progressively more acute as our nation has changed from its original agrarian economy to its highly industrialized state of the present. Perhaps no single factor contributed more to the problem than Henry Ford when he built the Model T and priced it within the limits of the incomes of millions.

As settlements grew into small towns, members of the surrounding communities relied on occasional visits to the general store to get provisions for the following few months. With the increase in population, more routes of communication were constructed and towns grew into cities which became the economic and cultural hubs. At the same time the Industrial Revolution was in full swing and transportation was developed with the primary interest of providing more rapid means of movement of goods and personnel. Unfortunately the movement was not complete within itself and transportation could not operate efficiently unless adequate parking and terminal facilities were available.

The owners of the general stores realized the necessity of providing their customers with places to tie their saddle horses and teams, so hitching posts were placed along the road in front of each store. The teamster merely headed his wagon into the hitching post and tied his steeds while he made his purchase. When the automobile became the principal mode of transportation, the hitching posts were discarded, but the drivers continued to head their vehicles into the curb; thus angle

parking developed.

As the towns grew, the main roads would not accomodate all business concerns, so adjacent roads were built. It was the thought of the early city planners that any space devoted to streets was a waste; therefore, the roads were built wide enough only to permit a wagon to pass another utilizing a hitching post. Those standards were sufficient to accomodate traffic of those days, but as modes of transportation changed, facilities fell far short of the new requirements.

It has always been the consensus that streets are for moving traffic, and not for parking vehicles. In England in 1812, records of the case of Rex vs. Cross indicate that the defendant permitted his coaches to remain parked too long. The court ruled: "Every unauthorized obstruction of a highway to the annoyance of the King's subjects is a nuisance. The King's Highway is not to be used as a stable yard." [1] To alleviate obstruction of narrow streets, angle parking gradually gave way to parallel parking, which partially solved the problem for smooth flow of traffic in both directions on narrow streets. The main objection to parallel parking is that it requires a backing movement, thus hindering movement of through traffic, whereas angle parking does not require more than a turning maneuver. Such an argument does not take into consideration the movements required when the vehicle moves from the parking space. In most instances, the angle parker backs <u>blindly</u> approximately one-half the length of his vehicle before he can see oncoming cars. This is not the case in parallel parking; however, the number of parking spaces is decreased. In 100 feet

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1. Eno Foundation for Highway Traffic Control, Inc. <u>Parking</u>. Saugatuck, Conn., December, 1946. p.3

of unrestricted curb space, twelve vehicles can park at a 90-degree angle, nine at a 45-degree angle and only five parallel. Where there are no-parking zones along the curb, the number of diagonal spaces will be reduced more than the parallel spaces, since some curb space will be wasted in order to prevent the rear of the automobile from overlapping the no-parking zone. The net result is about seven spaces at a 45-degree angle and five spaces parallel.

Not only is the parking problem an old one, but it is one of the most complex, due to the variety of groups involved. Merchants and other business men feel that their trade will be affected adversely if their clientele is not permitted to use curb space adjacent to them. Motorists' desires must be considered; they want the most convenient, safe and inexpensive facility possible. A majority of shoppers agree to walk a maximum of 1000 feet from a parking place to their destinations.[2] Commercial fleets require ready access to curbs for the purpose of pick-up and delivery of freight. In certain areas, the demand may exceed the space allotted to private vehicles. Taxis and bus companies have to be considered to provide ample curb space for loading and unloading passengers. Emergency vehicles, such as police cars and fire engines, must be taken into account also--not from the standpoint of parking those vehicles, but from the interference which may result if parked vehicles prevent immediate access to fire hydrants and laying of hose.

In general, parking is a problem faced to some extent by every urban area. Perhaps there is no city in the United States which has found a solution entirely satisfactory to all concerned.

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2. Charles S. LeCraw. "Interior Block Parking," in Traffic Quarterly, October, 1947. p.352.

TxU

SPECIAL PROBLEM

The University of Texas, when established in 1881, was well outside the immediate vicinity of the city of Austin. But as the city grew--particularly in the last two decades, from 53,120 in 1930[3] to 131,964 in 1950[4]--it completely engulfed the University with both commercial property and residences. (See Map No. 1) During this expansion period, the need for a larger campus was realized and much effort was made to have the main campus moved to the western part of the city, along the Colorado River. This proposal was opposed vigorously by the churches and business men near the university. To fix the location of the campus more permanently, business men, by subscription, built the sidewalk around the original forty acres. As a result of these actions the campus was not moved.

The enrollment reached its peak of 19,331[5] students in 1946-47 (See Fig. 1, page 6) but due to the lag in automobile production there was a corresponding decrease in number of students having access to automobiles. However, with increased availability, automobiles have become such a part of the daily life of both faculty and students that parking on the university campus has become a pressing problem.

The purpose of this study is four-fold:

1. To determine the number of students having access to automobiles.

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3. The World Almanac, 1949. N.Y., New York World Telegram. p.179.
4. The World Almanac, 1951. N.Y., New York World Telegram. p.284.
5. The University of Texas. Report of the Registrar, 15 January 1951. p.4.

2. To present factual data on driving and parking habits of individuals who utilize their automobiles in their university activities.

3. To determine the parking facilities available for the above drivers.

4. To present conclusions and recommendations which may lead toward a solution of the acute parking problem.

LIMITATIONS OF THE STUDY

The present study is limited by the following considerations:

1. Official university vehicles and parking areas for those vehicles were not considered.

2. The study is based on immediate enrollment figures, since there were no data available on students' access to automobiles prior to this academic year.

3. Data on the university faculty were taken from questionnaires prepared in 1950 and projected to 1951.

4. Construction workers were taken into consideration.

5. Forecasts of future enrollment do not take into consideration the present draft law which may affect materially male enrollment.

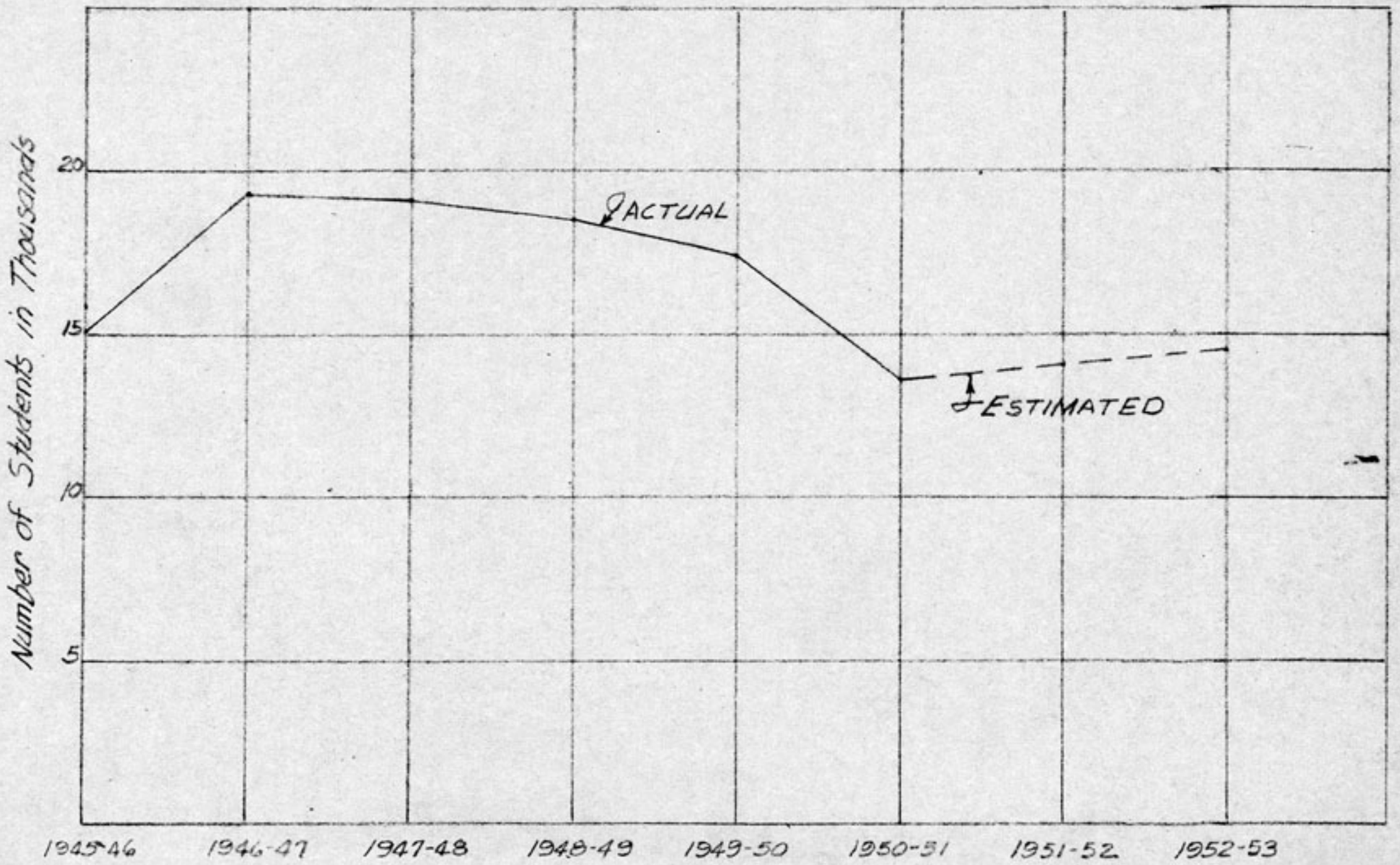
ENROLLMENT AT THE UNIVERSITY OF TEXAS
Number of Students in Thousands
20
15
10
5
ACTUAL
ESTIMATED
1945-46
1946-47
1947-48
1948-49
1949-50
1950-51
1951-52
1952-53

Fig. 1


CITY of AUSTIN
TEXAS
and
SUBURBAN TERRITORY
SCALE:
0
980
1960
2940
SCALE 1" = 980'
AUGUST, 1937
CITY COUNCIL
TAYLOR GLASS-MAYOR
WILLIAM S. DRAKE, JR.
WILL T. JOHNSON
STUART MacCORKLE
MRS. STUART LONG
GUITON MORGAN
CITY MANAGER
C. G. LEVANDER
DIRECTOR OF PUBLIC WORKS
LAKE AUSTIN METROPOLITAN PARK AREA
(ABOUT 7 MILES UPSTREAM FROM TOM MILLER DAM)
SCALE: 1"=2000'
B.F. CHILDRESS
ISAIAH KIRBY
JULIUS J. BAYARD
I. & G.N. R.R. CO.
AUSTIN SCHOLL
METROPOLITAN PARK
JOHN DANIEL
W. M FOWLER
CHAS TYDINGS
JAMES SPILLMAN
ACT OF 39TH LEGISLATURE
1925 P. 479
JAS. M. MITCHELL SURVEY
GEO. W. DAVIS SURVEY
JAS. P. DAVIS SURVEY
UNIVERSITY AIRPORT
Austin Memorial Park
City Reservoir
Texas School For Blind
Texas Blind, Deaf, & Orphan School
Camp Mabry
Austin State Hospital
Austin State School
Country Club
Municipal Airport
Mount Calvary Cemetery
University of Texas
Oakwood Cemetery
Oakwood Cemetery Annex
State Cemetery
Municipal Golf Course
Property of the University of Texas
LAKE AUSTIN
COLORADO
Deep Eddy
SAND BEACH (City of Austin)
City Water Plant
Zilker Park
Zilker Springs
Sand Beach Reserve
City Property
TEXAS STATE SCHOOL FOR THE DEAF
St. Edward's University
HENRY P. HILL LEAGUE
D. SIMPSON SURVEY
THOMAS ELDRIDGE SURVEY
A.W. LANEFIELD SURVEY
HARRELL
TO DALLAS
TO HOUSTON
TO BASTROP
TO SAN ANTONIO
TO BEE CAVES
ST. HWY. NO. 20
OLD BASTROP ROAD
BURLESON ROAD
NUCKLE'S CROSSING ROAD
AREA STUDIED =
Map No. 1.

CHAPTER II

PLAN OF STUDY

PARKING SURVEY

According to the Associated Retailers of Indiana, a typical parking survey may consist of five phases:

1 Preliminary work
2 Cordon count
3 Parking interviews
4 Compilation
5 Analysis [1]

This system has produced valuable data for parking committees in many cities throughout the United States.

So far as the writer is aware, the above method has not been applied to the study of traffic and parking around universities. The study at this university closely parallels the typical survey, but due to the irregularity of working hours and fluctuating population, modification was necessary in certain areas. The cordon count and parking interviews were not used. Instead, questionnaires were distributed to a random sample of the student body to determine both the volume of traffic entering the university area and the driving and parking habits of automobile users.

DEFINITION OF TERMS

"A random sample is defined as a limited number of individuals chosen from the universe in such a manner that every individual in the universe has an equal and independent chance of being included in the sample." [2]

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1. Associated Retailers of Indiana. Parking for Smaller Cities. Indianapolis, Ind., Associated Retailers of Indiana, n.d. p.16.
2. John R. Stockton. An Introduction to Business Statistics. 2d ed. Boston, Heath, 1947. p.102.

It has been demonstrated many times that a random sample is representative; however, if several random samples of the same universe were taken, no two would produce exactly the same results; but each result would lie within a narrow limit of error. According to Robert Ferber, the approximate standard error of percentage of a random sample, exceeding 6 per cent of the total population, is computed by the formula

$$\sigma_p = \sqrt{\frac{pq}{N}\left(1 - \frac{N}{P}\right)}$$

where σ_p = Standard Error of percentage
p = A calculated per cent
q = $1 - p$
N = Size of sample
P = Population[3]

The universe in the case of students totaled 12,640 during the current semester.[4] Completed questionnaires were received from 1146 students, representing a random sample of 9.06 per cent. By substituting appropriate values in the above formula, it was determined that the results obtained in the case of students are accurate to plus or minus 1.47 per cent.

In utilizing questionnaires to collect statistical data, extreme care must be exercised to insure that the answers to questions will supply the desired information. In designing the questionnaire for the students, it was made as attractive as possible. The questionnaire was

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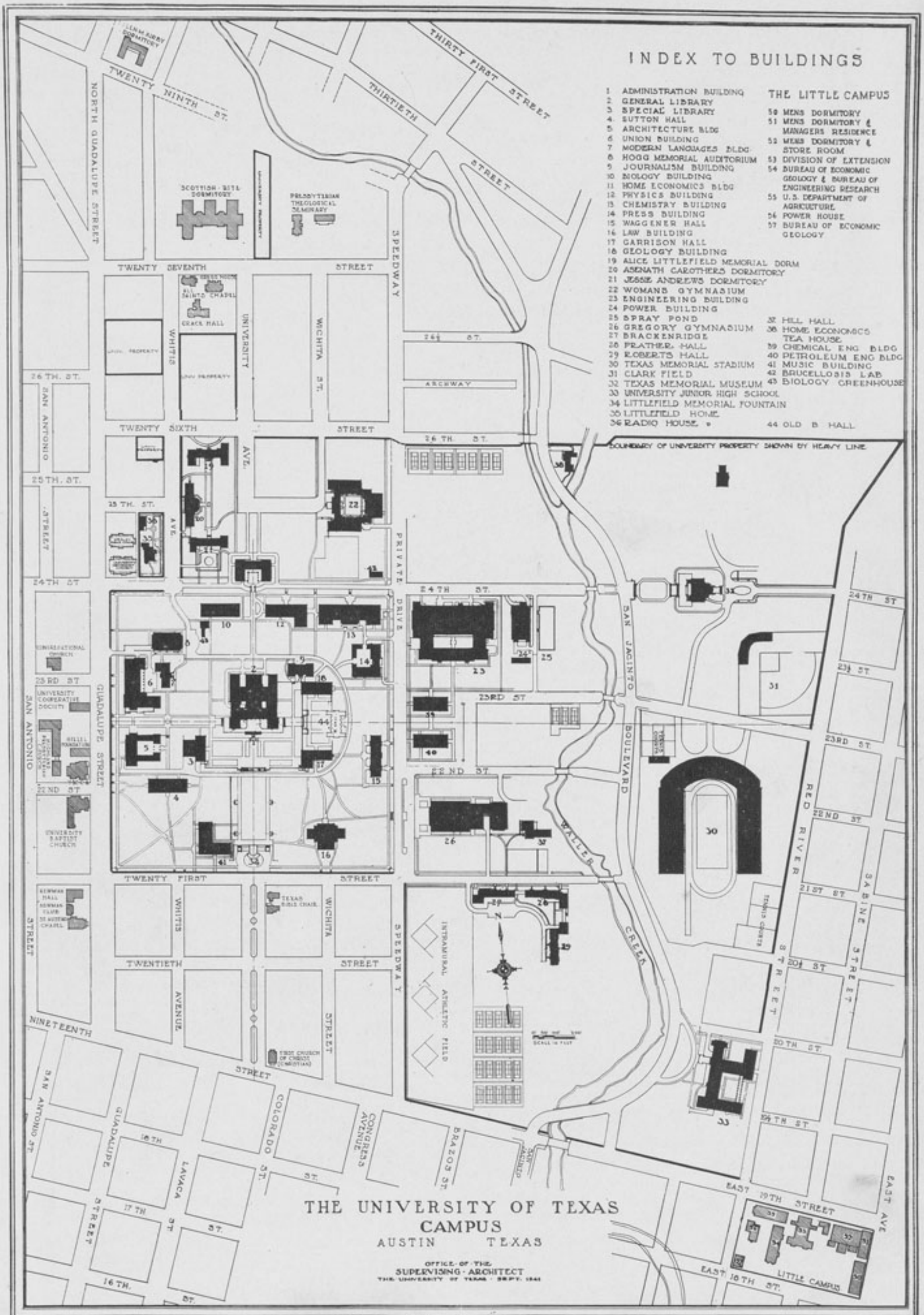
3. Robert Ferber. Statistical Techniques in Market Research. N.Y., McGraw, 1949. p.114.
4. The University of Texas. Records of the registrar, 1951.

headed with a short explanation of the purpose, worded so that it would make the recipient feel that he would contribute to a possible solution of the parking problem if he answered the questions accurately. The questions were short and clear and confined to facts that each student was expected to know. The questions were also worded in such a manner that they would not influence the answers. A copy of the questionnaire appears as Example 1 of the Appendix.

PROCEDURE

In a typical parking survey the count of available parking spaces within the critical area is a part of the preliminary phase. This was not applicable in this study because the critical area could not be definitely established until it was determined where the majority of students endeavored to park their automobiles. After the questionnaires were received and studied, it was apparent that the majority of the students parked within the area bounded on the south by 19th Street; on the north, by 26th Street; on the east, by San Jacinto; and on the west, by San Antonio. (See Map 2) Once this perimeter was established, all legal parking places, except those reserved for official university vehicles and those reserved by commercial concerns for customer parking, were counted. The count did not include private lawns, no-parking zones; sidewalks; alleys and overcrowded parking lots where a large number of drivers habitually park.

The individuals who utilize their automobiles in their university activities may be classed under three groups. These are: Students, faculty, and construction workers. In order that more definite conclusions could be reached, each of these groups was considered separately throughout this study.


INDEX TO BUILDINGS
1 ADMINISTRATION BUILDING
2 GENERAL LIBRARY
3 SPECIAL LIBRARY
4 SUTTON HALL
5 ARCHITECTURE BLDG
6 UNION BUILDING
7 MODERN LANGUAGES BLDG
8 HOGG MEMORIAL AUDITORIUM
9 JOURNALISM BUILDING
10 BIOLOGY BUILDING
11 HOME ECONOMICS BLDG
12 PHYSICS BUILDING
13 CHEMISTRY BUILDING
14 PRESS BUILDING
15 WAGGENER HALL
16 LAW BUILDING
17 GARRISON HALL
18 GEOLOGY BUILDING
19 ALICE LITTLEFIELD MEMORIAL DORM
20 ASENATH CAROTHERS DORMITORY
21 JESSE ANDREWS DORMITORY
22 WOMANS GYMNASIUM
23 ENGINEERING BUILDING
24 POWER BUILDING
25 SPRAY POND
26 GREGORY GYMNASIUM
27 BRACKENRIDGE
28 PRATHER HALL
29 ROBERTS HALL
30 TEXAS MEMORIAL STADIUM
31 CLARK FIELD
32 TEXAS MEMORIAL MUSEUM
33 UNIVERSITY JUNIOR HIGH SCHOOL
34 LITTLEFIELD MEMORIAL FOUNTAIN
35 LITTLEFIELD HOME
36 RADIO HOUSE
THE LITTLE CAMPUS
50 MENS DORMITORY
51 MENS DORMITORY & MANAGERS RESIDENCE
52 MENS DORMITORY & STORE ROOM
53 DIVISION OF EXTENSION
54 BUREAU OF ECONOMIC GEOLOGY & BUREAU OF ENGINEERING RESEARCH
55 U.S. DEPARTMENT OF AGRICULTURE
56 POWER HOUSE
57 BUREAU OF ECONOMIC GEOLOGY
37 HILL HALL
38 HOME ECONOMICS TEA HOUSE
39 CHEMICAL ENG BLDG
40 PETROLEUM ENG BLDG
41 MUSIC BUILDING
42 BRUCELLOSIS LAB
43 BIOLOGY GREENHOUSE
44 OLD B HALL
BOUNDARY OF UNIVERSITY PROPERTY SHOWN BY HEAVY LINE
THIRTY FIRST STREET
THIRTIETH STREET
TWENTY NINTH ST.
NORTH GUADALUPE STREET
SCOTTISH RITE DORMITORY
PRESBYTERIAN THEOLOGICAL SEMINARY
SPEEDWAY
TWENTY SEVENTH STREET
WHITIS AVE.
UNIVERSITY AVE.
WICHITA AVE.
ARCHWAY
26TH. ST.
TWENTY SIXTH STREET
25TH. ST.
24TH ST
23RD ST
22ND ST
21ST ST
20TH ST
19TH ST
SAN ANTONIO STREET
GUADALUPE STREET
PRIVATE DRIVE
SAN JACINTO BOULEVARD
WALLER CREEK
RED RIVER STREET
SABINE STREET
EAST AVE
TWENTY FIRST STREET
TWENTIETH STREET
NINETEENTH STREET
COLORADO
CONGRESS AVENUE
BRAZOS ST.
LAVACA ST.
17TH ST.
16TH ST.
EAST 19TH STREET
EAST 18TH ST.
LITTLE CAMPUS
INTRAMURAL ATHLETIC FIELD
ALL SAINTS CHAPEL
GRACE HALL
TEXAS BIBLE CHAIR
FIRST CHURCH OF CHRIST SCIENTIST
CONGREGATIONAL CHURCH
UNIVERSITY COOPERATIVE SOCIETY
UNIVERSITY BAPTIST CHURCH
NEWMAN HALL
NEWMAN CLUB
ST. AUSTINS CHAPEL
THE UNIVERSITY OF TEXAS
CAMPUS
AUSTIN TEXAS
OFFICE OF THE
SUPERVISING ARCHITECT
THE UNIVERSITY OF TEXAS · SEPT. 1941

Map 2

To determine the per cent of students having access to automobiles, a 10% random sample of the student body was taken. This was accomplished by going through the personal data cards on file in the offices of the Dean of Student Life and Dean of Women. Every tenth card was pulled and information recorded by academic class within each college, as to whether or not the individual had access to an automobile.

The driving and parking habits of those who had access to automobiles were determined from the student questionnaire. The two general methods of getting answers to questionnaires are to mail them with a request that they be returned or to send investigators to make personal interviews. The latter method was used in this portion of the study. In order to get a representative sample, the writer attended classes and visited dormitories, sorority houses and fraternity houses, requesting in each instance that the questionnaire be completed at the time of the visit. This method proved very satisfactory in that each questionnaire was returned; also, since the interviewer was present, any questions arising could be answered immediately.

In the case of the faculty, the completed parking questionnaires received by the comptroller of the university in February of 1950 were secured and appropriate data tabulated. A copy of the questionnaire appears as Example 2 of the Appendix. Since the academic faculty's working hours are determined by class schedules, teaching load and research activities, and the non-academic (administrative) faculty works on a 44-hour week, each group was considered separately. This was necessary due to the fact that a person's driving habits are controlled to a certain extent by his

hours of employment and his parking habits at this university are definitely controlled by his time of arrival.

By applying the above formula, it was found that the standard error of percentage was plus or minus 1.32 for the faculty portion of the study.

The driving and parking habits of the workers employed in the construction of new buildings were determined by personal interviews. Two questions were asked: (1) Do you drive your automobile to work daily? and (2) If you drive, what time do you arrive and where do you park? Even though 12 per cent of the workers were interviewed, the standard error of percentage was found to be plus or minus 2.37 because of the limited universe of only 317. Since this group was such a minority and since their utilization of parking spaces is of a temporary nature, it was concluded that the results were sufficiently accurate for purposes of this study.

To supplement the information obtained from student questionnaires, particularly in respect to the peak hour of parking, a count of classes scheduled each hour throughout the day was taken. The count was made by going through the university publication, "Final Announcement of Courses, Second Semester, 1950-1951" and tabulating the number of classes scheduled each hour of each day, Monday through Saturday.

Parking violations which occur daily are numerous; photographs of typical examples of the violations appear in the Appendix. With the view of determining what parking regulations are prescribed, what enforcement machinery is used, and what action is taken against violators, the writer interviewed the assistant comptroller who has jurisdiction over

university parking. In order that information secured in this interview could be compared with actions of other educational institutions, 10 universities and colleges were written requesting information on the methods used to control parking. A copy of the letter is shown as Example 3 of the Appendix.

The fourth phase of the typical parking survey, compilation of data, follows as Chapter III. The fifth and final phase, analysis of findings, is comprised by Chapter IV.

CHAPTER III

FINDINGS

Findings are presented in graphic form in all instances applicable. Explanatory text precedes each graph.

AVAILABLE PARKING SPACE

There are 3336 legal parking spaces within the area under study, as shown by Table I. The Tri-Dorm parking lot located south of the men's dormitory, the Littlefield lot immediately north of 26th Street, between University Avenue and Whitis Avenue, and the parking lot immediately north of the women's gymnasium were constructed during the summer of 1950. These parking lots, in conjunction with the reservation of University Avenue between 25th and 26th Streets for university parking, have relieved the parking problem slightly. However, in location of off-street parking areas, accessibility and convenience are of first importance. It is 900 feet from the center of both the Tri-Dorm and Littlefield parking lots to the nearest class rooms. Frequent checks of these areas indicated that parking in the Tri-Dorm lot averaged approximately 60 per cent of its capacity and utilization of the Littlefield lot averaged approximately 65 per cent. On the other hand, the lot north of the women's gymnasium is 600 feet from the nearest class room; the University Avenue area is 450 feet from the nearest class room; and the small area at the corner of 23rd and Tom Green Streets is only 200 feet from the heart of the Engineer College. Each check of these three areas showed that the parked vehicles exceeded the capacity.

