

AN EMPIRICAL CASE STUDY OF CUSTOMER
FLOW PATTERNS AS AN APPROACH IN
DETERMINING OPTIMUM MERCHANDISE LAYOUT

Thesis for the Degree of M. A.
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Peter J. Braschoss, Jr.

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MERCHANDISE LAYOUT

by

Peter J. Braschoss, Jr.

AN ABSTRACT

Submitted to the College of Business and Public Service of
Michigan State University of Agriculture and
Applied Science in partial fulfillment of
the requirements for the degree of

MASTER OF ARTS

Department of Marketing and Transportation Administration
Curriculum in Food Distribution

1958

Approved: _____

P. A. Brand

PETER J. BRASCHOSS, JR.

ABSTRACT

The writer has prepared this thesis to present a research technique which could be used to investigate the shopping patterns and reactions of shoppers in retail food markets. Conducting customer flow patterns is not new in marketing research. Informally, at least, anyone observing customer actions over a period of time for the purpose of improving layout is conducting this type of study. The main difficulty, without some predetermined methodology, is that the study generally results in data which the observer uses to prove his thinking rather than allowing the facts to stimulate thinking.

A flow pattern is a written record of the course and reactions of one shopping unit from the time of entering the store until physically leaving with the selected merchandise. Flow pattern analysis then, is the study of this data compiled, in order to effect improved merchandising and/or physical layout.

The outlet chosen for the study was Kroger Store #G-224, in Lansing, Michigan, and was selected because of the highly competitive nature of the area. In addition to a large Wrigley supermarket within the Frandor Shopping Center, The Great Atlantic and Pacific Tea Company, Market Basket, Schmidt's, various independents, and other Kroger units operate in direct competition with the outlet studied.

PETER J. BRASCHOSS, JR.

ABSTRACT

The material for the project was the result of personal observations of two hundred shoppers over a two week period. Although few generalizations can be made, as every store presents different problems, it does show the results which can be obtained in other outlets by using a similar technique.

In today's great boon towards motivation research, attempts have been made to probe the consumer mind for hidden feelings and emotions. "What is more important than what people say they do is what they actually do."¹ The author feels that observed actions, movements, and purchases in the particular store shopped by the consumer can contribute valuable data in approaching merchandise layout.

The technique is not proported as an answer to all merchandising and layout problems which the industry faces, but as another method of gathering internal data for intelligent decision-making. As Zimmerman has said, "There is no formula for the perfect layout."²

¹Winston L. Brembeck and William S. Howell, Persuasion (New York: Prentice-Hall, Inc., 1955), p. 82.

²M. M. Zimmerman, The Super Market (New York: McGraw-Hill Book Co., Inc., 1955), p. 181.

"The Food Distribution program at Michigan State University is under the sponsorship of the National Association of Food Chains."

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To

My Parents

Peter and Catherine Braschoss, Sr.

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A study of this kind is the result of many people's efforts. To all my colleagues at Michigan State University, Peggy Curry and Ann Brown for suggestions and clerical assistance go thanks. To Herman and Marge Baechle with

whom I spent many pleasant hours throughout the year, go a special debt of gratitude.

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**SUPPLEMENTAL
MATERIAL
IN BACK OF BOOK**

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CHAPTER I

INTRODUCTION

Brief History of Research

In the early thirties two food distribution bombshells burst in the New York City area with the opening, in 1930, of King Kullen, followed in 1932 by the opening of Big Bear. So propitious was the moment--economically and psychologically--for the appearance of a new system of mass distribution, that the opening of these two unique markets was hailed as a new phenomenon. The history of the supermarket industry is generally reckoned from that time.¹

As the industry grew operators began to seek new ideas and information to help them improve upon their methods. They visualized that the supermarket would become big business, that it would require financing, centralized management, and organization. Research into methods and trends became more than a word--it became a basis for change and expansion.²

In addition to studying methods and statistics, the operator began appraising his barnlike building and set

¹M. M. Zimmerman, The Super Market (New York: McGraw Hill Book Company, 1955), p. 16.

²Ibid., p. 117.

out to find sources of modern fixtures, shelving, and equipment. Alert to anything that could help improve his position, the operator recognized that the time had come to face-lift his old markets and build new ones. He was no longer hesitant about making investments in new buildings and equipment, because he was satisfied that Mrs. Consumer had accepted his retailing system for her shopping. Newly won successes resulted in building more markets across the nation.

Early quests for basic facts took the form of operators making trips and visiting fellow operators in other cities to see what they were doing. Men like William Applebaum and Sidney Rabb have been instrumental in gathering data which has normative application in the industry.

Progressive Grocer magazine has conducted store orientated studies in Ohio and Minnesota which are reputed to be guideposts for supermarket operators. The 1955 Foodtown Study³ analyzed in detail the sales of eleven mid-western stores and two eastern outlets to discover some insights into product-profit contributions, margins versus movement, space allocations, and stockturns. Recently the

³Foodtown Study, A reprint from Progressive Grocer, January, 1955.