AVAILABLE PARKING SPACES

Street	Type of Parking	Restrictions	Spaces
San Jacinto	Parallel	None	196
Tom Green	Parallel	None	28
	Angle	None	61
Speedway	Parallel	None	65
	Angle	None	123
Private Drive	Parallel	None	55
	Angle	None	191
Wichita	Parallel	None	72
	Angle	None	43
University	Parallel	None	68
	Perpendicular	Reserved University	113
Whitis	Parallel	None	114
Guadalupe	Parallel	60-minute Meters	63
	Parallel	1- and 2-hr. Limit	102
San Antonio	Parallel	None	187
19th Street	Parallel	None	71
20th Street	Parallel	None	74
21st Street	Parallel	None	171
22nd Street	Parallel	None	80
	Angle	None	19
23rd Street	Parallel	None	74
24th Street	Parallel	None	131
25th Street	Parallel	None	28
26th Street	Parallel	None	148
Tri-Dorm Lot	Angle	None	500
North Women's Gym	Angle	None	133
Littlefield Lot	Angle	None	150
On 40 Acres	Parallel	Controlled	125
23rd and Tom Green	Uncontrolled	None	40
22nd and San Jacinto	Angle	None	33
South of Gregory Gym	Uncontrolled	None	42
Hill Hall	Reserved for Athletes		36
		Total	3336

TABLE I

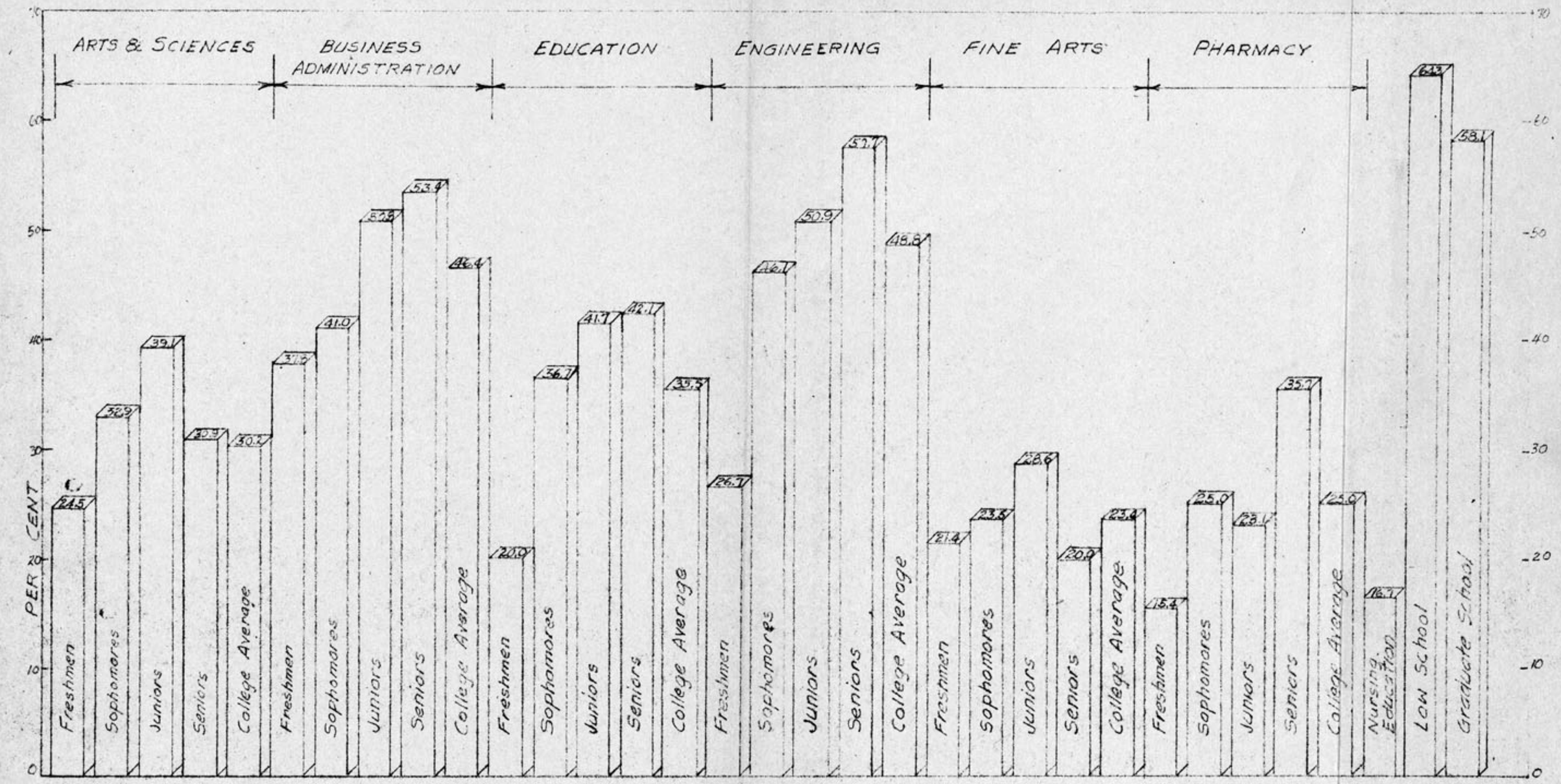
STUDENTS

ACCESS TO AUTOMOBILES

Figures 2 and 3 show the percentage of university students who have access to automobiles. Figure 2 is a graphic presentation of the per cent of students, in each academic class within each major college, who have access to automobiles. No attempt was made to segregate the Law School students into different academic categories, since a student must have completed successfully three academic years of university study before enrolling in that school. Neither was the College of Nursing Education broken down into academic classes, since only 32 students are enrolled. The graph indicates direct correlation between access to automobiles and academic classifications, except in the colleges of Arts and Sciences and Fine Arts. In those two colleges junior students represent the highest percentage.

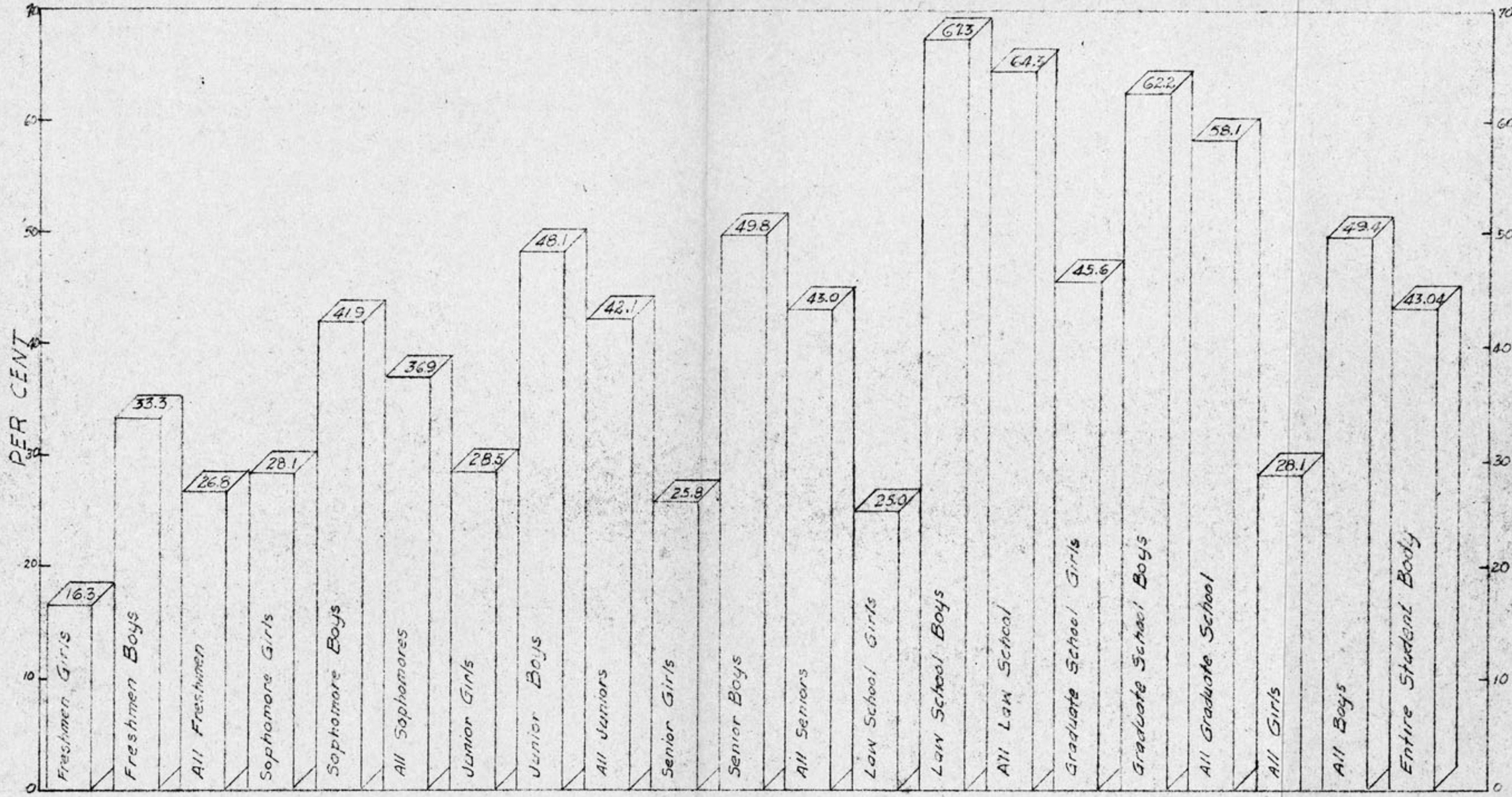
Figure 3 represents the percentage of men and women within each academic class, Law School and Graduate School who have access to automobiles. In addition, the over-all percentage for each academic class is shown, as well as the percentage for the total female population, male population, and entire student body. In all instances, the percentage of men who have access to automobiles greatly exceeds that of the women. The last bar of the graph shows that 43.04 per cent of the student body have access to automobiles. By applying this percentage to the enrollment figure of 12,640, it was found that 5440 students have access to automobiles in the Austin vicinity.

The data for the preparation of both Figures 2 and 3 were obtained from the random sampling of the students' personal data cards.



STUDENTS' ACCESS TO AUTOMOBILES
ACADEMIC CLASS WITHIN EACH COLLEGE

Fig. 2



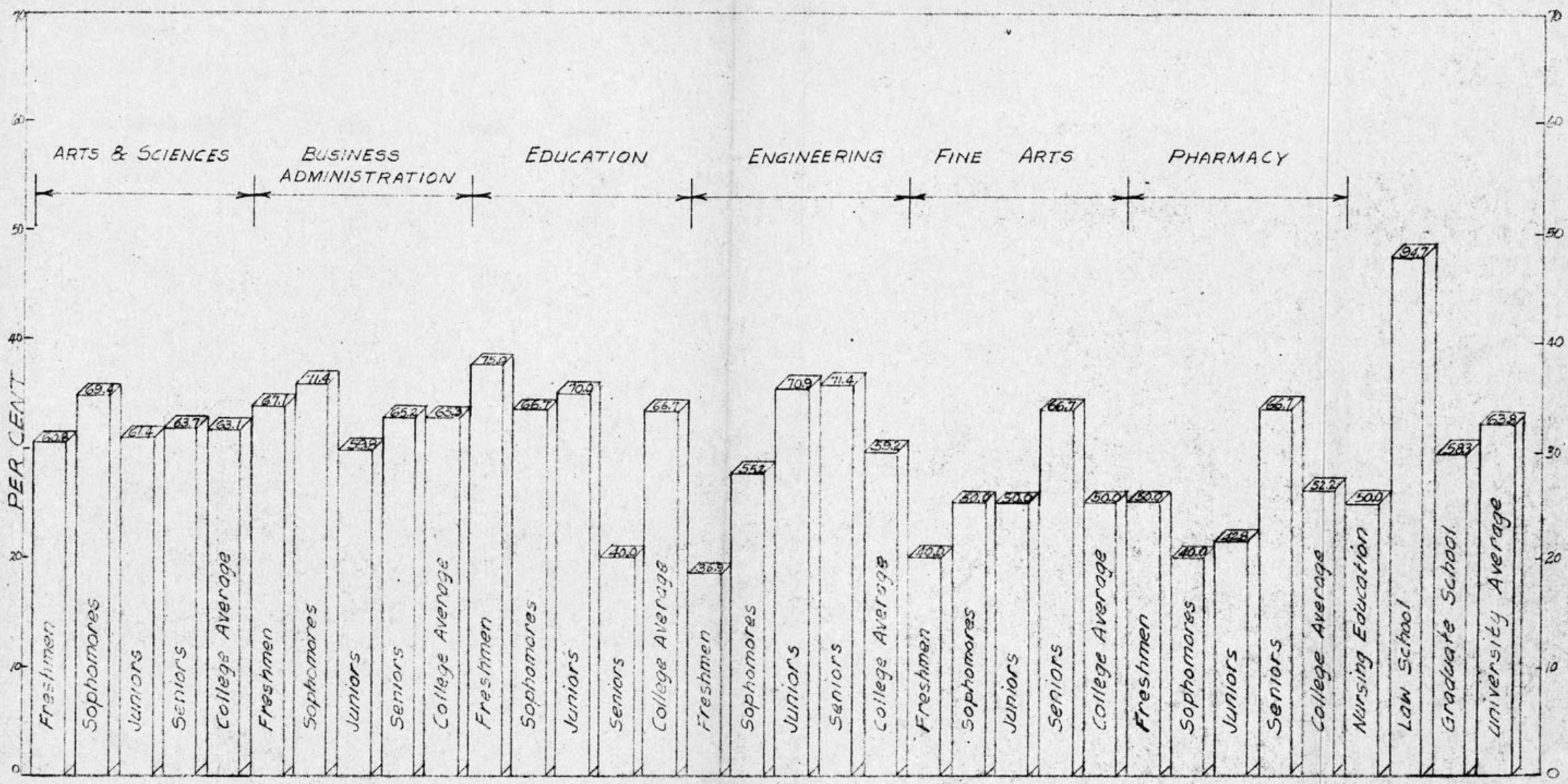
STUDENTS' ACCESS TO AUTOMOBILES
GIRLS AND BOYS WITHIN EACH ACADEMIC CLASS

Scale: 1" = 10%

Fig. 3

DAILY DRIVERS

Figure 4 shows the percentage of students having access to automobiles who drive to the university daily. The graph is broken down into the same classifications as Figure 2. In addition the final bar shows that 63.8 per cent of the total students who have automobiles use them daily in their university activities. The percentages presented on this graph were determined from answers to Question 3 of the student questionnaire: "Do you drive to the university daily? If so, at what time do you arrive?"



% OF STUDENTS HAVING CARS WHO DRIVE DAILY
ACADEMIC CLASS WITHIN EACH COLLEGE

Fig. 4

DAILY DRIVERS IN EACH COLLEGE

The enrollment in each of the colleges of the university on February 28, 1951, follows:

College or School	Men	Women	Both
Arts and Sciences	2156	1697	3853
Business Administration	1816	269	2085
Education	327	654	981
Engineering	1659	25	1684
Fine Arts	267	380	647
Pharmacy	395	33	428
Nursing Education	--	32	32
Law	552	12	564
Graduate	1873	493	2366
Total	9045	3595	12640[1]

In Figure 2 the percentage of students in each college who had access to automobiles was presented and Figure 4 presented the percentage of those students having access to cars who drove to the university daily. By multiplying the respective percentages for each college, the per cent of students who drive daily was computed. These percentages appear in Figure 5. From the preceding enrollment figures and the calculated percentage of those who drive daily it was determined that 3476 students drive their automobiles to the university daily.

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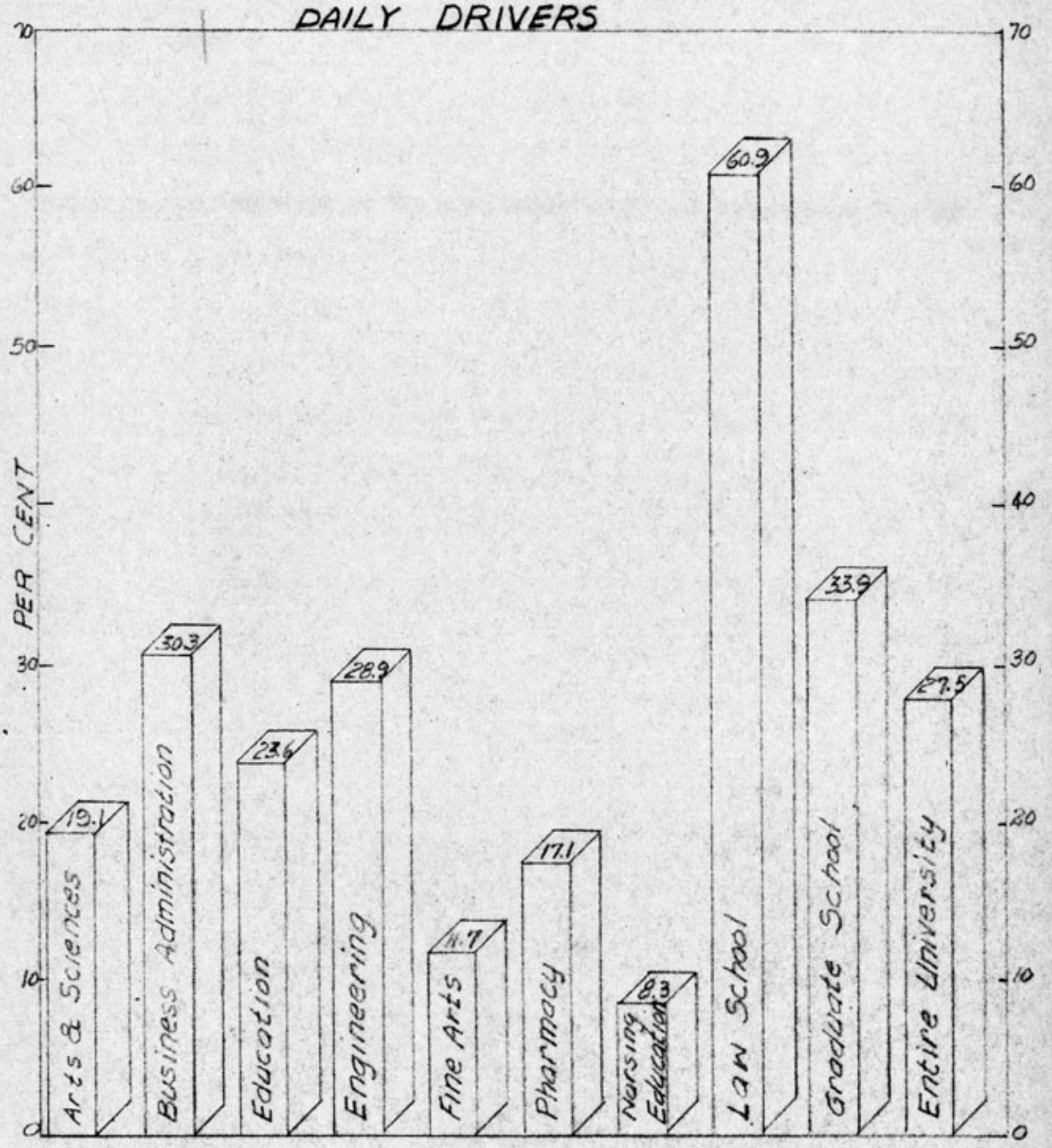
1. Enrollment figures from records of the registrar, The University of Texas.



STUDENTS IN EACH COLLEGE
WHO DRIVE DAILY

Fig. 5

DISTANCE DRIVEN

Question 2 of the student questionnaire asked at what address the automobile was kept. In each case, the distance driven from the residence to the perimeter of the area under study was determined, in city blocks. Throughout this study, a city block is considered to be 300 feet in length, plus the street width, which in most instances will be 60 feet. In Figures 6 through 11, the percentage of drivers is shown as the ordinate and the distance in city blocks is shown as the abscissa. Each academic class is shown on a separate graph, and Figure 12 presents the average for the entire student body. Attention is called to the finding that the greatest per cent of drivers travel two blocks or less to reach the critical area. This may be due to the fact that a large number of rooming houses fringe the campus area.

FRESHMEN

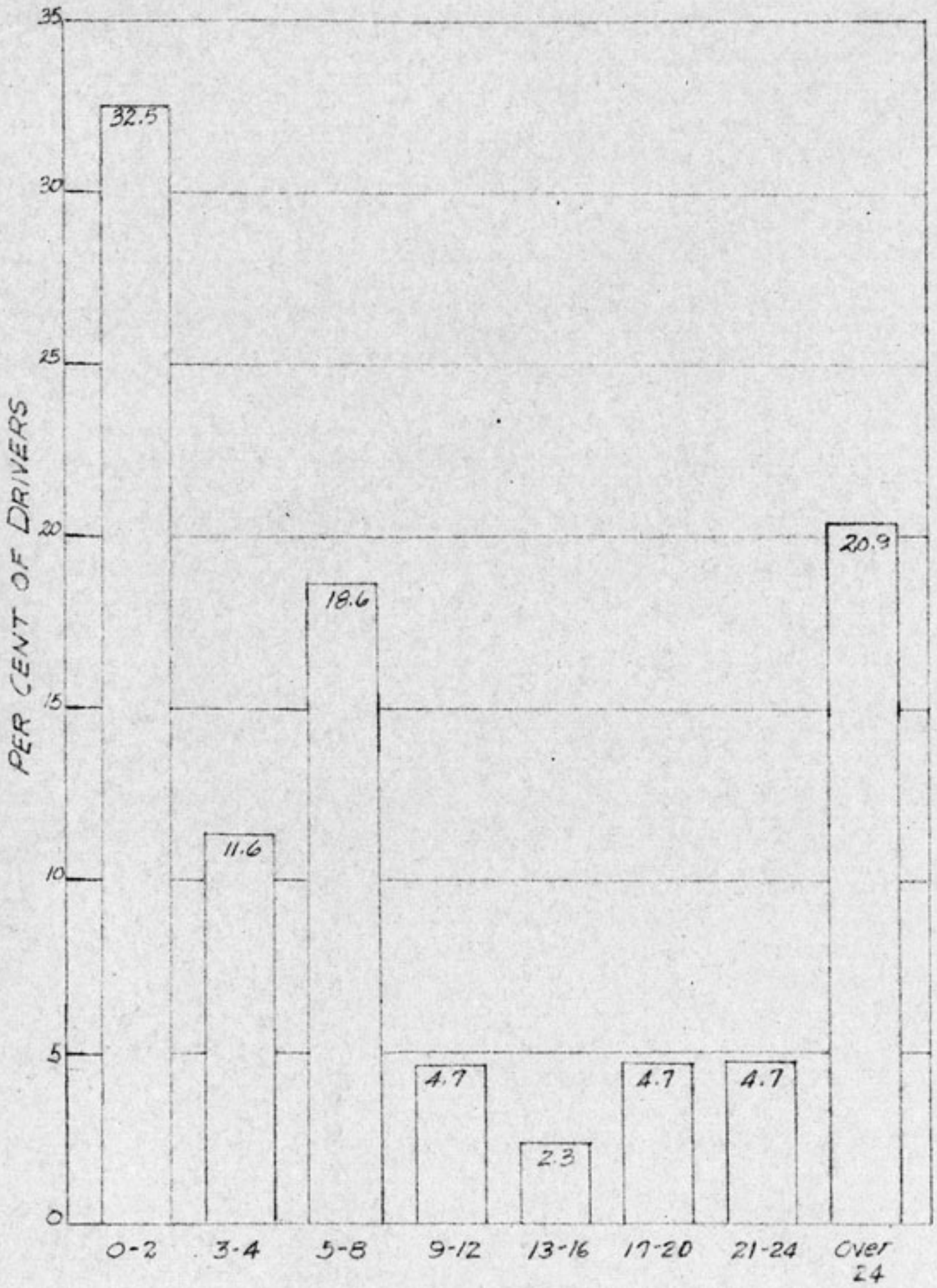


Fig. 6

SOPHOMORES

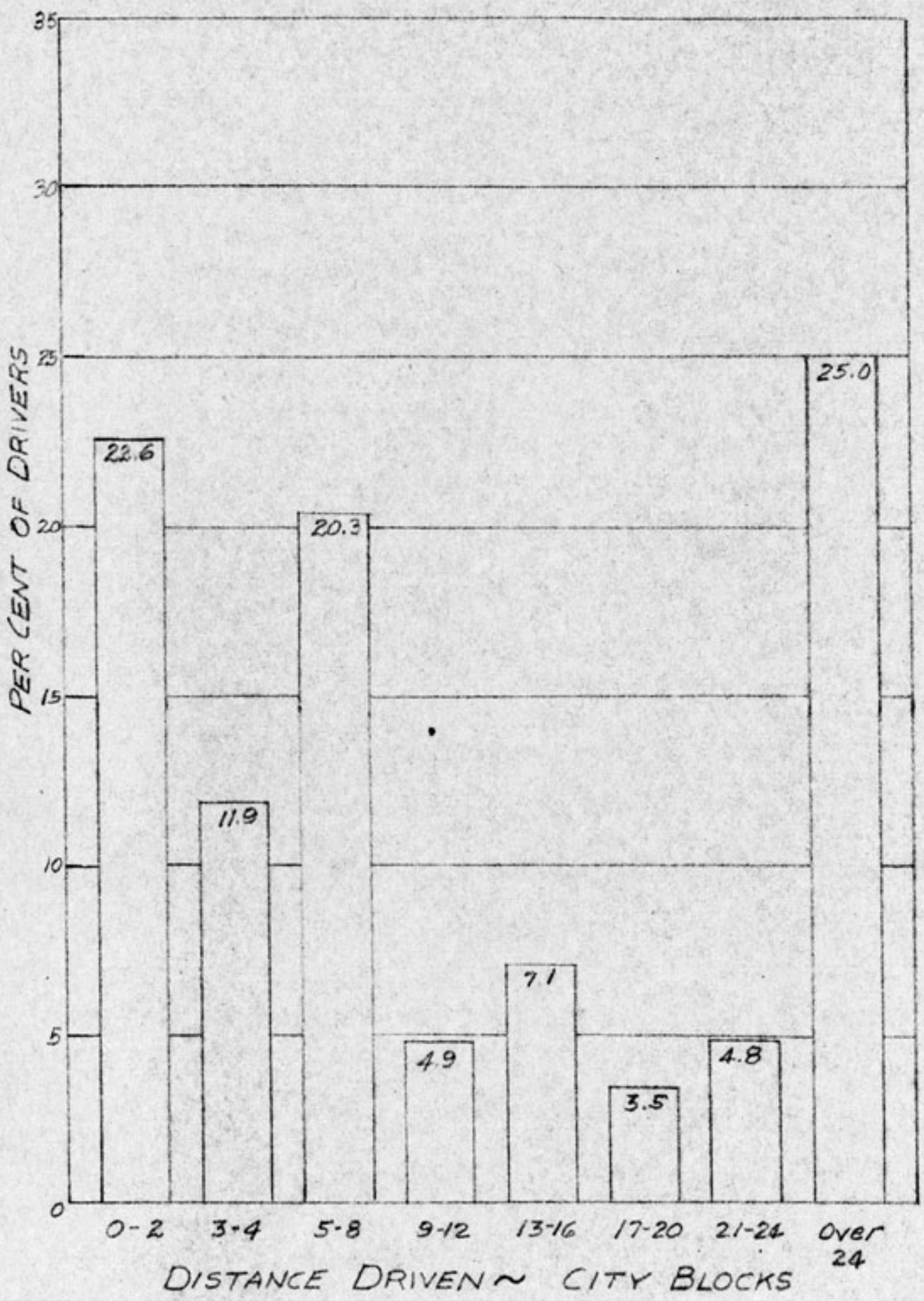


Fig. 7

JUNIORS

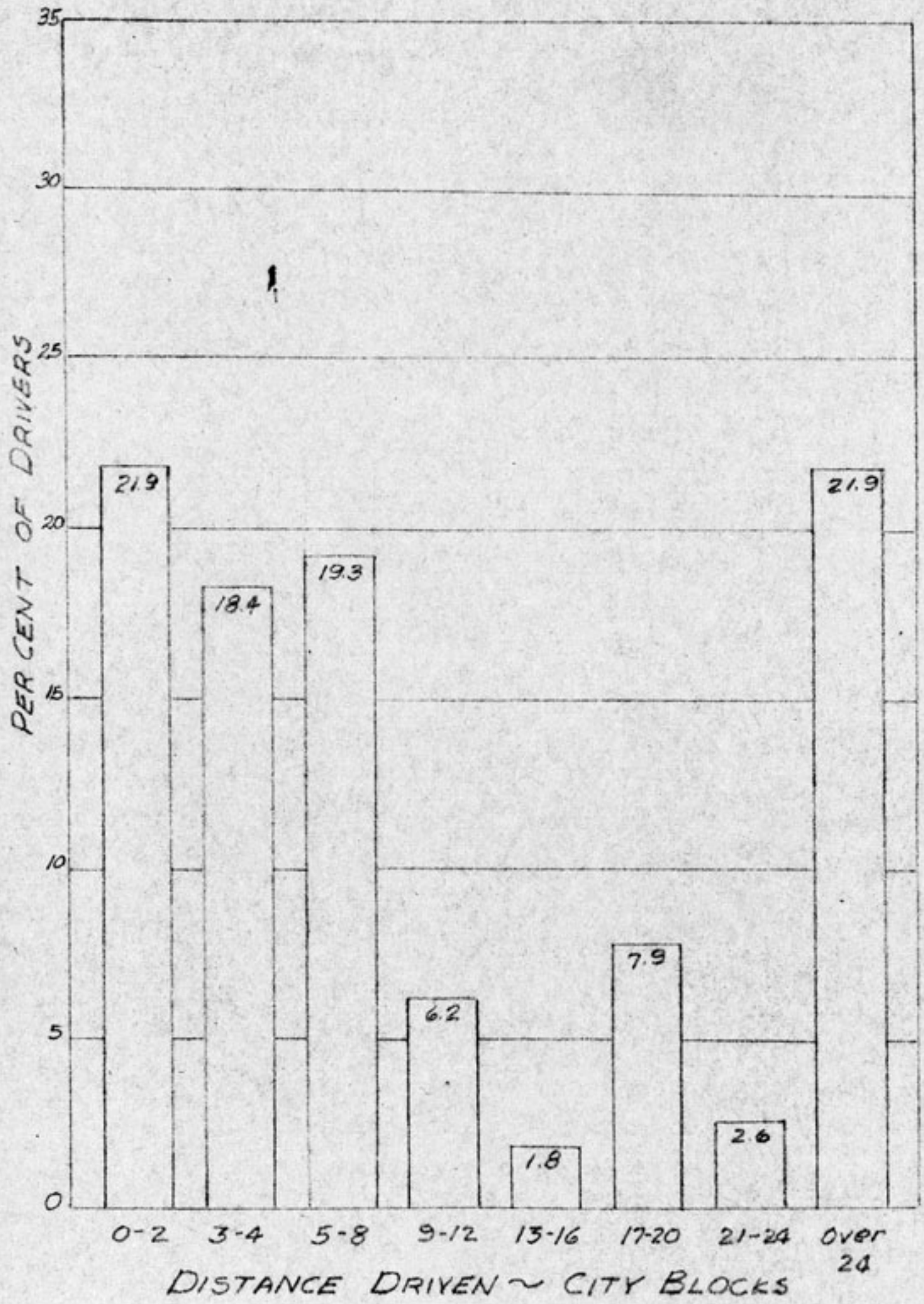


Fig. 8

SENIORS

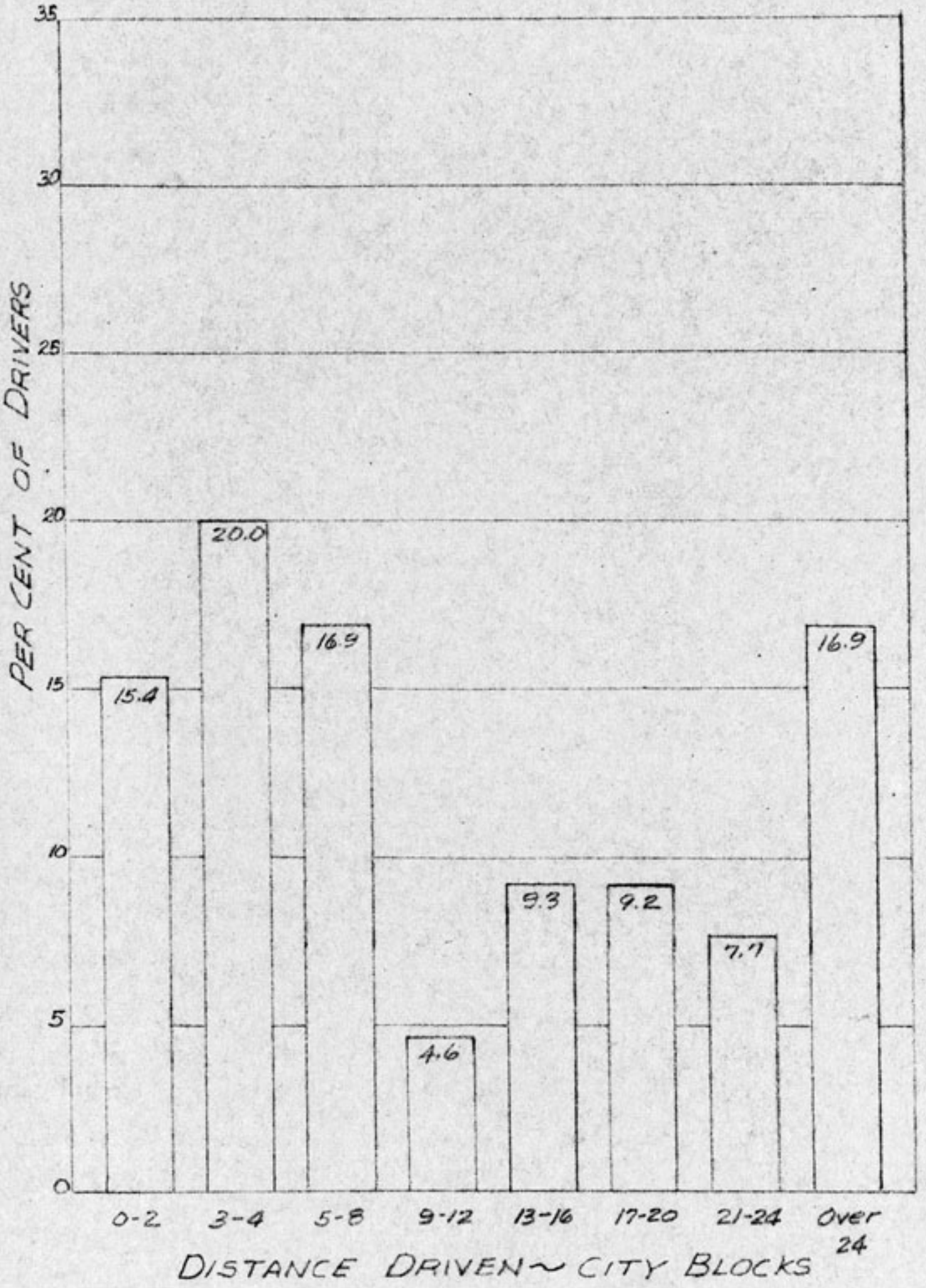


Fig. 9

LAW SCHOOL

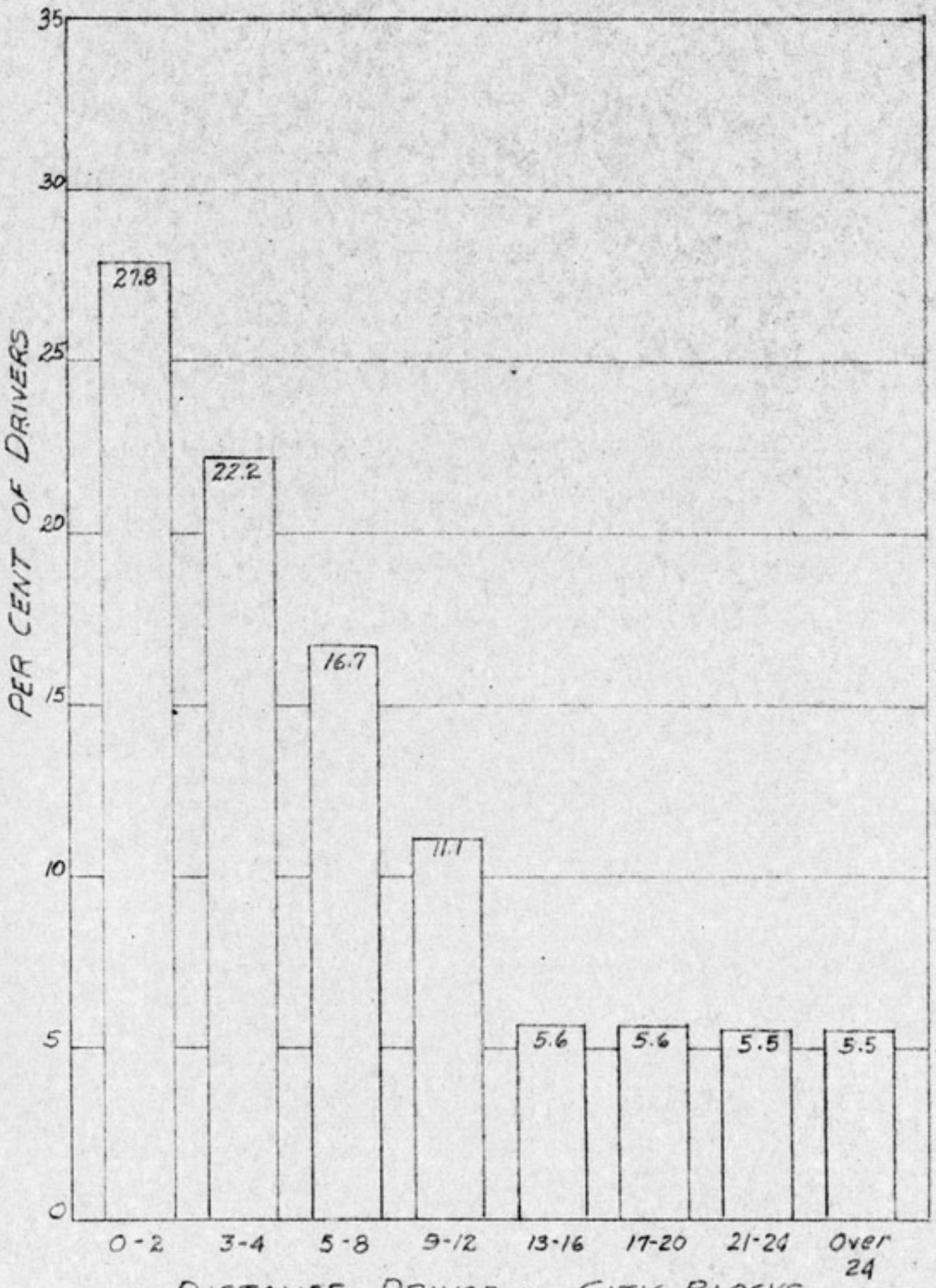


Fig. 10

GRADUATES

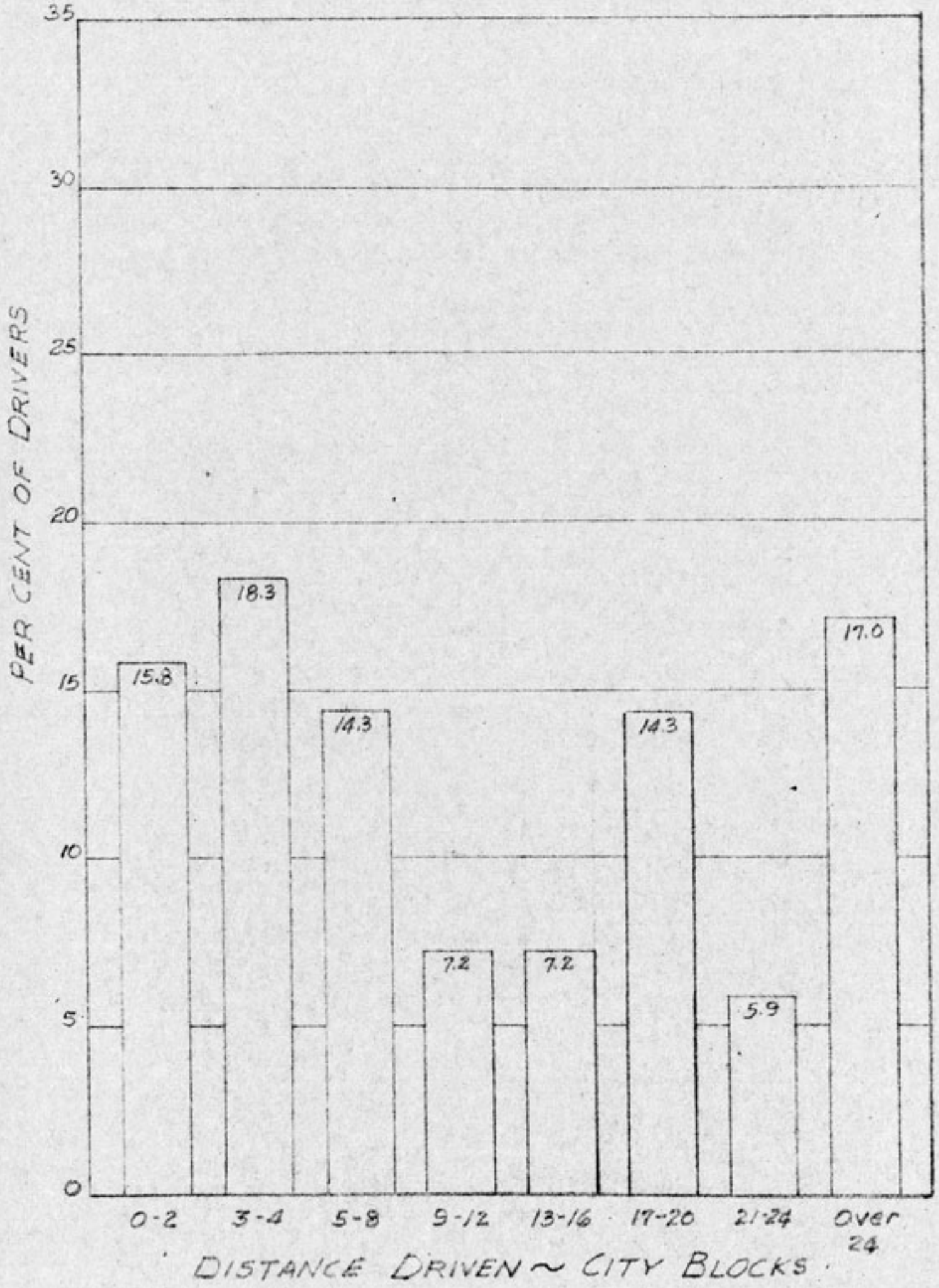


Fig. 11

AVERAGE FOR UNIVERSITY

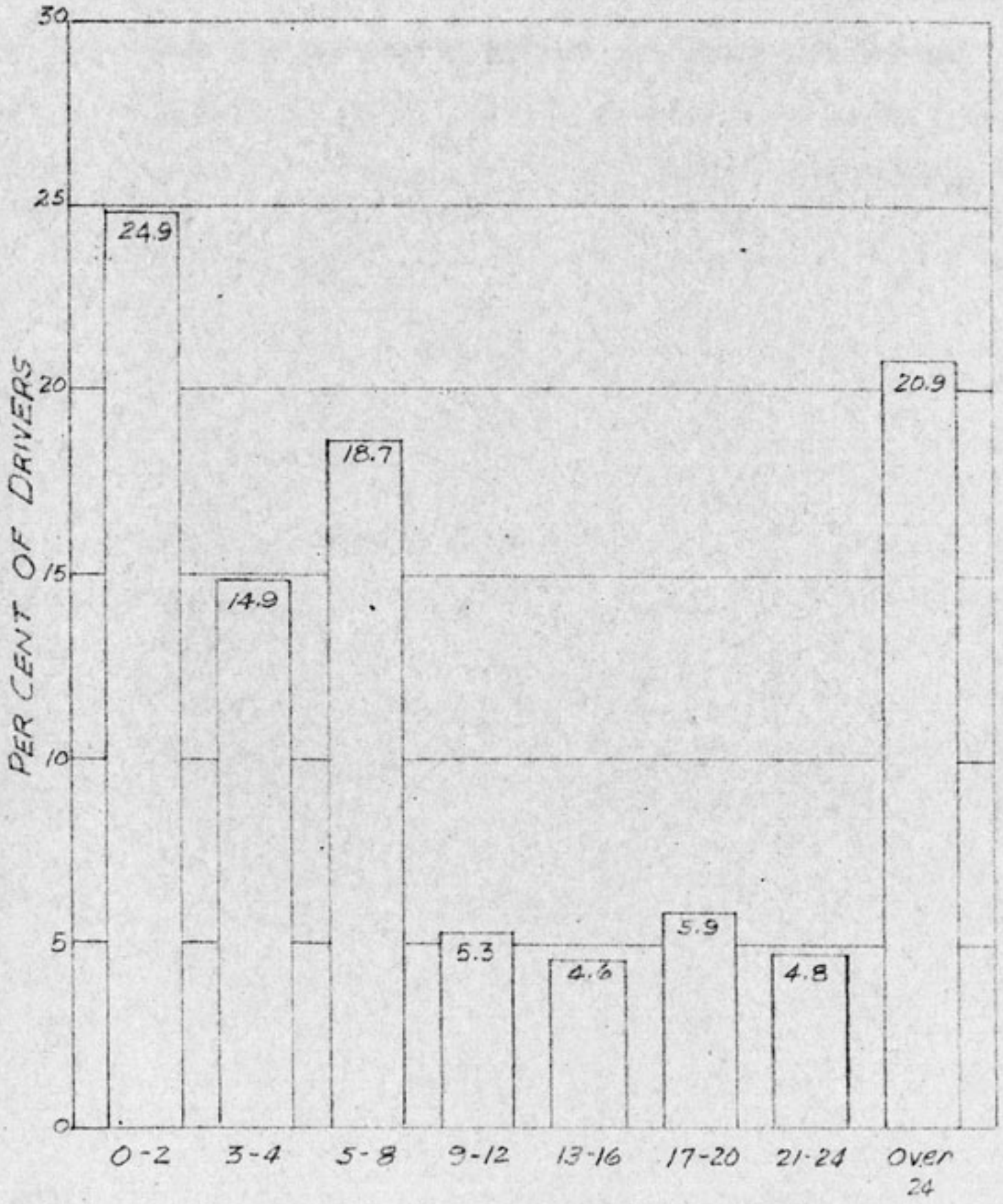


Fig. 12

HOURS OF ARRIVAL

Figures 13 through 18 present the per cent of drivers who arrive at various hours of the day. In each graph, the total percentage exceeds 100, since 10.3 per cent of drivers move their cars between classes, as shown by Figure 19. The material for these graphs was assembled from answers to Question 3 of the student questionnaire: "Do you drive to the university daily? If so, at what times do you arrive?"

AVERAGE FOR UNIVERSITY

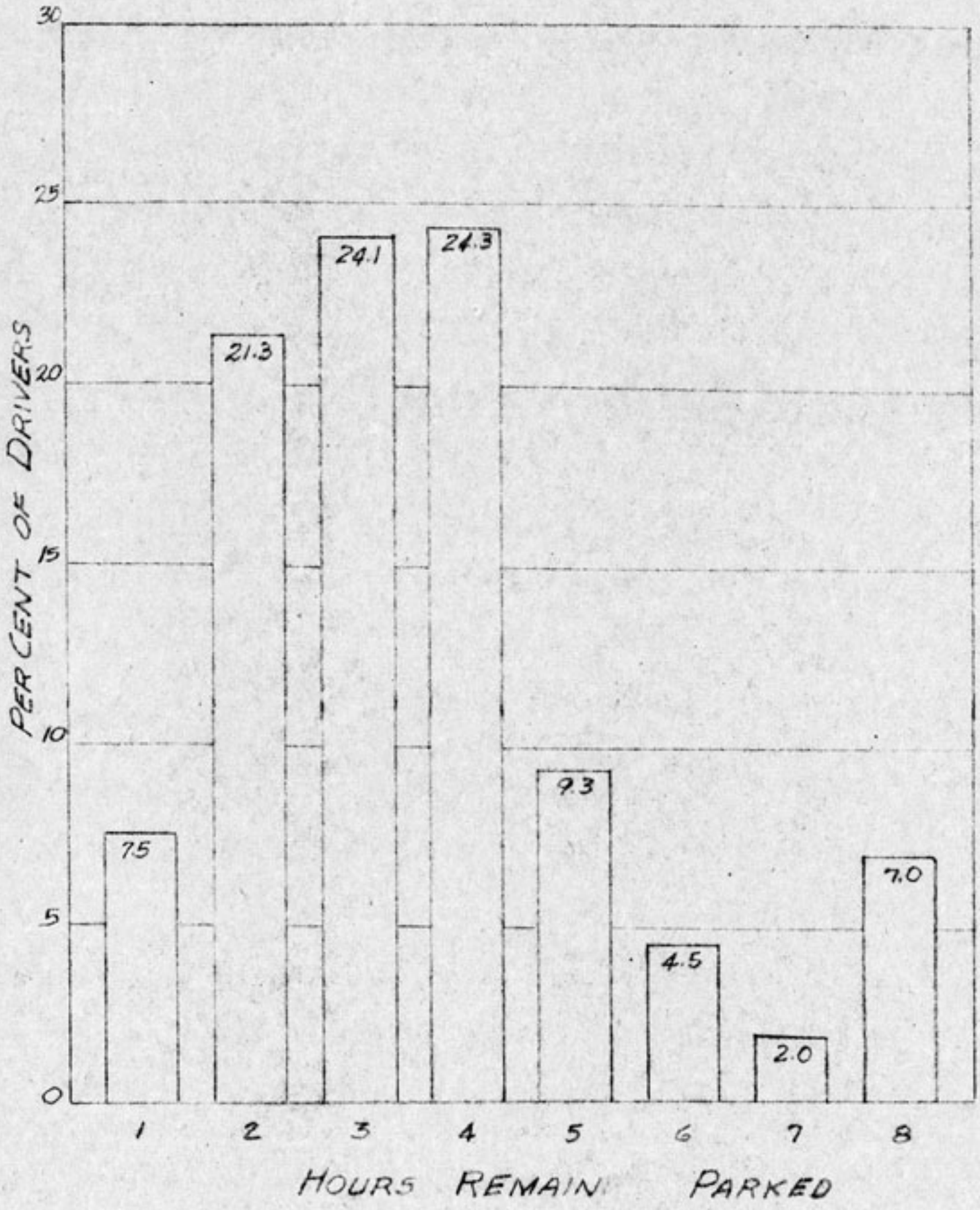


Fig. 26

DISTANCE PARKED FROM RESPECTIVE COLLEGES

Figures 27 through 33 show the distance from the students' normal parking places to their respective colleges. The percentages shown are averages, since only 25.7 per cent of the drivers are able to park in the same place daily. (See Figure 34) Again, the graphs do not present a true picture of the distance walked, since the class room may be far removed from corresponding deans' offices which were used in computing distances. Even with those limitations, it is interesting to note that the largest per cent walk three city blocks, a result which supports LeCraw's findings that the average American motorist will walk a maximum of 1000 feet from a parking place to his destination.[2]

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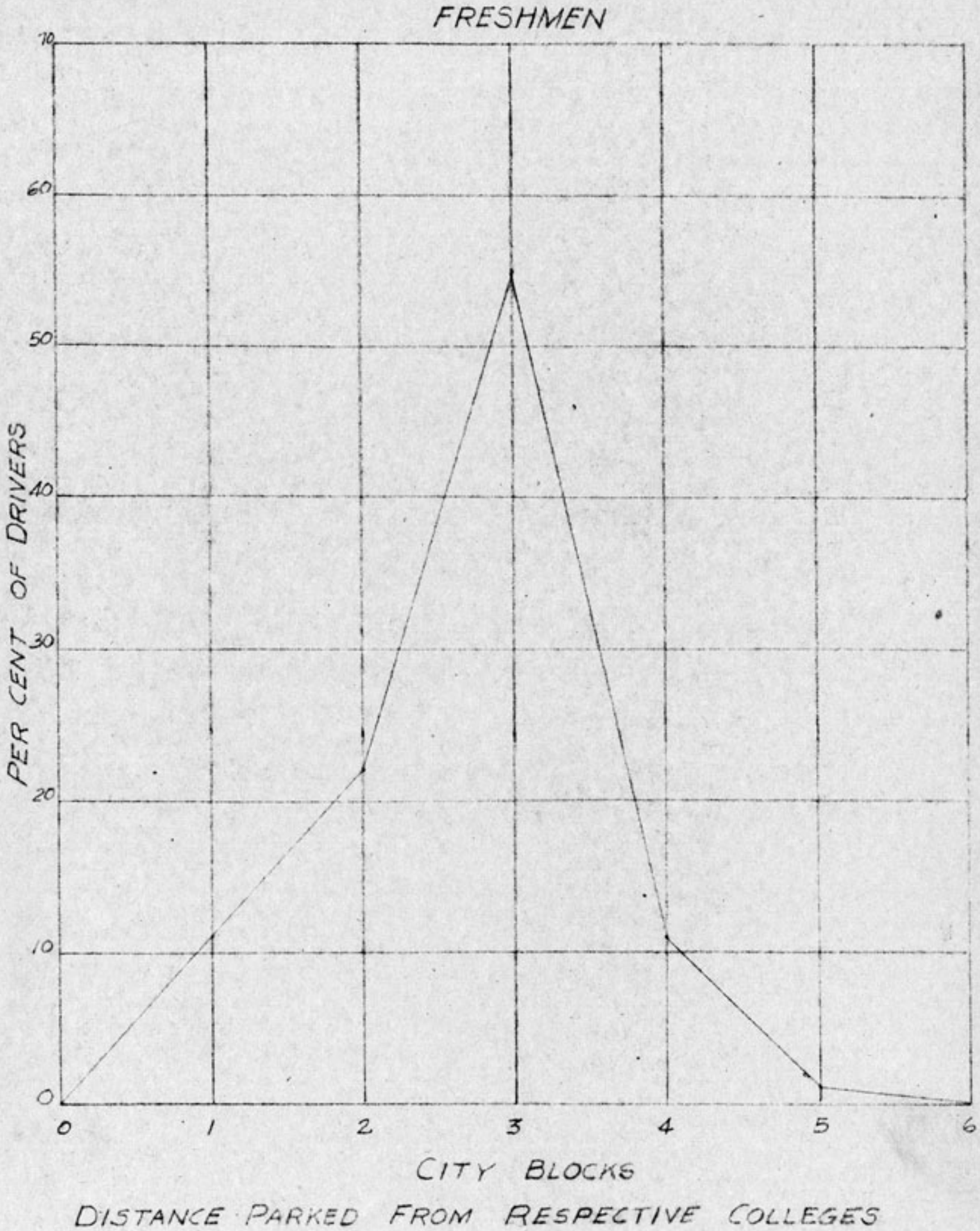
2. LeCraw, op.cit., p.352.