Super Valu Study⁴ was published with essentially the same information in greater detail. The second work touched upon customer feelings and attitudes and brought the 1955 statistics up to date. A cooperative group was used, specifically six stores for a period of twelve weeks. Although these studies contain valuable information, they are not complete in the solution of supermarket merchandise layout problems. Just as store sizes differ, so also do the types and brands of merchandise.

Flow pattern analysis may be defined as the study of compiled shopping data in order to effect improved merchandising and/or physical layout. This study should be a valuable tool in selecting or planning the type of layout which would appeal to the greatest number of customers.

Outlook for the future. In today's great boon towards motivation research attempts have been made to probe the consumer mind for hidden feelings and emotions. Dichter and Martineau have been successful in ascertaining some forces behind human actions. Many magazines and advertising agencies retain psychiatrists and continually investigate unknown areas to develop new ways to induce purchasing. "What is more important than what people say

⁴Super Valu Study, A reprint from Progressive Grocer, January, 1958.

they do is what they actually do."⁵ The author has the feeling that actions, movements, and purchases in the particular store shopped by the customer can contribute valuable data in approaching the vexing problem of determining optimum merchandise layout.

Scope

~~START~~ As one looks at retail food stores one fact stands out--that each outlet is different in many ways. There are differences in physical layout, merchandise layout, space allocation, et cetera, the list could go on and on. In the end, however, it will be the customer who finally decides which is most desirable. This is indicated by where the customers go in the store, what items they most frequently handle, or purchase, and how thoroughly they shop the store. The methodology presented in Chapter II can be applied to individual outlets regardless of their differences. Because they are store orientated they are precisely applicable to the test outlet.

They will prove advantageous when:

1. Store sales are felt to be low or falling off.
2. A remodel of an existing store is planned.
3. Planning new units (after many local store surveys are analyzed).

⁵Winston L. Brembeck and William S. Howell, Peruasion (New York: Prentice-Hall, Inc., 1955), p. 32.

The scope of this analysis, therefore, is unlimited and over a period of time should serve as an extremely useful tool for food merchandising.

delete Purpose of the Project

Research in the food industry has been looked upon with some skepticism. Companies in the past received little cooperation in the field and the statistics they uncovered had limited cumulative application. Recently statistical analysis has received widespread publicity and greater attention by leading food companies.

This study develops a methodology for conducting flow analysis by management groups rather than to set standards for generalizations. The technique is not purported as an answer to all merchandising and layout problems which the industry faces minimizing customer shopping frustration and maximizing net profit, but as another method of gathering internal data for intelligent decision-making.) As Zimmerman has said, "There is no formula for the perfect layout."⁶

⁶Zimmerman, op. cit., p.181.

CHAPTER II

METHODOLOGY FOR CONDUCTING AND COMPILING FLOW PATTERNS

History of Flow Patterns

Conducting customer flow patterns is not new in marketing research. Informally, at least, anyone watching customer actions over a period of time for the purpose of changing merchandise layout is conducting this type of study. The main difficulty, without some predetermined methodology, is that the study generally results in data which the observer uses to prove his thinking rather than allowing the facts to stimulate thinking.

Mr. Earl Brown and Mr. Michael Wood of the Agricultural Extension Service at Michigan State University developed a methodology for this type of analysis. Their procedures have been used in several studies prepared for Michigan retailers which resulted in increasing profits and effecting various economies of handling and allocation.

Mr. Herman F. Baechle of The Kroger Co. working on this research project, and the author, felt that past studies contained the following disadvantages:

1. The product and departmental breakdowns were not detailed enough to be of value to the chain supermarket operator.

2. For each flow analysis study sixty flow patterns were observed. The flow patterns which did not seem "representative" were eliminated.
3. Limited supplementary data was recorded--areas of interest, such as time in check lanes, extent of services, et cetera, was not included.
4. Few important terms were defined. For example, doubt existed in the observers minds as to what constituted a "pass."

In the July 1958 issue of Progressive Grocer, Mr. Clifford Haskell, Vice President of Alpha Beta Food Markets, Incorporated, discusses the method of traffic flow studies used by this chain in 1954. Again the information received was scanty, but did point to the value of such studies and the need for more effective methodology. Two men were assigned to view from the shoplifting mirror and follow with pencil the exact course of as many customers as possible from the time they entered the front door until they checked out.¹ They checked 116 customers in the course of the study and not one customer traveled every aisle. "No customer saw all the merchandise that we so proudly displayed. High profit impulse items were located in low traffic aisles."²

¹Clifford Haskell, "Follow That Woman," Progressive Grocer, Vol. 37, No. 7 (July, 1958), 84.