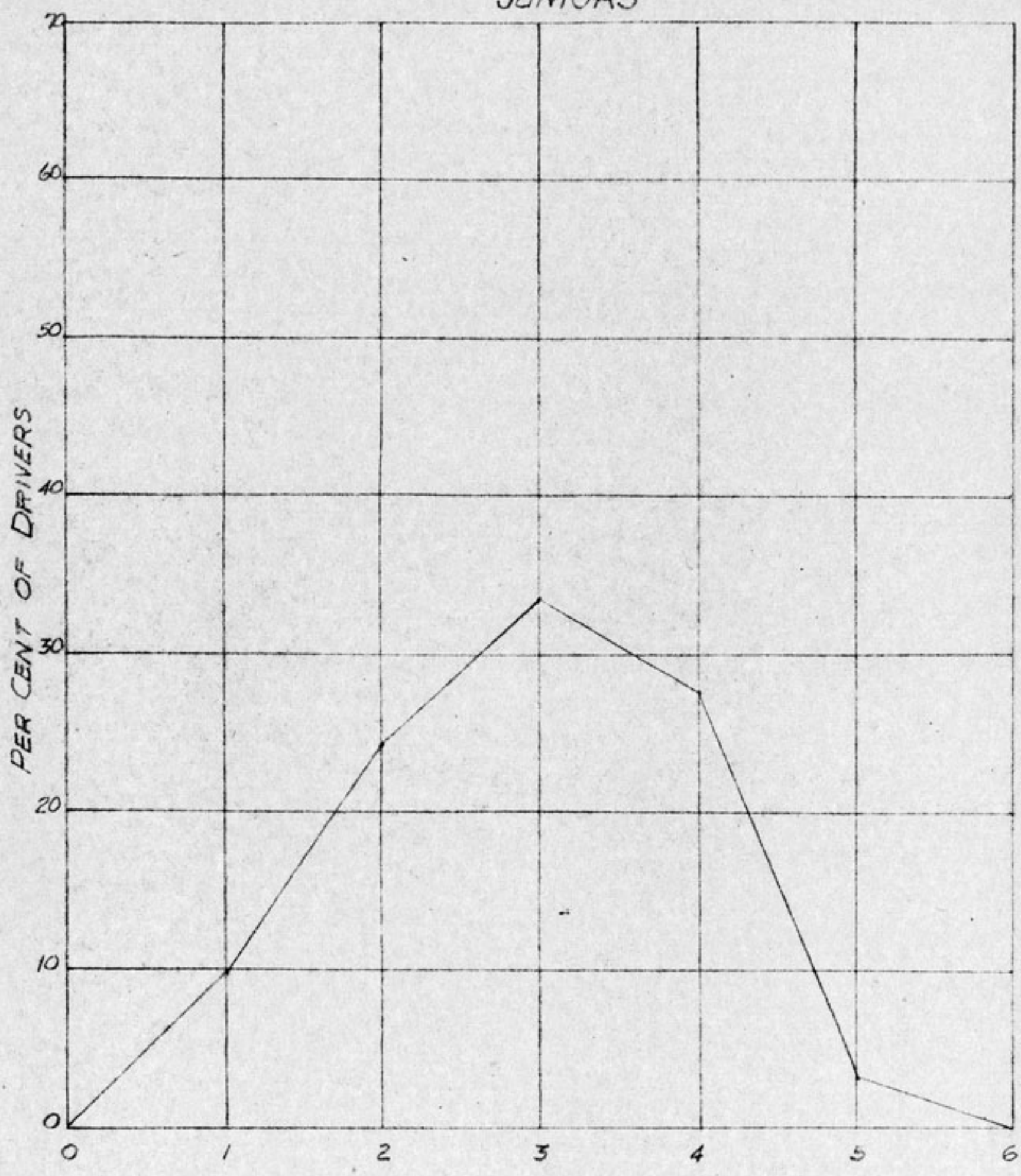


DISTANCE PARKED FROM RESPECTIVE COLLEGES

Fig. 27

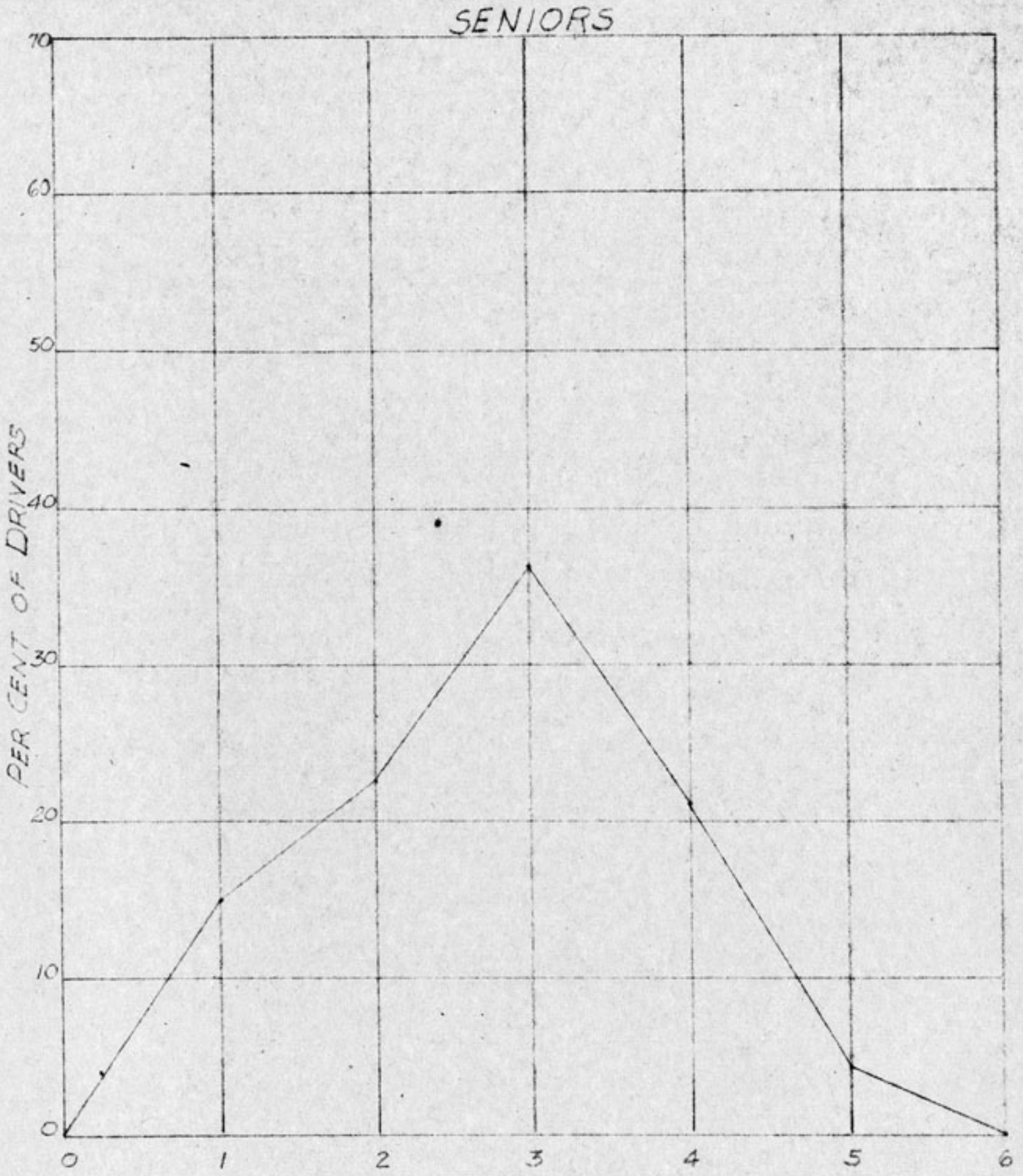

SOPHOMORES
70
60
50
40
30
20
10
0
PER CENT OF DRIVERS
0
1
2
3
4
5
6
CITY BLOCKS
DISTANCE PARKED FROM RESPECTIVE COLLEGES

Fig. 28



DISTANCE PARKED FROM RESPECTIVE COLLEGES

Fig. 29



DISTANCE PARKED FROM RESPECTIVE COLLEGES

Fig. 30

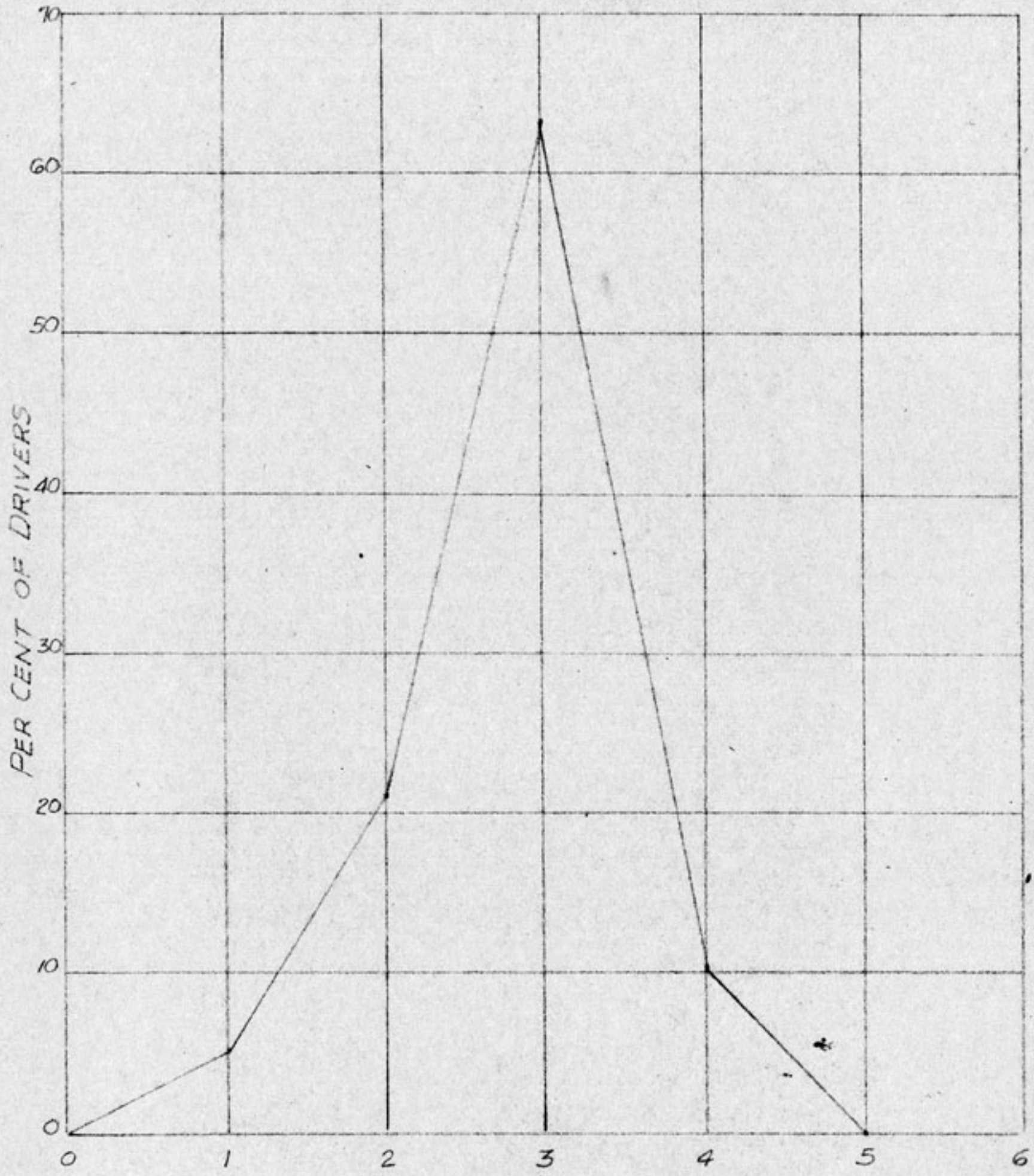
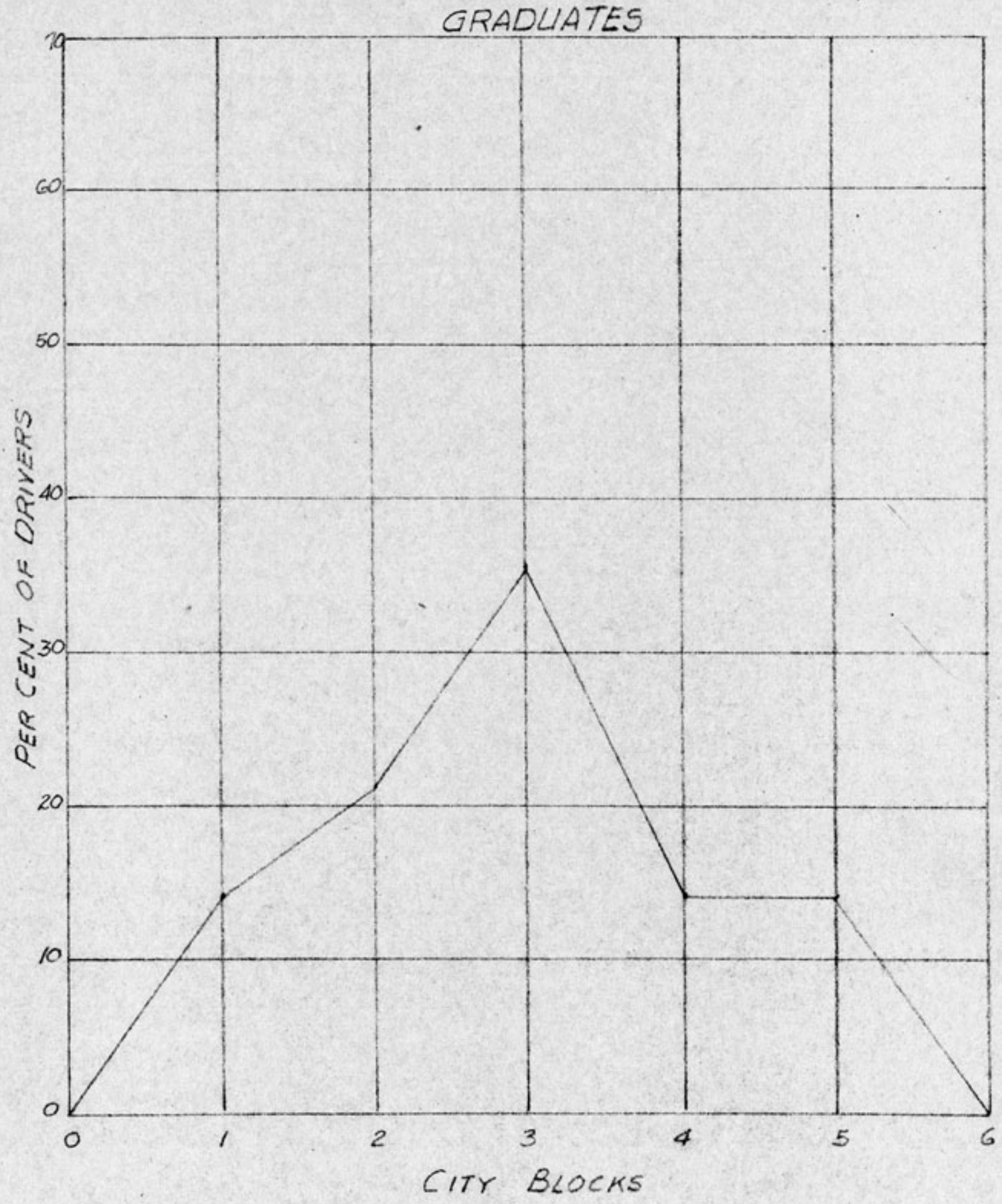

LAW SCHOOL
70
60
50
40
30
20
10
0
PER CENT OF DRIVERS
0
1
2
3
4
5
6
CITY BLOCKS
DISTANCE PARKED FROM LAW SCHOOL

Fig. 31



DISTANCE PARKED FROM GRADUATE SCHOOL

Fig. 32

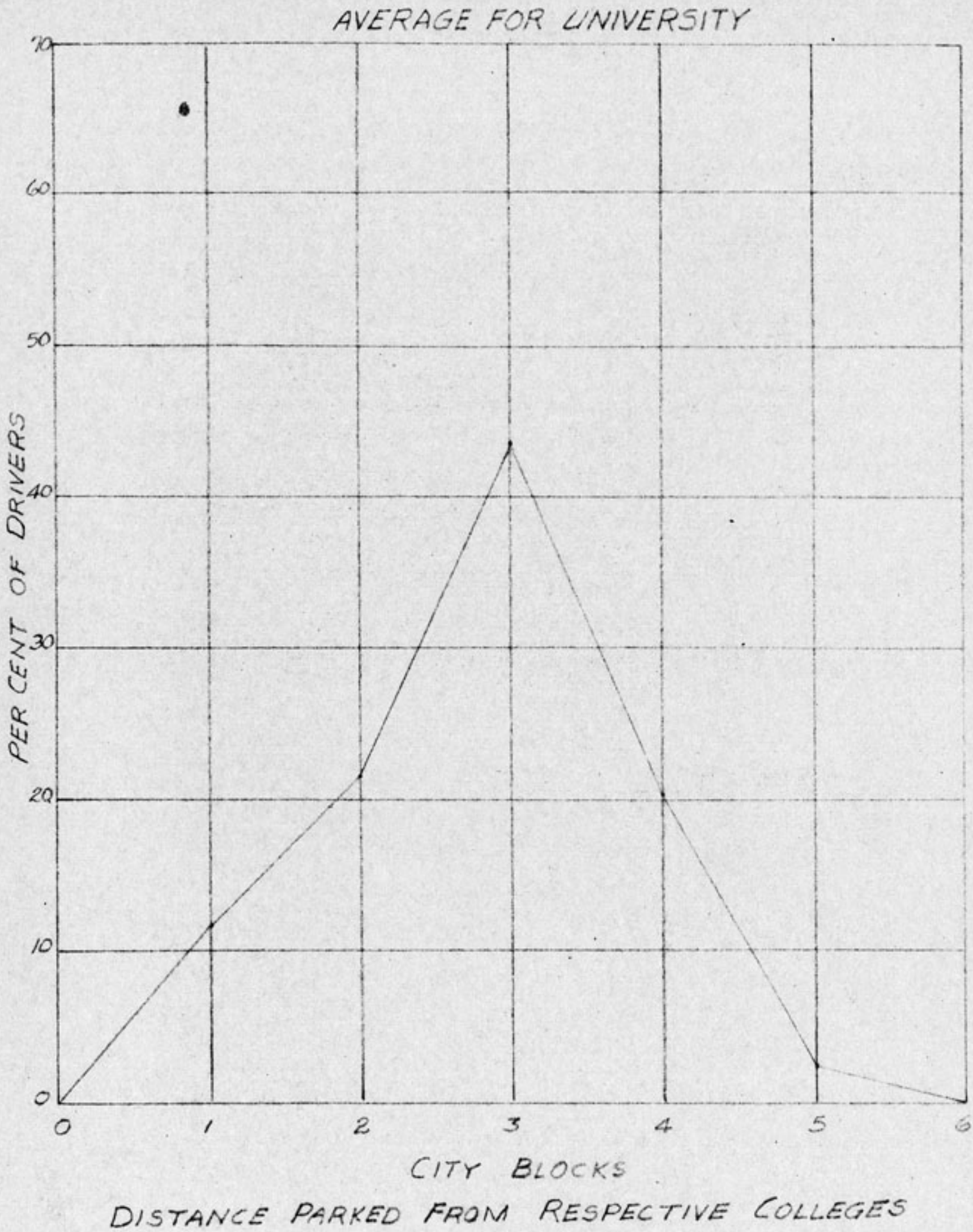

AVERAGE FOR UNIVERSITY
70
60
50
40
30
20
10
0
PER CENT OF DRIVERS
0
1
2
3
4
5
6
CITY BLOCKS
DISTANCE PARKED FROM RESPECTIVE COLLEGES

Fig. 33

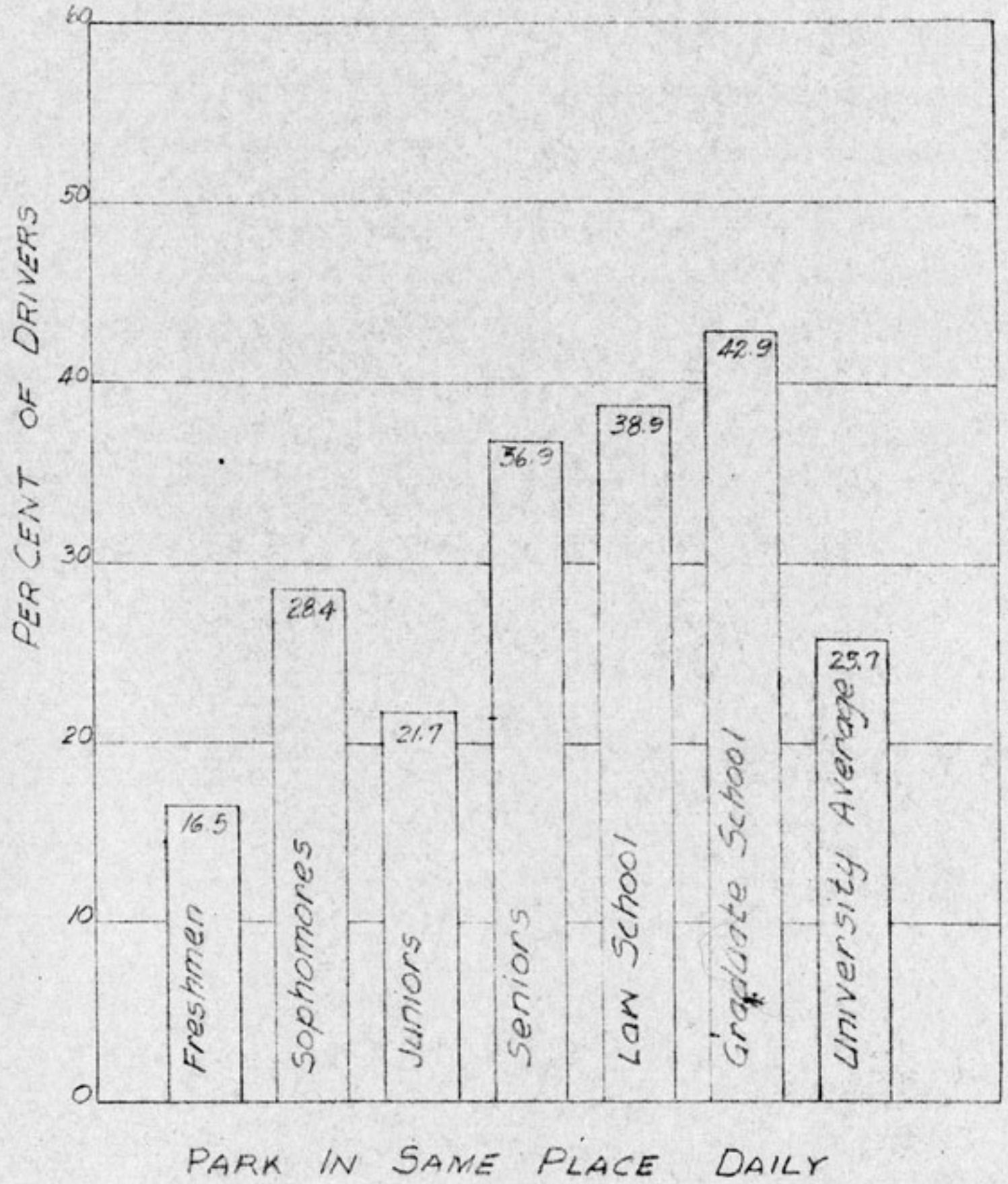

PER CENT OF DRIVERS
60
50
40
30
20
10
0
16.5
28.4
21.7
36.9
38.9
42.9
25.7
Freshmen
Sophomores
Juniors
Seniors
Law School
Graduate School
University Average
PARK IN SAME PLACE DAILY

Fig. 34

DISTANCE AGREED TO WALK

In answer to the question: "What is the maximum distance you would walk if an assigned parking place were provided?" it was found that the greatest percentage of freshmen and sophomores would walk three city blocks, as showed by Figures 35 and 36. In the higher academic classes (Figures 37 through 40), two blocks represented the largest percentage. Since a greater percentage of juniors and seniors have access to automobiles, two blocks represents the greatest distance agreed to walk, as shown by Figure 41.

FRESHMEN

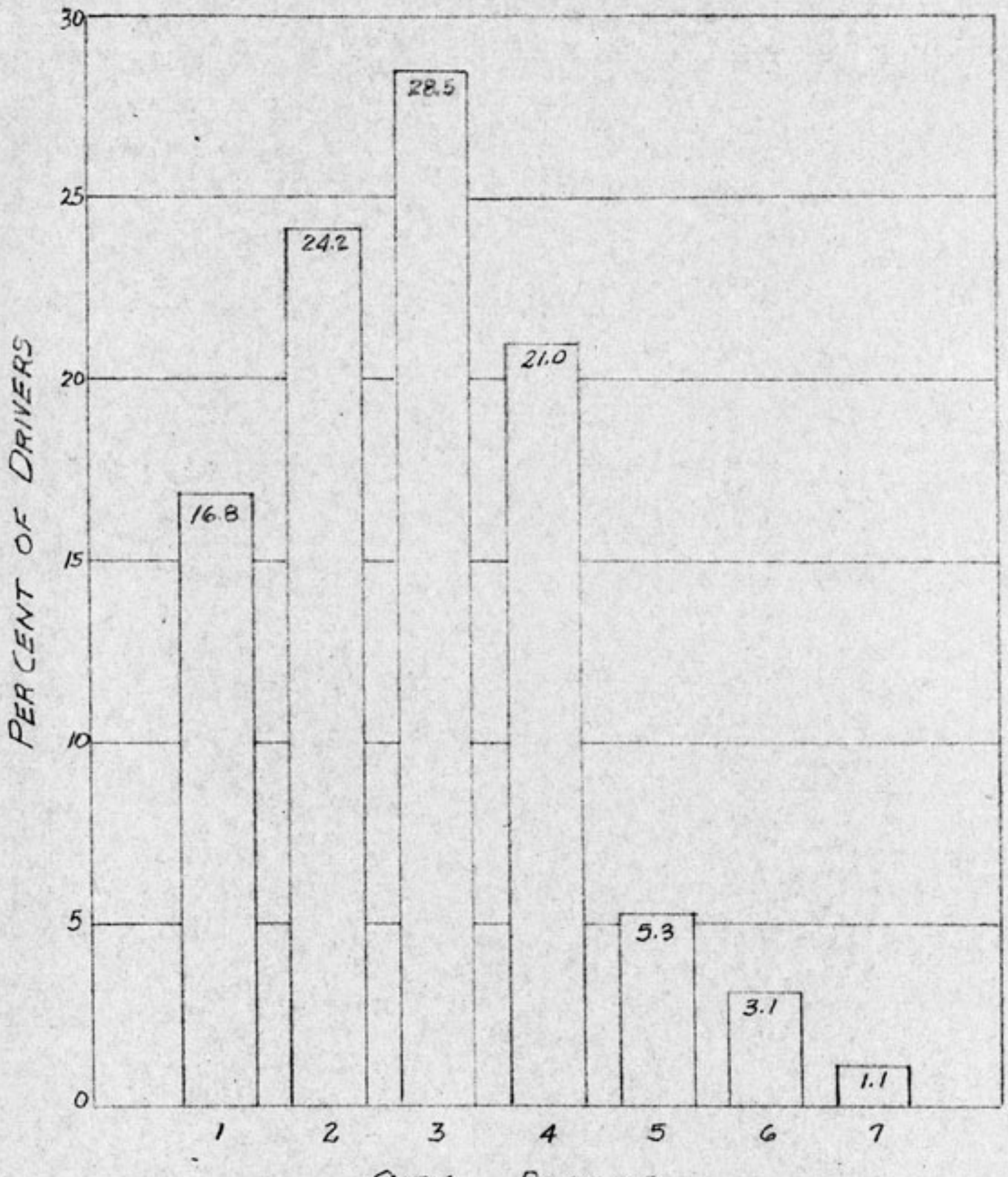


Fig. 35

SOPHOMORES

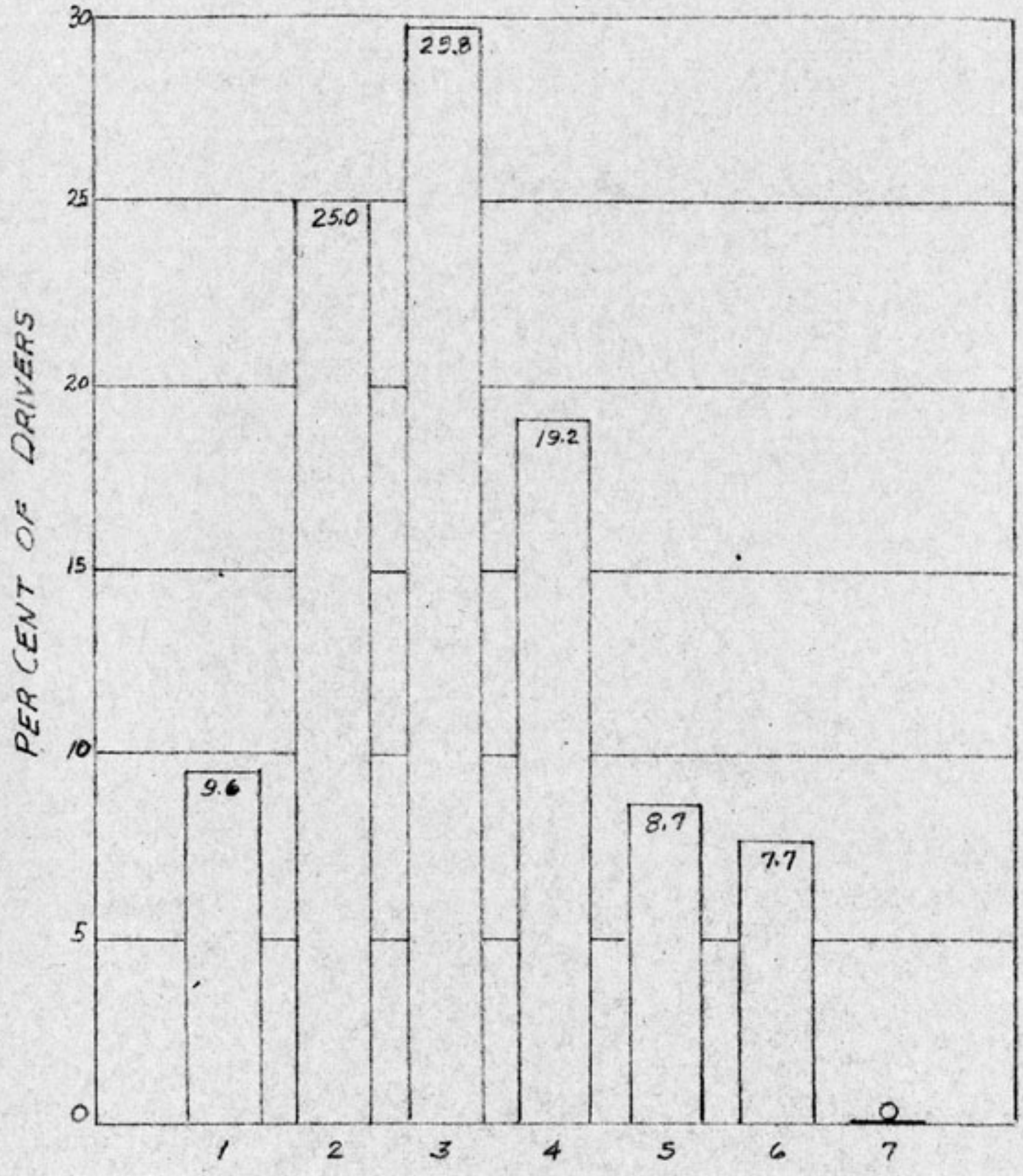


Fig. 36

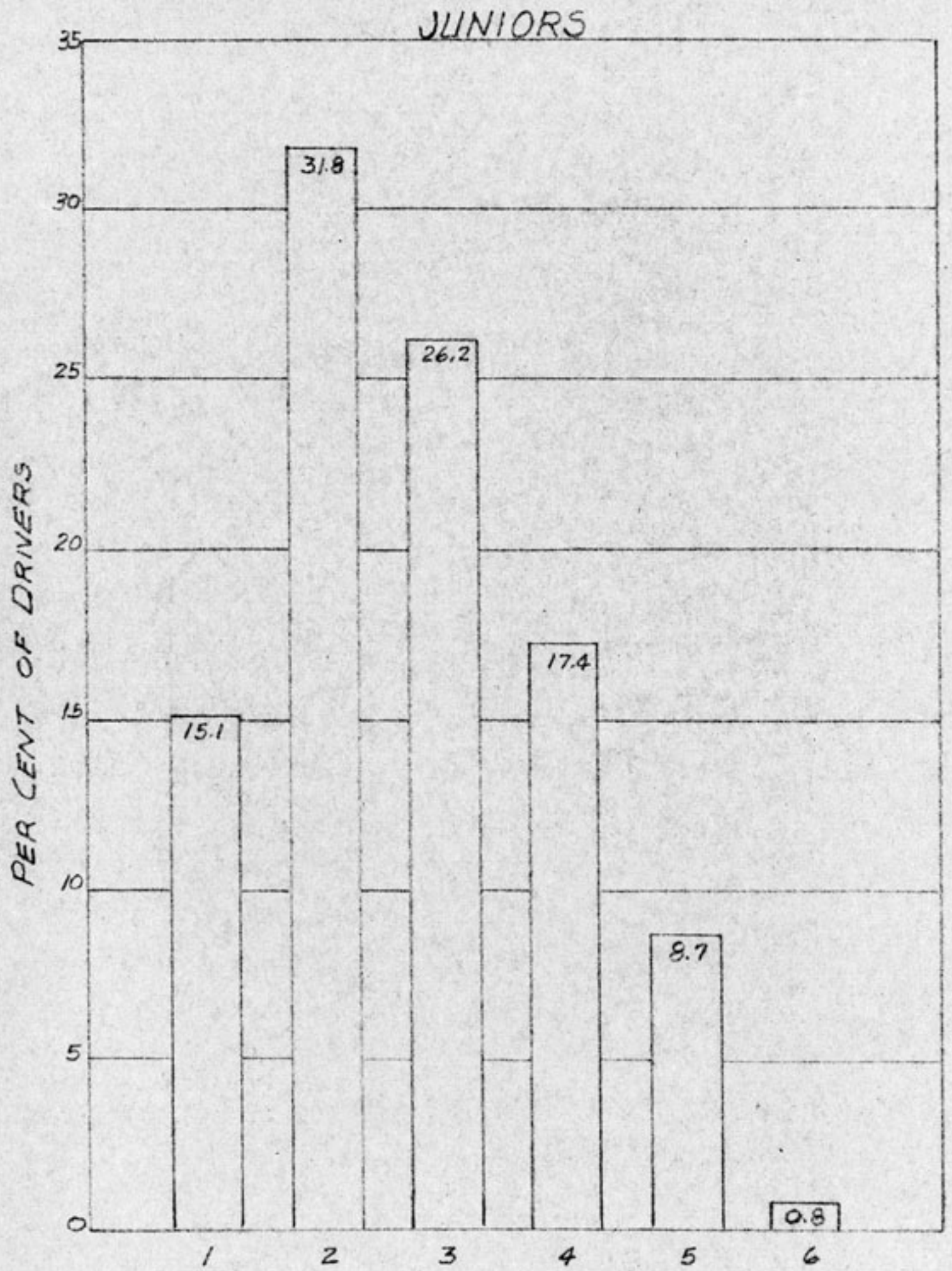

JUNIORS
35
30
25
20
15
10
5
0
PER CENT OF DRIVERS
31.8
26.2
17.4
15.1
8.7
0.8
1
2
3
4
5
6
CITY BLOCKS
AGREED TO WALK

Fig. 37

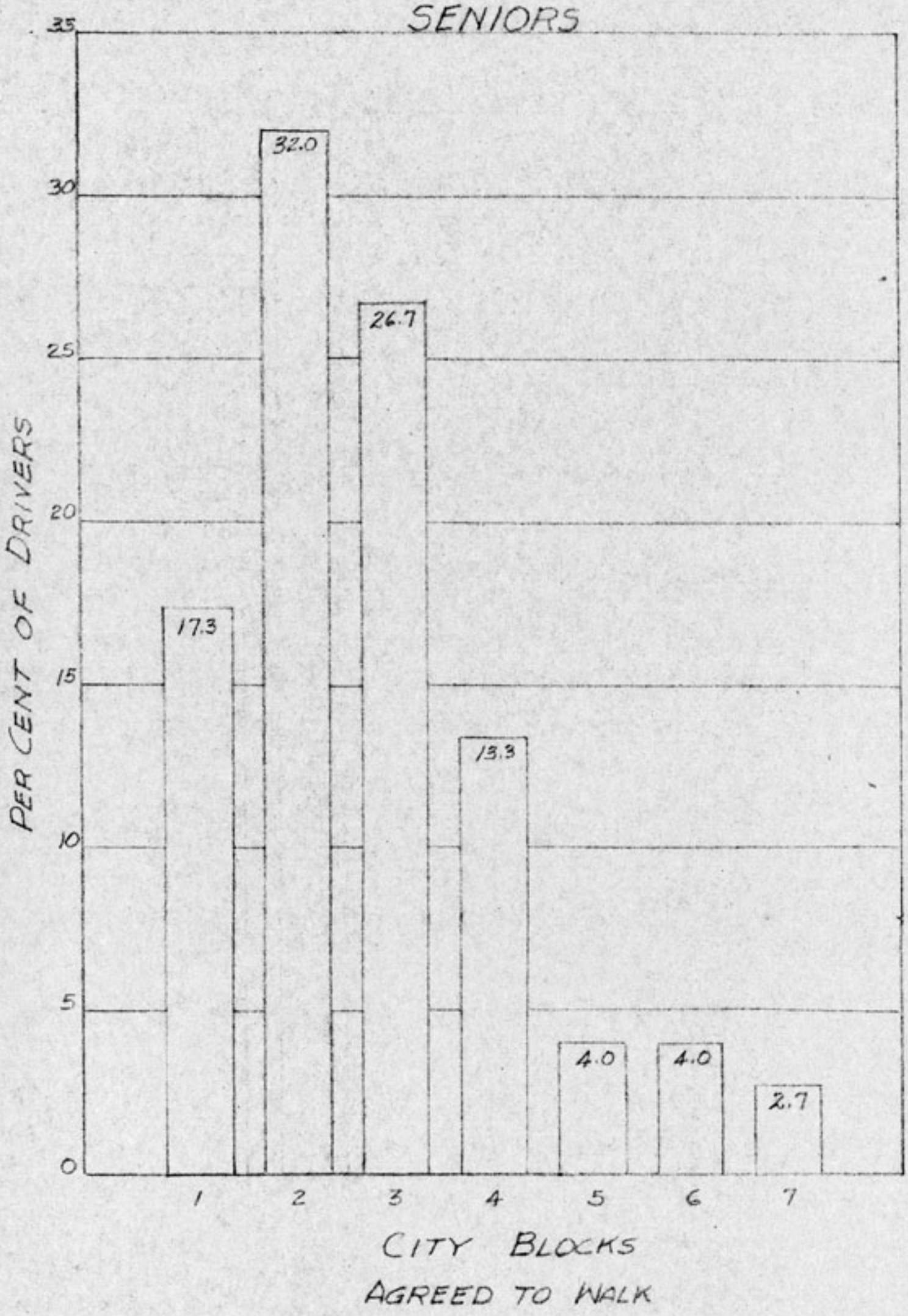

SENIORS
35
30
25
20
15
10
5
0
PER CENT OF DRIVERS
32.0
26.7
17.3
13.3
4.0
4.0
2.7
1
2
3
4
5
6
7
CITY BLOCKS
AGREED TO WALK

Fig. 38

LAW SCHOOL

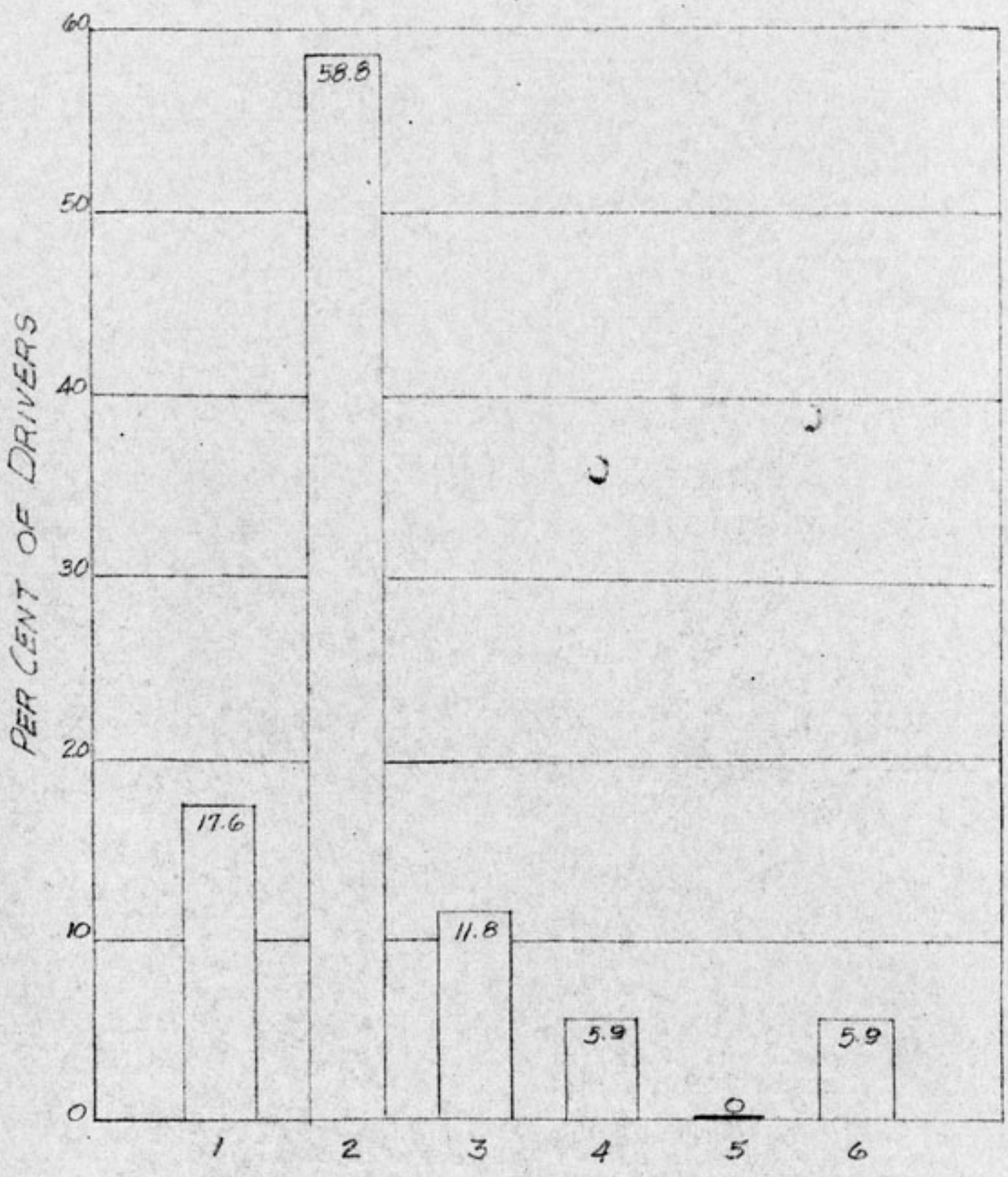


Fig. 39

GRADUATES

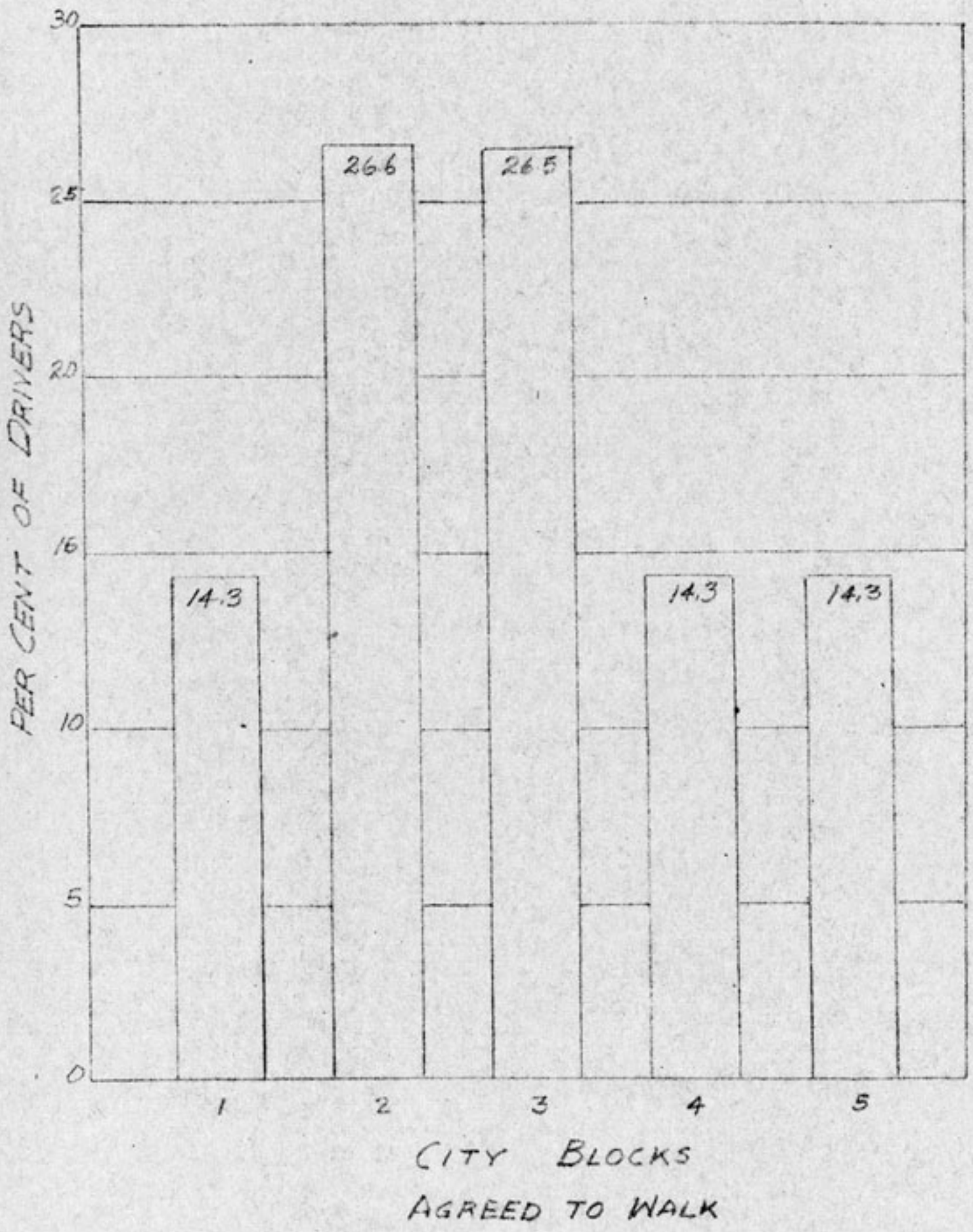


Fig. 40

AVERAGE FOR UNIVERSITY

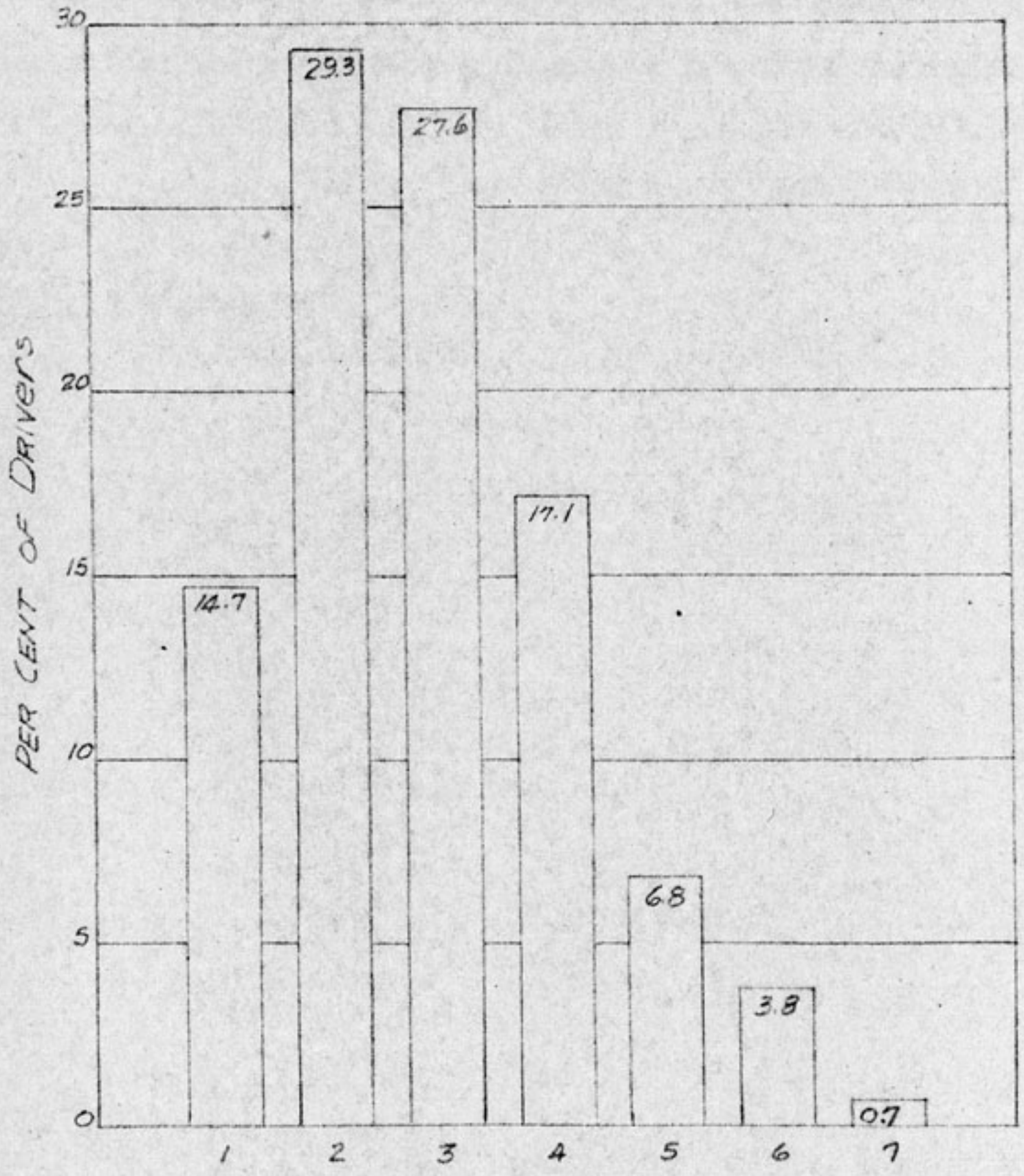


Fig. 41

CAR OWNERS WILLING TO PAY FOR RESERVED PARKING SPACE

Figure 42 shows the per cent of those having access to cars who are willing to pay for a reserved parking space. The percentages are presented for each academic classification as well as for the entire group of students who have access to cars. In answering this portion of the questionnaire, many students agreed to pay, but added certain stipulations and requirements which would be impossible, so they were not included in the final tabulation.

CAR OWNERS WHO WILL PAY FOR RESERVED PARKING SPACE

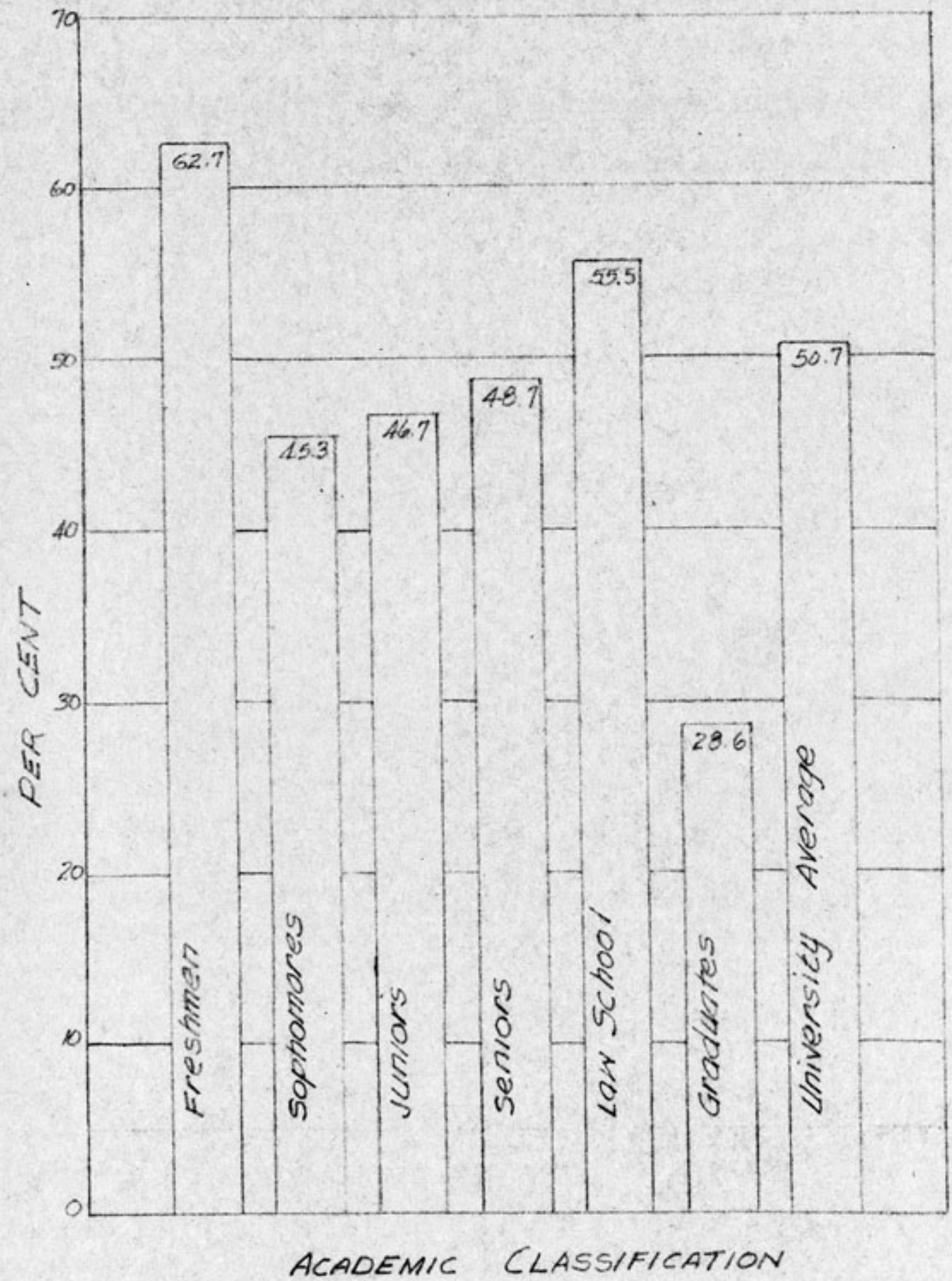


Fig. 42

AMOUNT WILLING TO PAY

Of the students who have access to automobiles, 50.7 per cent were willing to pay for a reserved parking space. Of this per cent, $5.00 per semester was the amount most frequently mentioned. Figures 43 through 47 present the data for academic classes and Figure 48 summarizes the data for the student body.

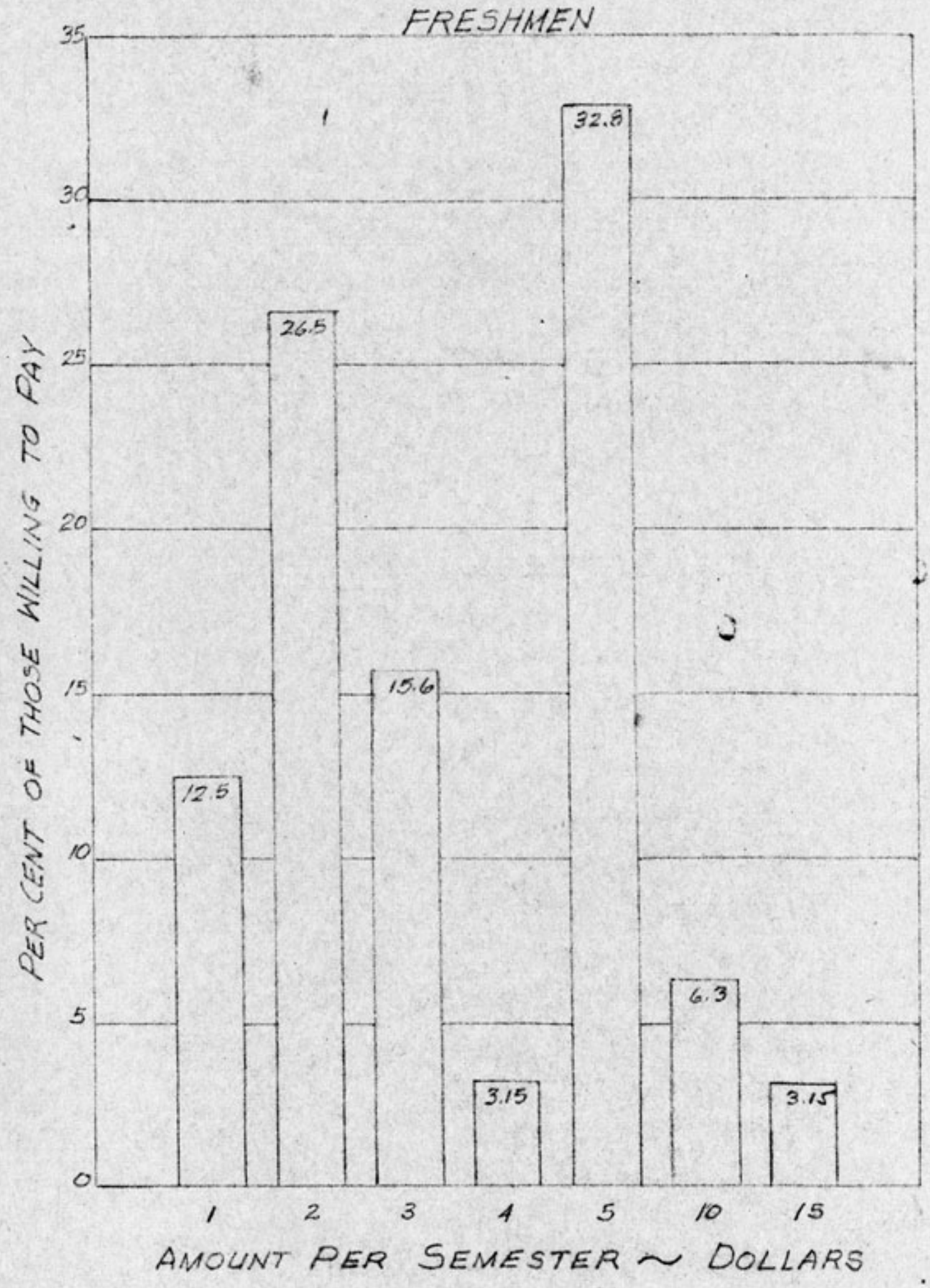

FRESHMEN
35
30
25
20
15
10
5
0
PER CENT OF THOSE WILLING TO PAY
32.8
26.5
15.6
12.5
6.3
3.15
3.15
1
2
3
4
5
10
15
AMOUNT PER SEMESTER ~ DOLLARS

Fig. 43

SOPHOMORES

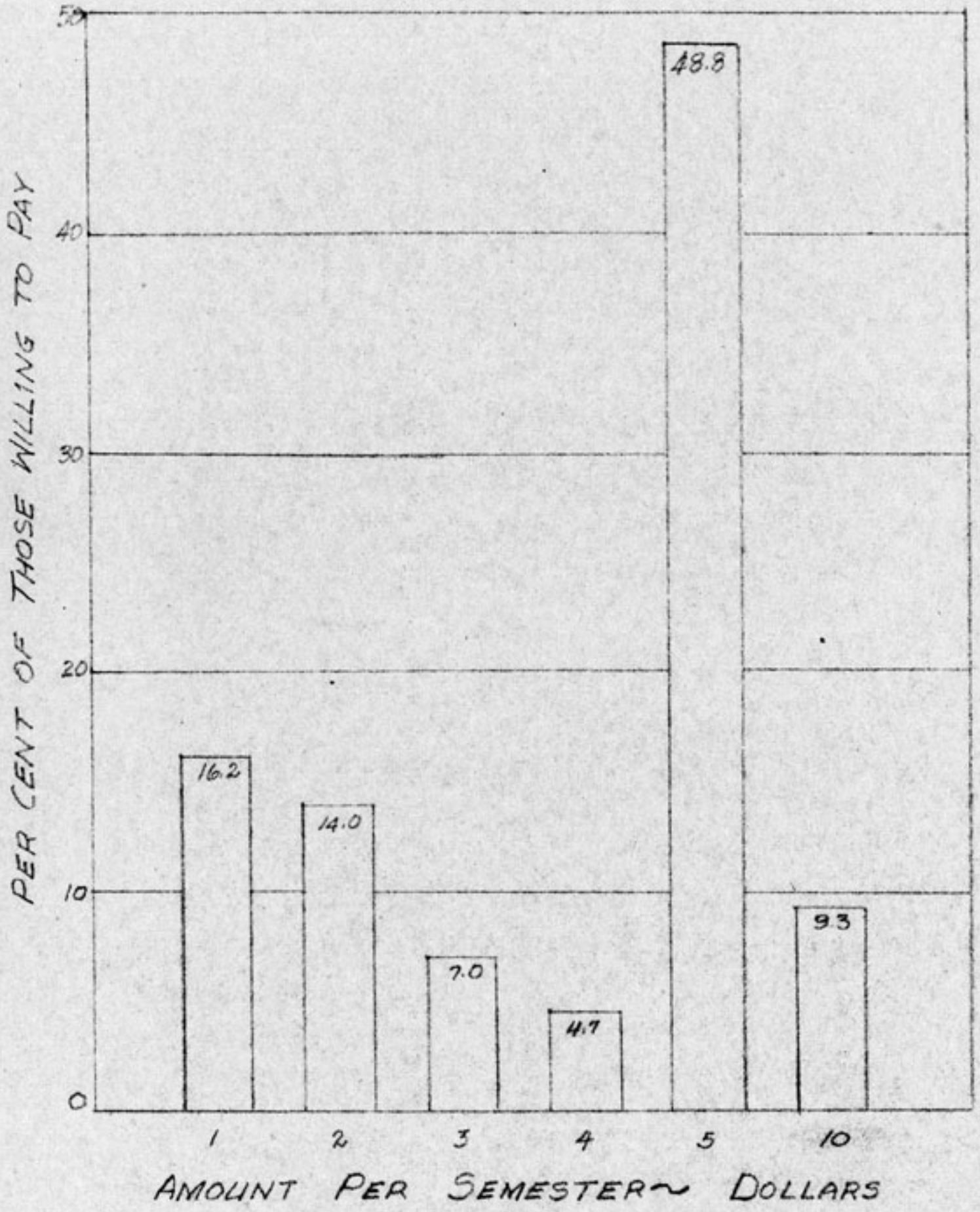


Fig. 44

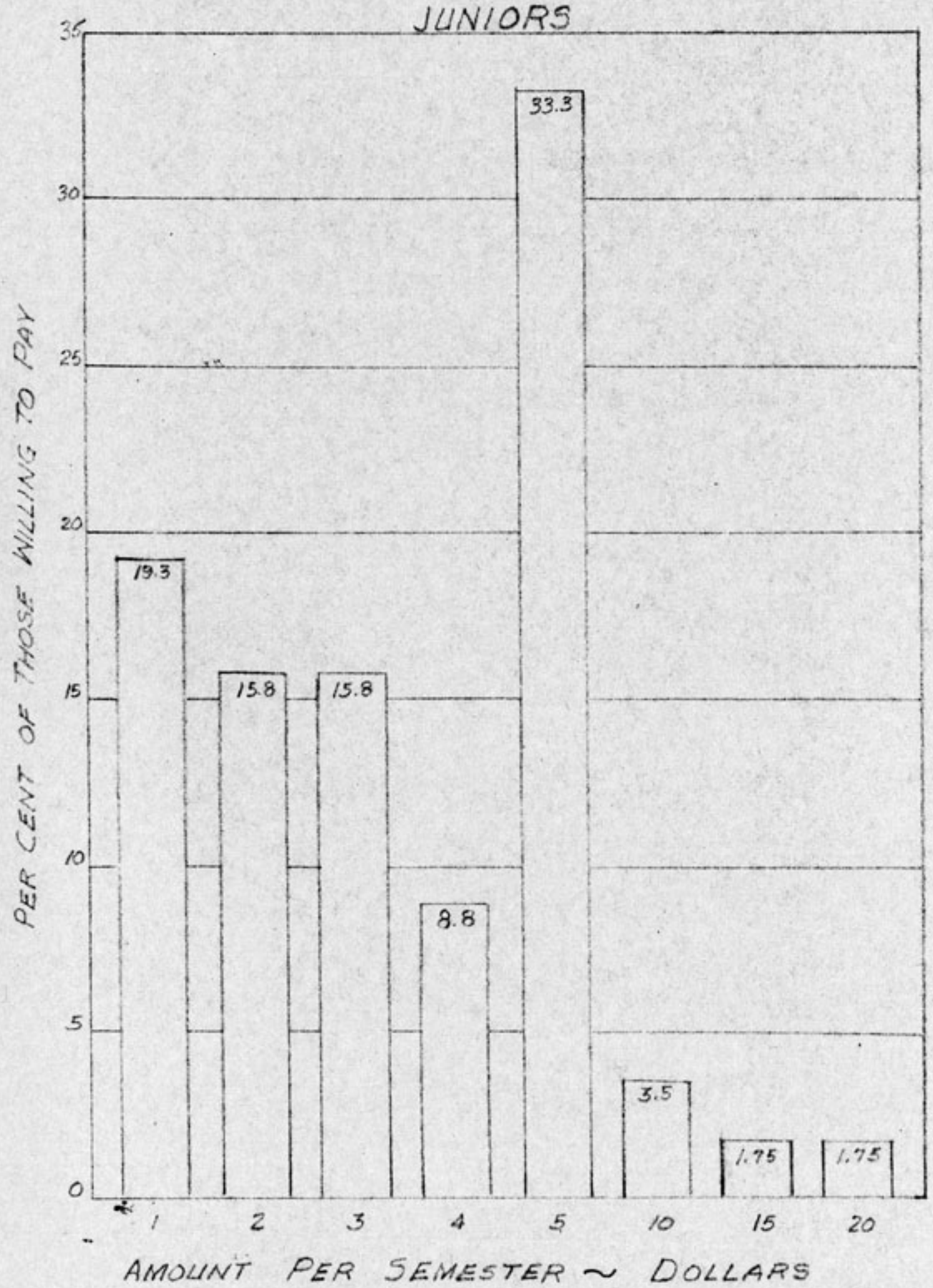

JUNIORS
PER CENT OF THOSE WILLING TO PAY
35
30
25
20
15
10
5
0
33.3
19.3
15.8
15.8
8.8
3.5
1.75
1.75
1
2
3
4
5
10
15
20
AMOUNT PER SEMESTER ~ DOLLARS

Fig. 45

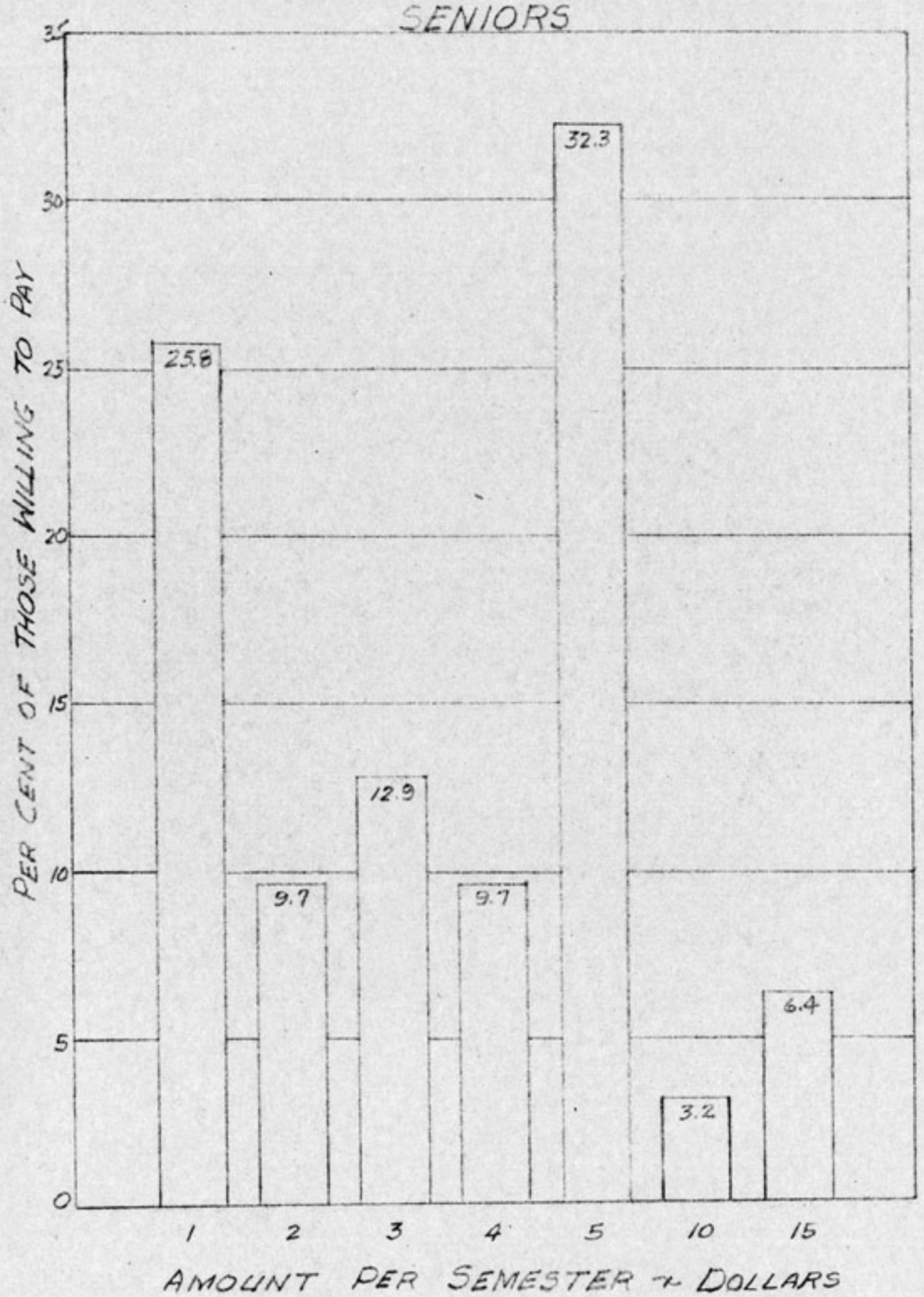

SENIORS
35
30
25
20
15
10
5
0
PER CENT OF THOSE WILLING TO PAY
25.8
32.3
9.7
12.9
9.7
3.2
6.4
1
2
3
4
5
10
15
AMOUNT PER SEMESTER in DOLLARS

Fig. 46

LAW SCHOOL GRADUATES

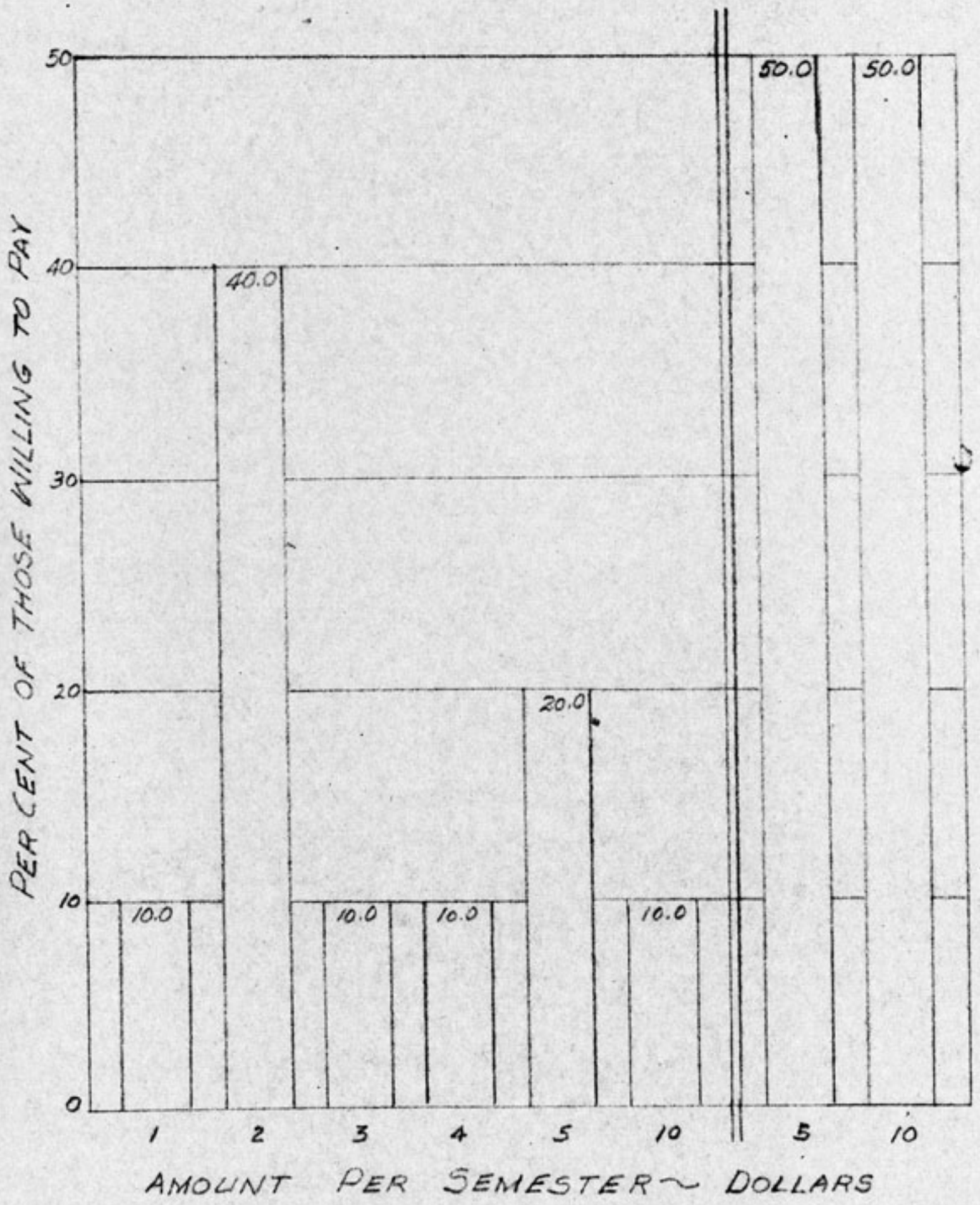


Fig. 47

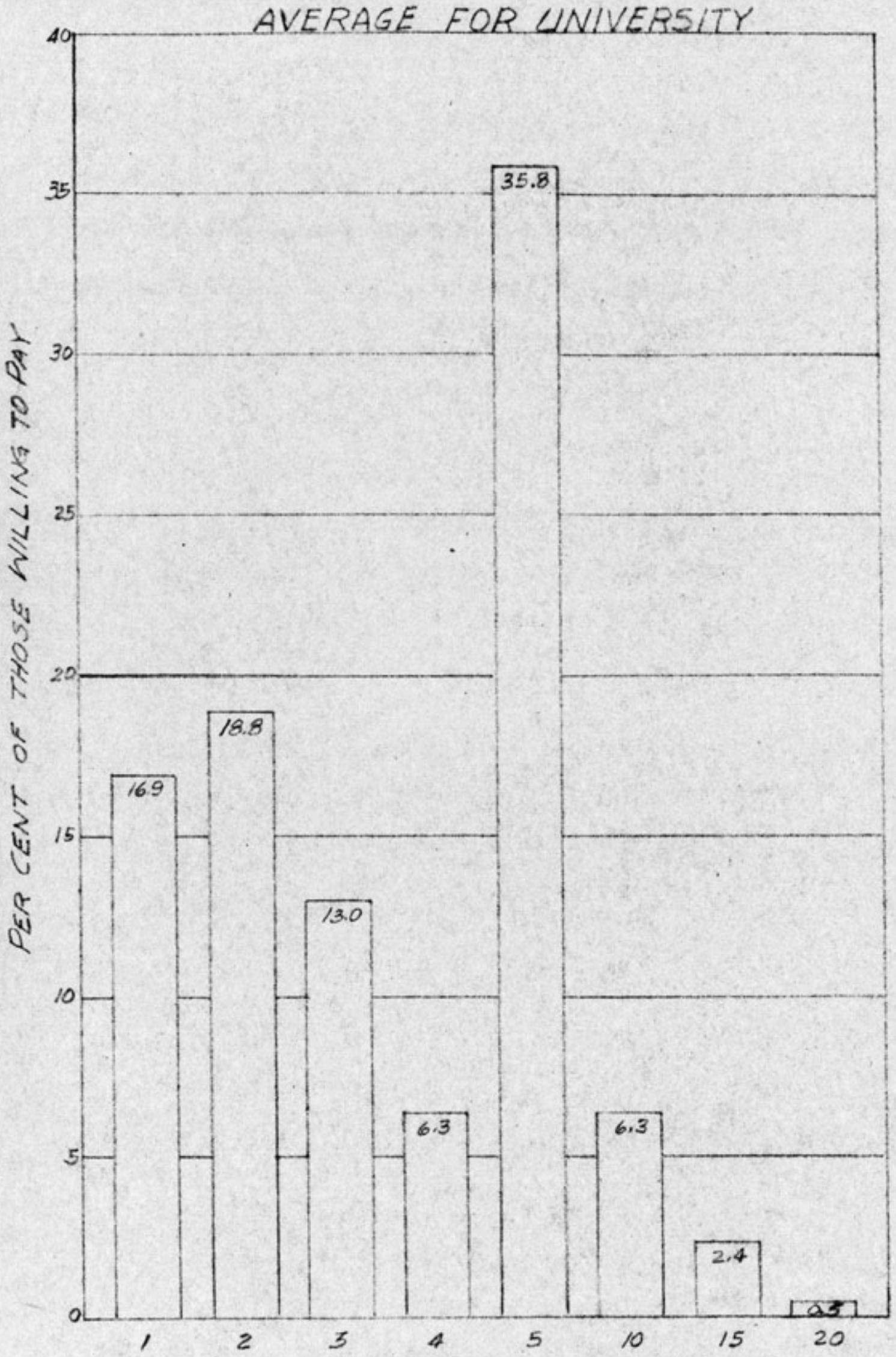

AVERAGE FOR UNIVERSITY
PER CENT OF THOSE WILLING TO PAY
40
35
30
25
20
15
10
5
0
35.8
16.9
18.8
13.0
6.3
6.3
2.4
.3
1
2
3
4
5
10
15
20
AMOUNT PER SEMESTER ~ DOLLARS

Fig. 48

UNIVERSITY FACULTY

When the writer secured the parking questionnaires for the university staff from the comptroller, he was told that the material was confidential and that its use would be limited to summary form. For that reason, only Questions 2, 3, 4, 5 and 6 of the questionnaire were used in the study.

DRIVING HABITS

On 31 January 1951 there were 4237 persons employed by the university. Of this number, 2437 were classed as academic faculty and 1800 as non-academic employees.[3] Figure 49 is a graphic presentation of the driving habits showing the percentages of the above two groups who drive regularly, occasionally and never. There also appears in the figure a recapitulation for the total faculty. By applying the percentages shown to the above number of employees it was found that 1725 members of the academic faculty and 1093 non-academic employees drive their automobiles to the university daily.

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3. The University of Texas. Payroll Division records.

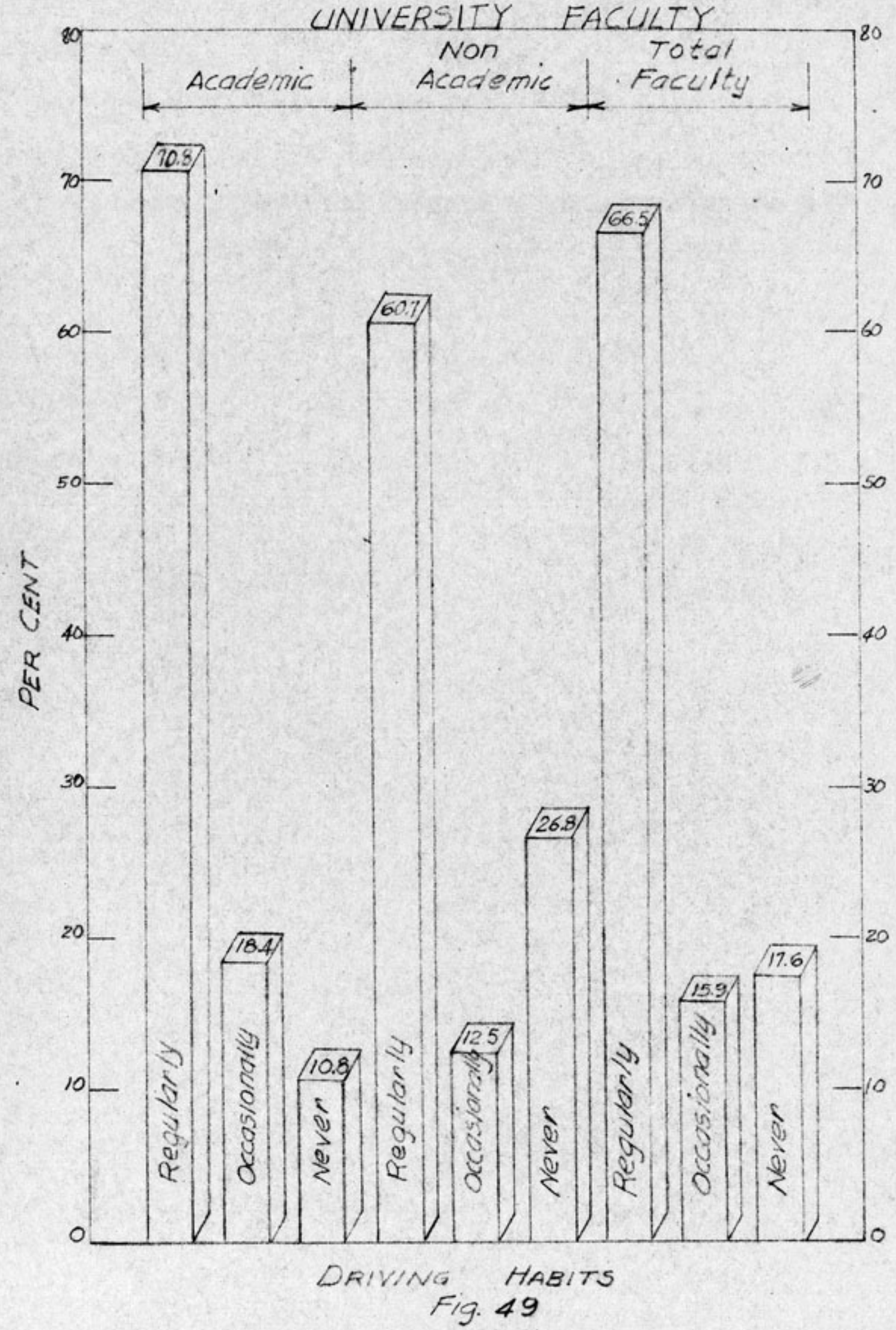
UNIVERSITY FACULTY
Academic
Non Academic
Total Faculty
80
70
60
50
40
30
20
10
0
PER CENT
10.8
60.7
66.5
18.4
10.8
12.5
26.8
15.9
17.6
Regularly
Occasionally
Never
Regularly
Occasionally
Never
Regularly
Occasionally
Never
DRIVING HABITS

Fig. 49

DISTANCE DRIVEN

Figure 50 shows distance driven by the regular drivers of the academic faculty. Figure 51 presents the same for the regular drivers of the non-academic faculty and Figure 52 is the average for the total faculty. In computing percentages shown on these graphs the same method was used as that for the students. The distance is that from the individual's residence to the perimeter of the area studied.

Data for Figures 53, 54 and 55 were computed in the same manner as above and show the distance driven by occasional drivers.

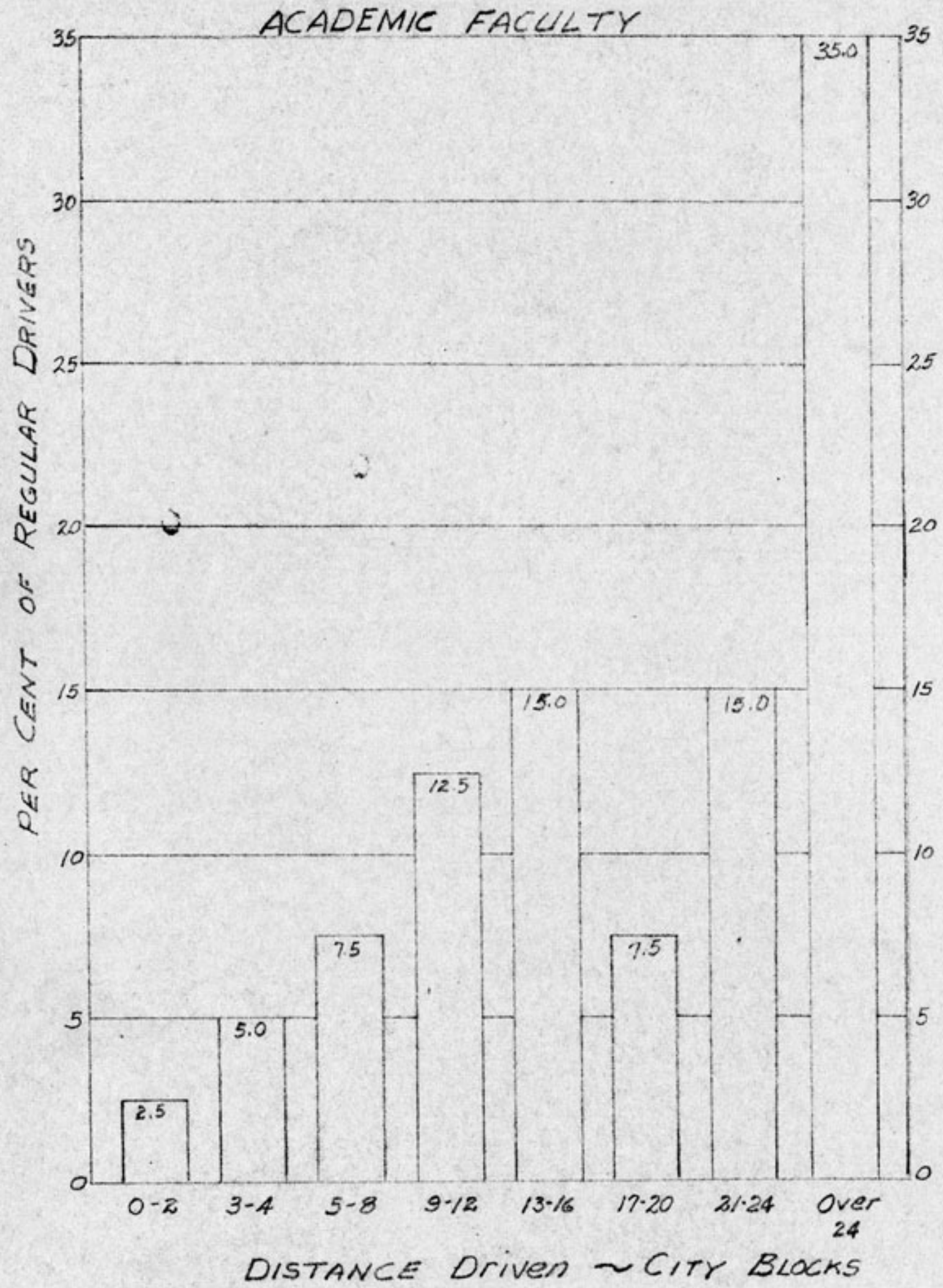
ACADEMIC FACULTY
PER CENT OF REGULAR DRIVERS
35
30
25
20
15
10
5
0
35.0
15.0
15.0
12.5
7.5
7.5
5.0
2.5
0-2
3-4
5-8
9-12
13-16
17-20
21-24
Over 24
DISTANCE Driven ~ CITY BLOCKS

Fig. 50

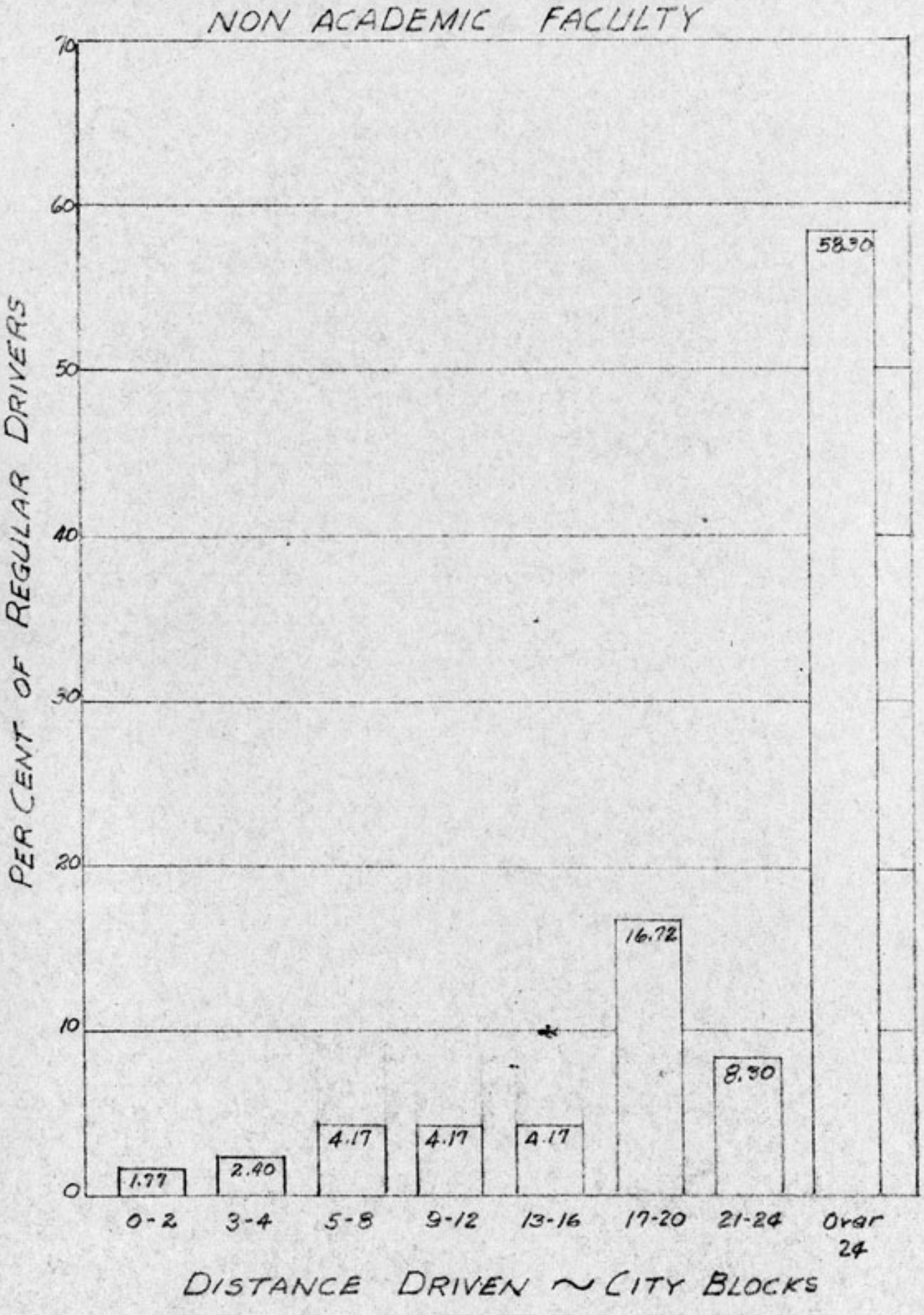
NON ACADEMIC FACULTY
PER CENT OF REGULAR DRIVERS
70
60
50
40
30
20
10
0
58.30
16.72
8.30
4.17
4.17
4.17
2.40
1.77
0-2
3-4
5-8
9-12
13-16
17-20
21-24
Over 24
DISTANCE DRIVEN ~ CITY BLOCKS

Fig. 51

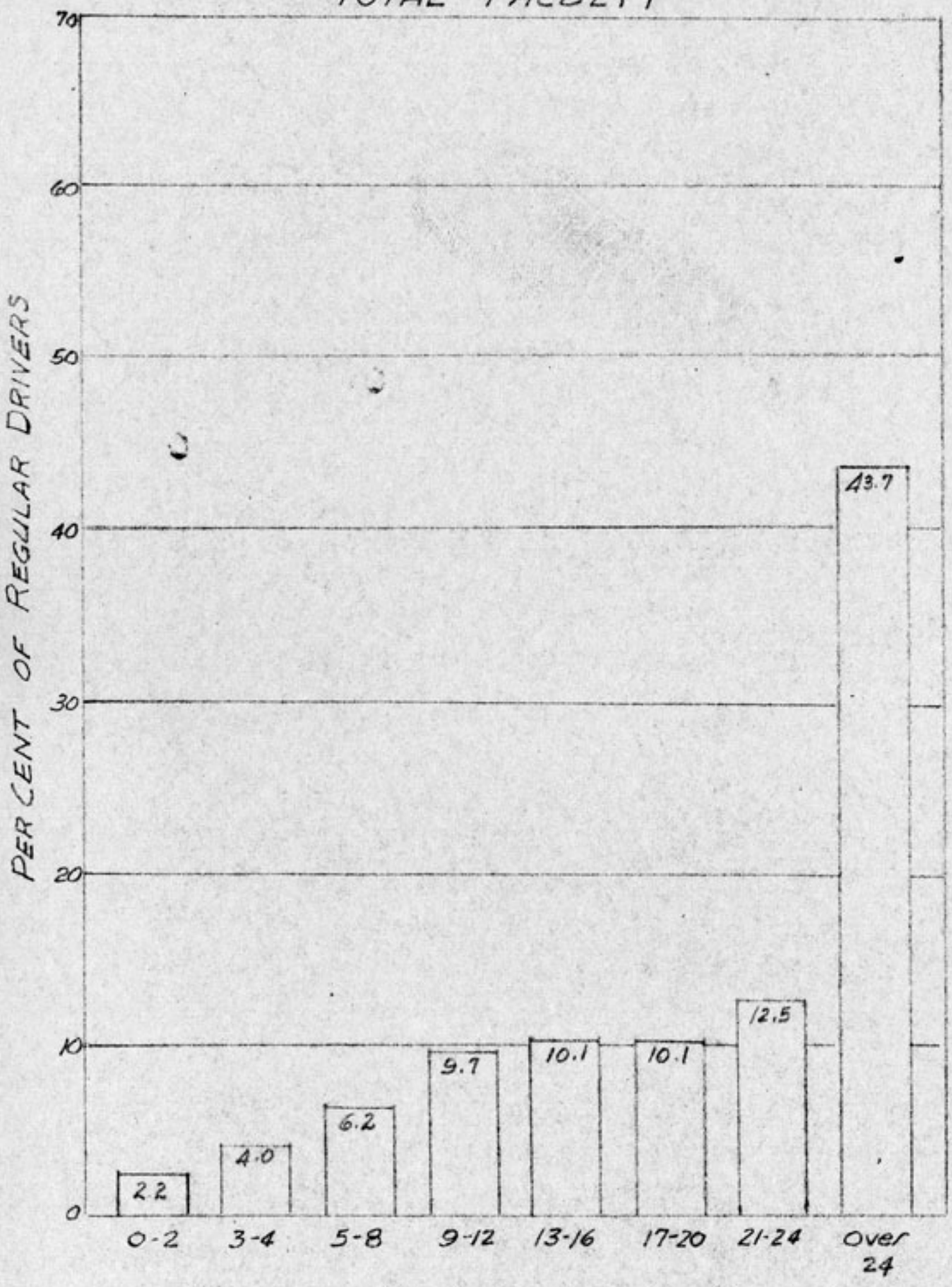
TOTAL FACULTY
PER CENT OF REGULAR DRIVERS
70
60
50
40
30
20
10
0
2.2
4.0
6.2
9.7
10.1
10.1
12.5
43.7
0-2
3-4
5-8
9-12
13-16
17-20
21-24
Over 24
DISTANCE DRIVEN ~ CITY BLOCKS

Fig. 52

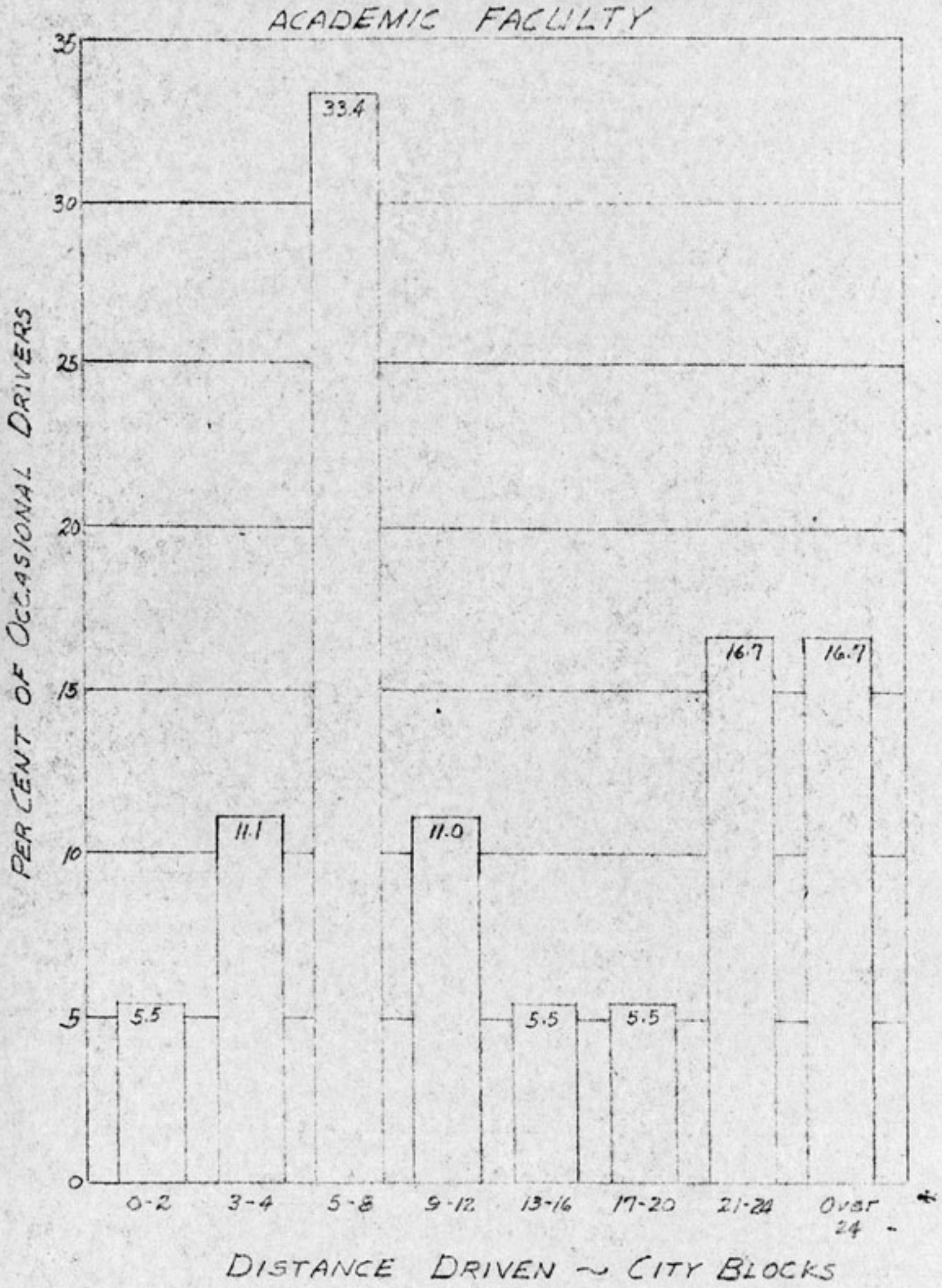
ACADEMIC FACULTY
PER CENT OF OCCASIONAL DRIVERS
35
30
25
20
15
10
5
0
33.4
16.7
16.7
11.1
11.0
5.5
5.5
5.5
0-2
3-4
5-8
9-12
13-16
17-20
21-24
Over 24
DISTANCE DRIVEN ~ CITY BLOCKS

Fig. 53

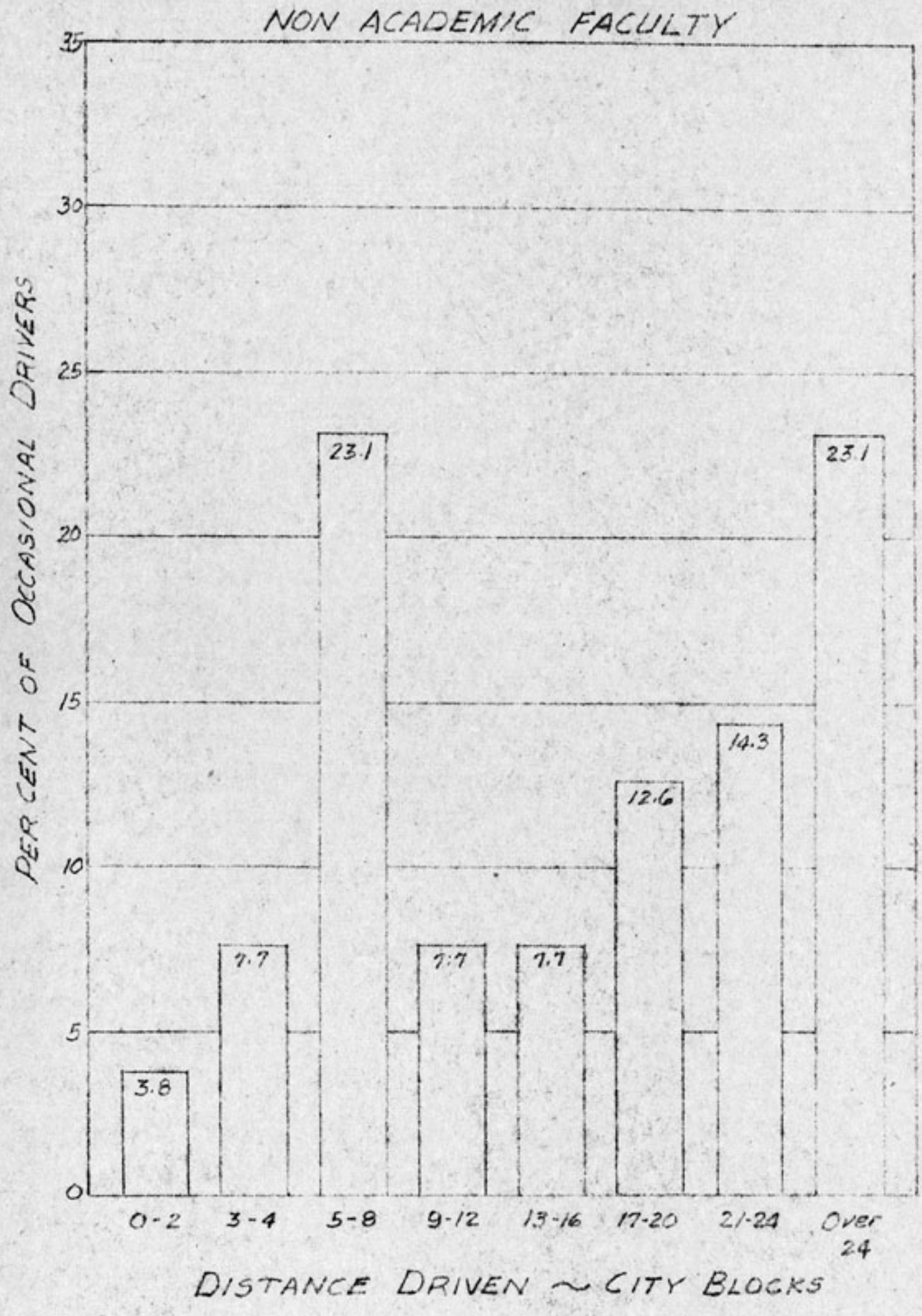
NON ACADEMIC FACULTY
PER CENT OF OCCASIONAL DRIVERS
35
30
25
20
15
10
5
0
23.1
23.1
14.3
12.6
7.7
7.7
7.7
3.8
0-2
3-4
5-8
9-12
13-16
17-20
21-24
Over 24
DISTANCE DRIVEN ~ CITY BLOCKS

Fig. 54

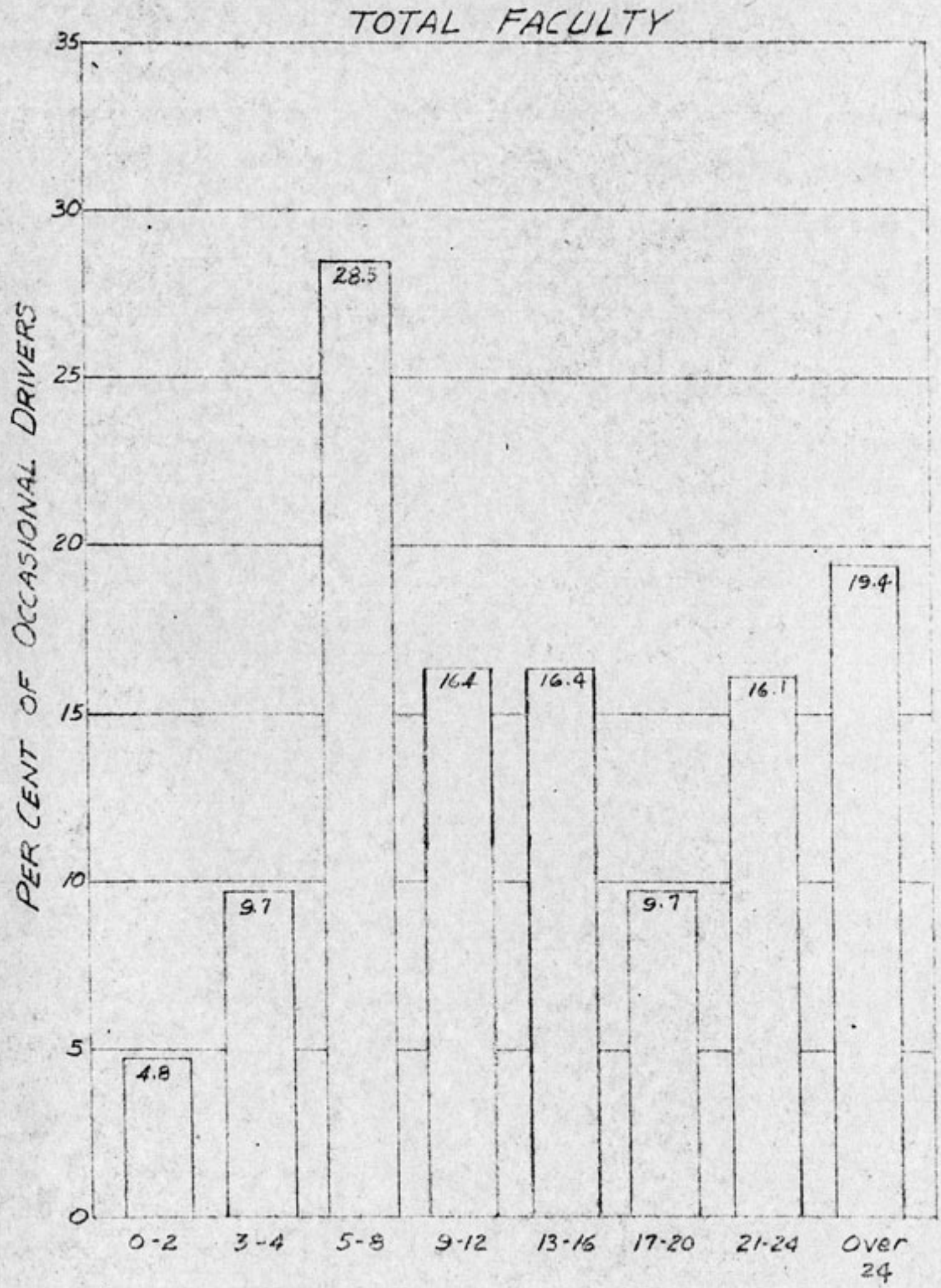
TOTAL FACULTY
PER CENT OF OCCASIONAL DRIVERS
35
30
25
20
15
10
5
0
28.5
4.8
9.7
16.4
16.4
9.7
16.1
19.4
0-2
3-4
5-8
9-12
13-16
17-20
21-24
Over 24
DISTANCE DRIVEN ~ CITY BLOCKS

Fig. 55

PARKING

Question 6 of the questionnaire pertained to difficulty in parking. Figure 56 shows the percentage of each faculty group, as well as the percentages for the total faculty, who have much, little or no difficulty in parking. It may be seen that the non-academic faculty has less difficulty than the academic faculty. This is due to the difference in working hours of the two groups. A study of the questionnaires showed that those drivers arriving before 7:45 a.m. had little or no difficulty in finding an acceptable parking place.

Figure 57 presents the same set of findings in the case of the occasional drivers.

REGULAR DRIVERS

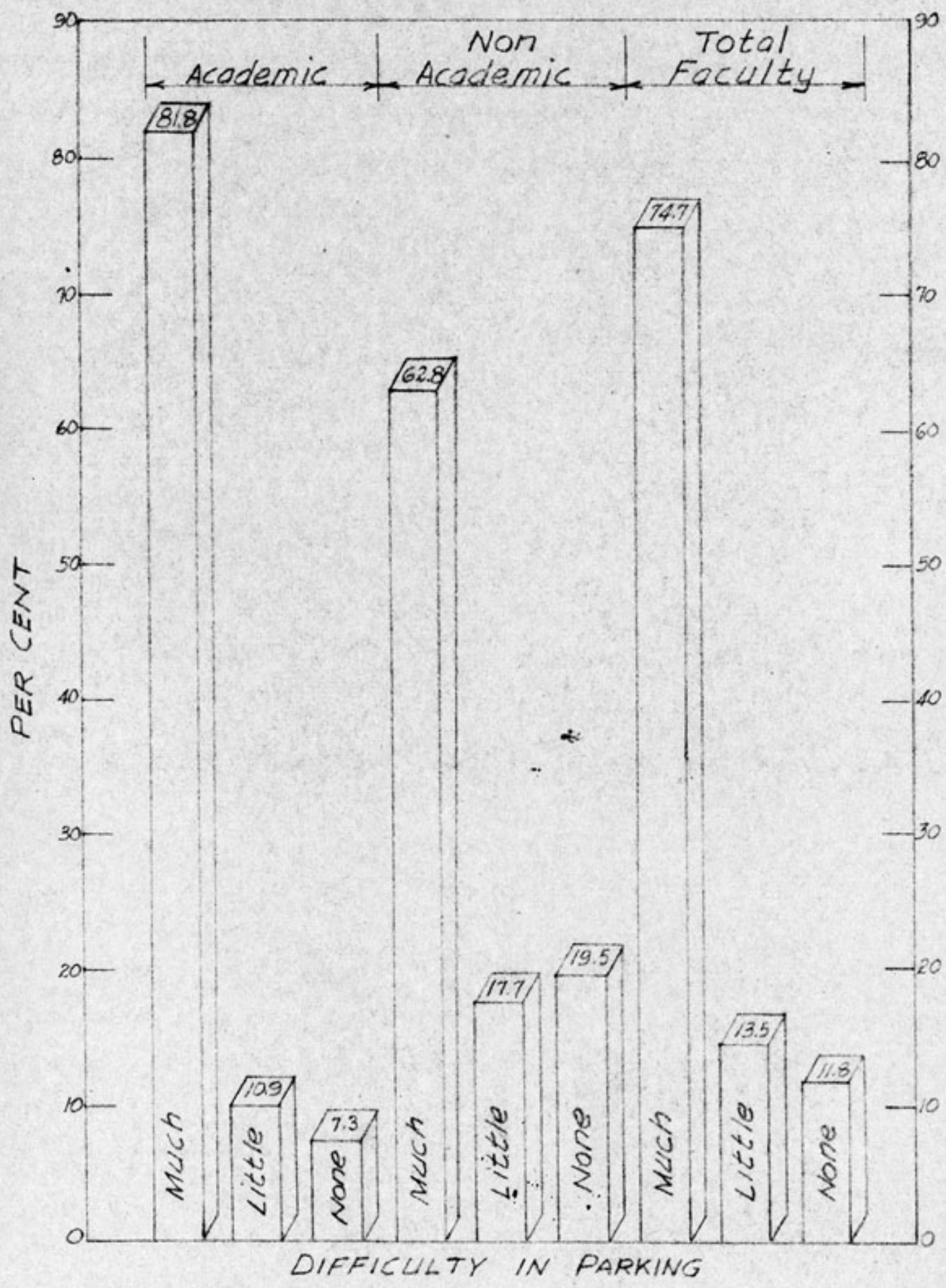

Fig. 56

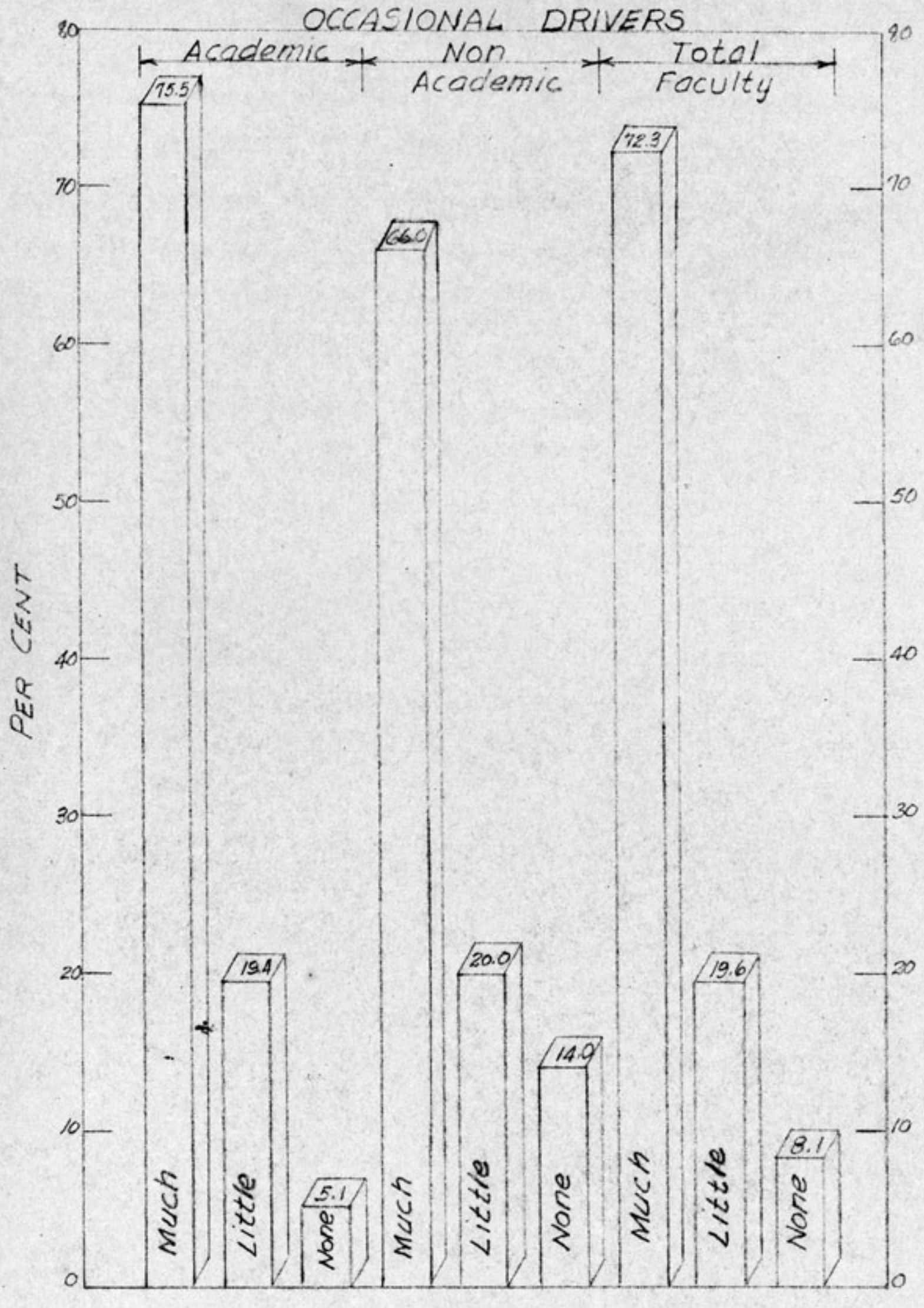
OCCASIONAL DRIVERS
Academic
Non Academic
Total Faculty
PER CENT
80
70
60
50
40
30
20
10
0
75.5
66.0
72.3
19.4
5.1
20.0
14.0
19.6
8.1
Much
Little
None
Much
Little
None
Much
Little
None
DIFFICULTY IN PARKING

Fig. 57

CONSTRUCTION WORKERS

Of the 317 workers employed in the construction of new buildings, 133, or the equivalent of 42 per cent, drive to work daily. The answers to the question: "If you drive, what time do you arrive and where do you park?" were varied, but the most common answer was, "Sometime between 7:30 a.m. and 7:45 a.m. In time to get a parking place within a couple of blocks of the job." Since the group is transient, findings concerning it were not considered significant for the total.

SUMMARY OF DAILY DRIVING AND PARKING HABITS

Students	
Access to automobiles	
Women	1010
Men	4468
Total students	5478
Daily drivers	3476
Drive less than two blocks	865
Peak hour of arrival (8 a.m.)	2148
Move cars between classes	357
Hours remain parked (1 to 4 hrs. inclusive)	2683
Park within 5 blocks of respective college	3476
Park in same place daily	893
Car owners willing to pay for reserved space	2777
Average amount agreed to pay per semester - $5.00	995
Faculty	
Daily drivers	
Academic	1725
Non-academic	1093
Total faculty	2818
Occasional drivers	
Academic	448
Non-academic	225
Total faculty	673
Drive two blocks or less	
Regular drivers	
Academic	43
Non-academic	19
Total	62
Occasional drivers	
Academic	25
Non-academic	9
Total	34
Difficulty in parking	
Regular drivers	
Much	2105
Little	380
None	333
Occasional drivers	
Much	487
Little	132
None	54
Construction workers	
Daily drivers	133

TABLE II

SCHEDULE OF CLASSES

When studying the driving habits of students, it was found that the greatest percentage of drivers arrived at the university during the morning hours. (See Figure 18) It was assumed from this that more classes were offered during the morning than during the afternoon. To verify this assumption and to supplement previous findings, a count of the number of classes held throughout the day was made. The result of this count appears as Figure 58. The morning classes do exceed those of the afternoon, but not nearly so much as originally assumed.

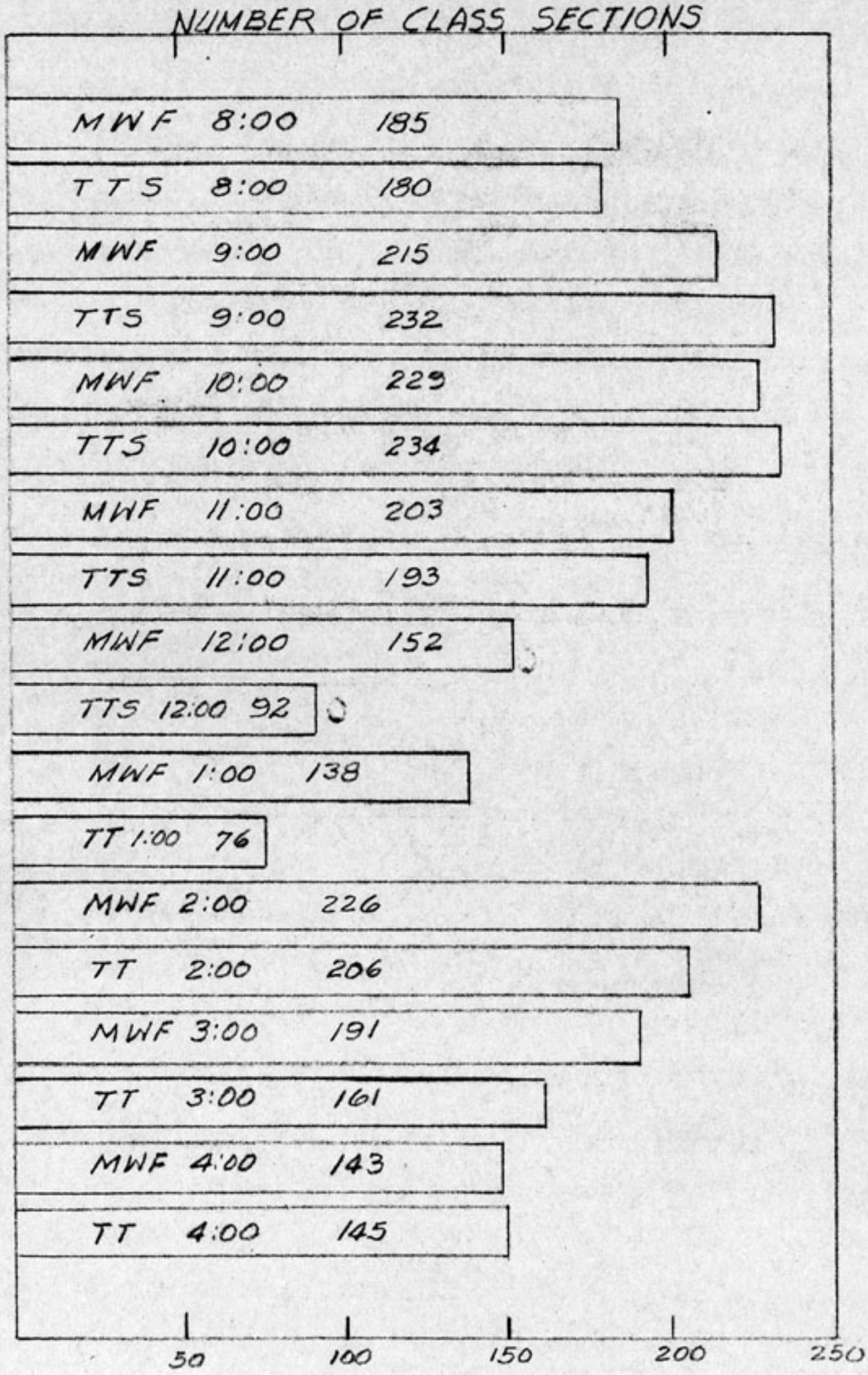
NUMBER OF CLASS SECTIONS
MWF 8:00 185
TTS 8:00 180
MWF 9:00 215
TTS 9:00 232
MWF 10:00 229
TTS 10:00 234
MWF 11:00 203
TTS 11:00 193
MWF 12:00 152
TTS 12:00 92
MWF 1:00 138
TT 1:00 76
MWF 2:00 226
TT 2:00 206
MWF 3:00 191
TT 3:00 161
MWF 4:00 143
TT 4:00 145
50
100
150
200
250

Fig. 58

PARKING VIOLATIONS

Upon interviewing the assistant comptroller, it was found that there are no written parking regulations for The University of Texas. Parking on the original 40 acres of the campus is controlled by the guard at the north entrance, who has instructions to allow only those with permits to pass. The permits for the 125 parking spaces are issued by the business office to disabled faculty members and students. All of the remaining parking places on the rest of the campus are on the first come--first served basis.

It can be seen from previous findings that there are only 3336 legal parking spaces within the area under study for 6427 daily drivers. Because of this, approximately 50 per cent of the drivers park illegally in private yards, on sidewalks, in no-parking and restricted areas, or in overcrowded parking lots located near the class rooms.

Parking violations are handled by the assistant comptroller. A motorcycle mounted guard writes parking tickets and the recipient of a ticket is supposed to report to the business office. All first violators are dismissed with a word of warning. Habitual student violators are directed to report to the Dean of Student Life. A check with that office showed that no disciplinary action other than an oral reprimand has ever been taken against a parking violator. The assistant comptroller stated that since there are no official parking regulations no action has been taken against staff violators.

During the spring of 1951, a faculty parking committee was making a study of the problem, with a view to publication of written regulations for all university parking.

REPORTS FROM OTHER UNIVERSITIES AND COLLEGES

Seventy per cent of colleges and universities written requesting information on the handling of parking at their institutions furnished replies. The answers ranged from brief explanations to entire sets of parking regulations. For conformity in presentation each answer will be summarized. However, the complete file of answers is being turned over to the local parking committee for its use.

OHIO STATE UNIVERSITY

The university requires all students to register their cars (whether student owned or operated) they might drive on the campus. The registration card is a part of the schedule card. The university provides six parking lots on the campus for students. In addition, the campus is divided into faculty areas and each faculty member and employee is required to procure a metal tag, for which a $5.00 deposit is made. Parking spaces are then assigned adjacent to the drivers' respective buildings. The enforcement machinery consists of campus police officers commissioned under special act of the legislature. Penalties for violators are fines ranging from $1.00 to $3.00, which must be paid within three days after receipt of a parking ticket, unless the violator appeals within that time limit. An appeal gives him a right to go before the student court and argue his case.

This system was installed in 1947 and the university reports that the results have been excellent.

UNIVERSITY OF WISCONSIN

Students are not permitted to park on the campus unless they are disabled and cannot walk to class. Academic and non-academic employees are issued parking permits by the superintendent of buildings and grounds for specific parking areas. Priorities are based on general need and travel distance. Parking violators on university property by the students are referred to the student court. Violations by the faculty and employees are referred to the local municipal court.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Students are not required to register their cars but must park in one of eight parking lots around the periphery of the campus on a first come--first served basis. Yearly permits are issued to faculty and employees and disabled students to park on the inner campus lots. No street parking is permitted on the inner campus.

The California State Motor Vehicle Code contains a section authorizing the university to make traffic rules and regulations. Accordingly the university police issue citations for violation of those rules. Arrangements have been made with local courts to handle these citations as violations of state law.

BOSTON UNIVERSITY

Only faculty, administrative employees, and a very few disabled students are permitted to park on the campus. Yearly parking permits are issued to the above groups and no car without a permit sticker is permitted to enter the campus. Due to this practice, parking violations are at a minimum.

STATE UNIVERSITY OF IOWA

This university did not have any parking regulations until the 1950-51 session, at which time a written set of parking regulations was published by a traffic committee. The university requires that all students, members of the faculty and staff must display an identification on their vehicles where it can be plainly seen. All city ordinances and state laws which are applicable to parking and traffic are applicable on all city streets and alleys within the general campus area.

In case of violation of parking laws, charges are assessed against the operator. Each one-half day constitutes a separate violation period. The charges are automatically applied against the individual's account in the business office. Charges for violations follow:

For failure to properly display identification of operator: first offense, $5.00; second offense, $5.00 and disciplinary action. For all parking violations in any one university year, September 1 to August 31: first offense, $1.00; second offense, $2.00; third offense, $4.00 and disciplinary action.[4]

Any member of the faculty or staff who desires to park in the area reserved for faculty or staff may apply for such privileges and, provided space is available, the individual is issued an identification insigne which is displayed on the rear window of the car at all times.

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4. State University of Iowa. Parking Regulations, 1950-51.

INDIANA UNIVERSITY

There are approximately 800 parking spaces on the main part of the campus. This area contains 90 per cent of the class room buildings; therefore, it was necessary to restrict parking in the area. The regulations grant parking permits and campus driving permits to all members of the faculty who are of the academic rank of instructor or higher. Members of the administrative staff are given permits if it can be proved that they have a need for their cars other than driving to and from work. Physically handicapped students are issued parking permits on the recommendation of the director of the student health service.

All students are required to register their cars at the time of enrollment, or at any other time that they bring cars to the university for private use. However, no parking privileges are granted.

A special parking committee, members of which are appointed from academic faculty and staff, has prepared a system of fines for parking violations. The faculty and staff violators appear before this committee and student violators are cited to appear before the dean of students.

Fines range from $1.00 upward, depending on the seriousness of the violation. Driving privileges are denied habitual violators. Collection of fines is handled in a routine manner at the cashier's office.

UNIVERSITY OF WASHINGTON

This university allows controlled parking on the campus, which affords 1850 spaces. The allocation of the space is made by a special parking committee consisting of one member each from the faculty, administrative staff and student body. It has been the committee's policy

to grant parking permits as follows:

1. The only reserved spaces are given regents, president, deans, etc.
2. The physically handicapped are allotted space in lots as close to their destination as possible.
3. Permits are given to all faculty and staff.
4. Permits are given to students in residence on the campus.
5. The few remaining spaces are given to students that demonstrate the greatest need.[5]

The permits are issued on a semi-permanent basis, and the recipient must make a $5.00 deposit for a metal tag denoting his parking lot. Faculty and staff permits are good for time of need, but students must apply each quarter.

To control entry to the campus, officers are stationed at each entrance from 7:30 a.m. until 3:30 p.m. daily. Those not having permanent permits but who show logical need for entrance are issued temporary permits ranging from two-hour duration to 30 days' duration. Entrance to the campus is unrestricted after 3:30 p.m.

University police have full police power to enforce laws of the State of Washington, City of Seattle, King County, and traffic regulations of the university. There are three courts to which parking violations may be referred: state courts; city court; a quasi-official university court. Most of the parking cases go to the university court, which normally assesses a fine of $1.00. More serious offenses are referred to the other courts.

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5. Letter from Theodore Loveless, Associate Director of Safety, University of Washington, 29 March 1951.

CHAPTER IV

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

The typical parking survey which was specifically designed for city parking studies can be adapted to a study of this nature with few modifications. From the foregoing data collected by the application of the basic phases of the typical survey, the following conclusions may be drawn:

1. Forty-three per cent of the student body have access to an automobile and 27.5 per cent of the student body drive to the university daily. In addition, 66.5 per cent of the university staff drive to the university daily. With the present enrollment and university staff, this gives a total of 6294 automobiles, exclusive of construction workers, to park in 3336 legal parking spaces within the immediate vicinity of the university.

2. The driving and parking habits of the male and female students do not differ materially; however, 49 per cent of the men and 28 per cent of the women students have access to automobiles. Therefore, any long range plan will have to consider the anticipated enrollment for each group.

3. Of student drivers 25 per cent drive two blocks or less before reaching the perimeter of the critical area. An additional 15 per cent drive four blocks or less in reaching the area. This is greatly in excess of the faculty drivers where the respective percentages for regular drivers are 2.2 and 4.0.

4. Sixty-one per cent of student cars arrive on the university campus at 8 a.m. daily. The number arriving decreases hourly until 12:00 noon when a much lower peak, 9.3 per cent, is reached.

5. The average student driver remains parked from two to four hours; therefore, parking facilities should be based on the peak load for a four-hour duration.

6. The average motorist will consent to walk a maximum of 1000 feet from a parking place to his destination, according to LeCraw. Approximately 30 per cent of the Tri-Dorm and Littlefield parking lots is not utilized because these spaces are too far removed from the center of the campus. Parking on 26th Street east of Tom Green Street and parking on San Jacinto Boulevard south of 21st Street is even more limited for the same reason. Only 28 per cent of all student drivers agreed to walk farther than three blocks in the event adequate parking facilities were provided at no expense.

7. Fifty per cent of the students having access to automobiles agreed to pay for reserved parking places. The average amount agreed to pay was $5.00 per semester.

8. Those staff members who arrived prior to 7:45 a.m. experienced little or no difficulty in finding adequate parking places. However, the early arrivers constitute a small percentage of the university staff; consequently 75 per cent experience much difficulty in finding adequate parking space.

9. Morning class sections exceed the afternoon class sections, including laboratory sections, on an average of 56 classes per hour. The greatest number of classes at any one hour is offered at 10:00 a.m. It can be seen from this fact why the bulk of the automobiles arrive on the campus during the morning hours. By transferring some of the morning classes to the afternoon hours, the parking load would be distributed

more equally throughout the day.

10. It appears from the information received from other universities and colleges that The University of Texas is far behind in handling its traffic and parking problems. The University of Texas does not have any published parking regulations and the only controlled parking is that on the original 40 acres of the campus, which contains 125 parking places. Permits for access to this area are issued by the business ofice to faculty members and students who are physically handicapped. Parking in unauthorized places on the remainder of the campus is discouraged by unarmed guards stationed at critical points; however, they are not authorized to issue tickets to violators. The issuance of tickets is a function of a roving guard and the recipient of a ticket is supposed to report to the assistant comptroller, who handles parking violations. Investigation indicated that in the case of students the most severe punishment is an oral reprimand, and no action is taken against academic and non-academic employees who park in unauthorized areas.

RECOMMENDATIONS

Permanent solution to the parking problem at The University of Texas will be contingent upon future university policies. However, the writer feels that the following will relieve temporarily the major congested areas:

1. Control access to campus area from 21st Street northward to include 24th Street and from San Jacinto Boulevard westward to Guadalupe Street between 7 a.m. and 4 p.m. This area now contains 742 legal parking spaces. By converting the small athletic field immediately

south of Gregory gymnasium into a parking lot and by utilizing all of the vacant space east of 203 East 23rd Street, the capacity could be increased to approximately 1000 parking spaces.

2. Institute a system of one-way streets as listed:

East 22nd Street - West bound traffic

East 23rd Street - East bound traffic

East 24th Street - West bound traffic

West 24th Street to Whitis Avenue - East bound traffic

The system of one-way streets would not increase the parking facilities, but it would possibly assist in controlling access to the above area and bring about a smoother flow of traffic within the area.

3. Open Private Drive to two-way traffic from 21st Street to 26th Street.

4. Station armed guards at 22nd and San Jacinto, 24th and San Jacinto, 21st and Private Drive, 24th and Private Drive and 24th and Whitis to control entrance to above area.

5. Reserve 10 spaces on 40 acres and 10 spaces on Private Drive for official visitor parking. The business office would then allot the remaining spaces on the following priorities:

a. Disabled staff members

b. Disabled students

c. Academic and non-academic faculty members who show the greatest need, excluding all who live within a radius of six blocks of their offices.

6. Those who are allotted parking space to be required to purchase a decal windshield sticker denoting the area in which to park.

Individual parking spaces would not be assigned, but rather areas nearest individuals' offices.

7. Require all other staff members and students who are not assigned parking space within the controlled area to register their cars with the business office and procure a different colored decal sticker. Student stickers would be a different color from those of staff members and would contain a number designating the distance from the individual's residence to the university.

8. Prohibit all students who live within a radius of six blocks from parking their cars on university campus during the day.

9. Place a car pound at Memorial stadium and, in the event any individual connected with the university, whether staff or student, parked illegally on university property, tow his car to the pound and charge $5.00 for first recovery and $10.00 for each subsequent recovery. In the event an individual fails to register his car or place identification sticker on windshield, impound car and take disciplinary action, in addition to monetary fine.

10. It is believed that one motorcycle mounted policeman and two men with a wrecker can handle adequately all violators.

11. To distribute the parking load more equally throughout the day, require all students to have a minimum of one afternoon class five days per week, exclusive of laboratory periods.

The above is far from an optimum solution. Before a final solution can be reached, it will be necessary to make detailed studies of future enrollments, trend of automobile ownership by university students and

parking regulations of municipalities. The possibilities of placing the university under the city parking ordinances or state parking laws and having university police commissioned by either or both and also utilization of municipal and state courts for traffic and parking violations should be fully investigated.

APPENDIX

PLATE I. Illegal parker blocking available space.

PLATE II. Fire plug directly behind car in background. Signs read "No Parking Between Signs."

PLATE III. Alley parking which blocks private garage.

PLATE IV. A large sign out of camera range reads "No parking in the alley."

PLATE V. Illegal parker obstructing view of driver making right turn.

PLATE VI. An enthusiastic angle parker.

PLATE VII. Crowded condition of parking lot at 23rd and Tom Green streets.

PLATE VIII. Unused parking space in Tri-Dorm lot. This picture was taken at 9:15 a.m. when the parking load is extremely heavy. The following two photographs were taken immediately thereafter.

PLATE IX. Illegal parking on Private Drive.

PLATE X. Crowded condition of parking lot north of Women's gymnasium.

The parking situation at the University of Texas is a problem which you have no doubt encountered. In order that something may be done to relieve the situation I am making a study of possible solutions. Your cooperation in completing the following will be greatly appreciated.

Very truly yours,

s/ Walton O. Threadgill
WALTON O. THREADGILL

1. Do you have access to an automobile? Yes____No____
2. At what address is the car kept?_____
3. Do you drive to the university daily? Yes____No____If so, at what times do you arrive?_____
4. If so, where do you park?_____
5. Are you always able to park at the same place? Yes____No____
6. How long does your car remain parked? ____hours.
7. Do you try to move your car between class periods? Yes____No____
8. Does anyone ride with you? Yes____No____ Number of passengers_____
9. What is maximum distance you would walk if an assigned parking place were provided?_____
10. Would you be willing to pay for a reserved parking space? Yes____ No_____ If so, how much per semester?_____
11. In which college are you registered?_____
12. How are you classified? Freshman____Sophomore_____Junior_____ Senior____Graduate____
13. Remarks (Use back of sheet, if necessary)

EXAMPLE 1

PARKING QUESTIONNAIRE FOR UNIVERSITY STAFF
(February, 1950)

1. Name_____

2. Title_____ Office No._____

3. Residence address_____

4. Do you drive your automobile to the university? (Check one)
   Regularly____ Occasionally____ Never____

5. Where do you customarily park while on the campus?_____

6. What inconvenience do you experience in finding a suitable parking place at present? (Check one) Much____ Little____ None_____

7. Assuming the total number of parking spaces on the university campus and campus streets to be inadequate to serve all staff and student cars, list in order the criteria on which you think priorities might be established in a limited number of restricted areas or parking spaces_____ ... _____

8. Would you be interested in having access to a restricted parking area? Yes____ No_____

9. Would you be willing to pay a parking permit fee to aid in defraying the cost of printing application forms and permit identification tags and for some fraction of the cost of supervising the restricted areas? Yes____ No____ If yes, suggest the maximum annual fee you would be willing to pay: $_____

10. If a system of restricted parking areas should be inaugurated, please suggest:
    (a) Administrative machinery for issuance of permits
    (b) System of penalties for violation by members of the staff and machinery for enforcement
    (c) System of penalties for violation by students and machinery for enforcement.
    (d) System of penalties for violation by others than staff or students, and machinery for enforcement.

11. Have you any other suggestions as to ways and means of coping with the staff parking problem at the university? (Use an additional sheet if needed)

(Please fill in promptly and return to MB 104)

EXAMPLE 2

2209 Oldham
Austin, Texas
12 March 1951

Registrar
Ohio State University
Columbus, Ohio

Dear Sir:

I am a graduate student at the University of Texas, with major study in Civil Engineering. My thesis topic is a study of the parking problem at this university, and I am endeavoring to incorporate in the study a resume of how parking is handled at other universities.

I am primarily interested in whether you require students to register their private automobiles with your university; whether or not the academic and non-academic employees have reserved parking places; whether or not students have assigned parking places; and what action is taken against parking violations on the university property.

There is inclosed for your convenience a self-addressed stamped envelope for your reply to the above and any other pertinent comments of a general nature concerning parking at your institution.

Very truly yours,

Walton O. Threadgill

WOT:b

EXAMPLE 3

BIBLIOGRAPHY

PRIMARY SOURCES

Boston University. Manager of Buildings and Grounds Department, L.W. Taylor. Letter. March 23, 1951.

Indiana University. Chairman of Police Administration, Dan L. Kooken. Letter. March 24, 1951.

Ohio State University. Director of Physical Plant, Paul H. Elleman. Letter. March 21, 1951.

Questionnaire circulated to 1146 University of Texas students. February, 1951.

State University of Iowa. Parking Regulations, 1950-51.

University of California at Los Angeles. Captain of Police Department, L.E. Christensen. Letter. March 16, 1951.

The University of Texas. "Final Announcement of Courses, Second Semester, 1950-1951."

The University of Texas. Parking Questionnaire for University Staff. February, 1950.

The University of Texas. Records of the Payroll Division. January 31, 1951.

The University of Texas. Records of the Registrar. Enrollment figures. February 28, 1951.

The University of Texas. Report of the Registrar, 1949-1950.

University of Washington. Associate Director of Safety, Theodore Lovelass. Letter. March 29, 1951.

The University of Wisconsin. Superintendent of Buildings and Grounds, A. F. Ahearn. Letter. March 23, 1951.

SECONDARY SOURCES

Arken, Herbert, and Colton, Raymond R. Graphs: How to Make and Use Them, 4th ed. N.Y., Harper, 1940.

Associated Retailers of Indiana. Parking for Smaller Cities. Indianapolis, Ind., Associated Retailers of Indiana, n.d.

Eno Foundation for Highway Traffic Control, Inc. Parking. Saugatuck, Conn., 1946.

Ferber, Robert. Statistical Techniques in Market Research. N.Y., McGraw, 1949.

Grant, Mickle D. "Attacking the Parking Problem," in Proceedings, First Southeastern Traffic Engineering Conference, South Carolina State Highway Department and Clemson College, 1941.

Hitchcock, S. T., and Willier, T. E. "Determining Parking Requirements by Study of Parking Habits," in Proceedings, Twenty-Fourth Annual Meeting, Highway Research Board, National Research Council, 1944.

LeCraw, Charles S. "Interior Block Parking," in Traffic Quarterly, October, 1947.

Stockton, John R. An Introduction to Business Statistics, 2d ed. Boston, Heath, 1947.

The World Almanac, 1949. N.Y., New York World-Telegram.

The World Almanac, 1951. N.Y., New York World-Telegram.

VITA

Walton O. Threadgill was born at Bellevue, Texas, 18 November 1915, the son of Thomas Edwin and Kate Hosford Threadgill. He was graduated from Bellevue High School in 1933, and in 1937 received a Bachelor of Science degree in Civil Engineering from The Agricultural and Mechanical College of Texas. Upon graduation he served for one year as a 2nd Lieutenant, Corps of Engineers, U.S. Army, at Fort Logan, Colorado. In 1938, he was employed as an engineer with the Texas Highway Department, the employment being terminated in 1941 when he was recalled to active Army service. Also in 1941 he married Betty Bullington, of Little Rock, Arkansas, who received a Master of Library Science degree from The University of Texas in 1950.

In January, 1942, he went overseas, being among the first contingent of American troops to land in the Pacific area. In 1942, he was commissioned a 2nd Lieutenant, Regular Army, Corps of Engineers, retroactive to 1941, and rose to the rank of Major before returning to the United States in 1944.

In June of 1947, Major Threadgill graduated from the Army Engineer School at Fort Belvoir, Virginia. Since October, 1947, he has been an Assistant Professor of Military Science and Tactics at The University of Texas.

He has one son, John Walton Threadgill, born at MacDill Field, Florida, 10 July 1945.

Permanent address:

Bellevue, Texas

This thesis was typed by
Betty Bullington Threadgill