²Ibid.

Definition of Terms

Before proceeding any further in this study, it is necessary, in order to eliminate the problem of semantics, to define some of the basic terms:

Flow pattern. A flow pattern is a written record of one shopping unit's course and reactions from the time of entering until physically taking charge of the selected merchandise.

Purchase. A purchase includes all items that a customer ultimately purchases.

Handle. A handle includes items which are picked up, but not purchased by the customer.

Pass. A pass is determined by the path of the shopper on the flow pattern. A designated area receives a pass if the shopper could have noticed that area at any point on the shopping tour.

Not pass. A not pass is the difference between total possible passes and total actual passes.

Shopping unit. A shopping unit is made up of one or more persons who tour the outlet employing one main bascart for homogeneous consumption.

Flow pattern analysis. Flow pattern analysis is the study of the compiled data in order to effect improved merchandising and/or physical layout.

Preparation of Flow Sheets

This section will describe the methods and factors included in the flow sheets and generally point out areas where certain adaptations could be made in order to bring out other desirable facts for analysis.

Mr. Earl Brown of the Agricultural Extension Service aided Mr. Herman Baechle and the author in this work by pointing out weaknesses in the flow sheets used in analyzing Michigan Food Stores.

Two factors should be kept in mind when constructing a flow pattern worksheet:

1. Information should lend itself to general classification in order to facilitate tabulation and still retain the desired detail.
2. Since personal interviews tend to change shopping habits, all data should be gathered by following customers at an inconspicuous distance. Further amplification of this point will be made later in this chapter under the section "Following the Shopping Unit."

The first step in constructing a flow pattern worksheet is to measure the selling area, including all gondolas,

aisles, and displays. Many times a construction blueprint is available to obtain the dimensions from, and thereby eliminates the need to measure. Figures should be drawn to a convenient scale for reproduction.

Since the observer must physically follow and record the customer actions, the flow pattern breakdown should be reproduced on 8-1/2" x 11" paper and placed on a clipboard. Sufficient copies should be available so that one sheet can be used for each flow.

The sheets used in this study included 136 product and product group designations. Line number six, the green rack, was later divided into eleven classifications to represent individual produce items (see Exhibit B). Check lanes were numbered with Roman numerals. In the Braschoss and Baechle Method (B&B Method) as the authors have named it, the meat department items were written out so as to insure accurate recording during peak periods. Enough space was provided for the appropriate supplemental data to be recorded. These included:

1. Day--This was provided for general reference and to aid filing.
2. Time--This space was provided to record time spent in the store.
3. Shopper(s)--or "shopping unit" were classified: male, female, more than one female, more than one male, male and female, female and children,

- male and children, and miscellaneous to include all other units (example M--F--B--G).
4. List--This classification was included in order to evaluate the influence of a list on merchandise selection.
 5. Amount--Total amount of purchases was recorded in the space designated with no attempt to record departmental breakdown sales.
 6. X = Purchase--This was defined earlier in the chapter and should be marked as precisely as possible within the designated classification.
 7. 0 = Handle--From earlier treatment the handles were very significant to the over-all shopping tour in the outlet.
 8. ----- Designated the movement of customer through the store without a shopping cart.
 9. ——— Designated the movement of a customer through the store with a shopping cart.
 10. W--Symbolized the services of weighing, cutting, or wrapping either in the produce or meat departments.
 11. E--Symbolized employees performing a service in grocery department, including the bottle return.
 12. Off--Symbolized the manager of office personnel performing a service.

13. Time Spent Checking Out--The time the customer entered the check lanes subtracted from the time the customer left the check lanes.
14. Remarks--Space to record any unusual happenings which may be of interest for further investigations.

Following the Shopping Unit

Flow pattern analysis, in order to serve as a merchandise layout guide, should be performed in at least one store for at least one week. A minimum of one hundred flows adds support to the findings. After a brief orientation, any person familiar with supermarkets could be employed to gather the raw data.

The B&B technique is applicable to most retail food outlets. Since what the customer does in the store is important, store volume and physical layout will not impair the over-all effectiveness.

In studies of this kind the problem of bias is sometimes present. Since all bias cannot be eliminated, it should be controlled wherever possible.

What areas of bias can arise? And, what can be done to control them?

First, the area of time may inject some degree of bias. Since the study is run full-time the general method of controlling bias would be to record flows in proportion to the busy hours of the day.

Second, the question of how many should be run on specific days during the week. Average daily volumes divided by the total sample will provide a method of determining the answer.

Third, the recording of actions in the store by the observer might differ if the various information desired is not clearly defined and properly carried out through training of those gathering raw data. The definitions and methodology should provide many of these answers.

Fourth, probably the area in which most studies are statistically weak is that of customer "selection" or randomness. The probability calculations underlying statistical acceptance sampling assume that samples are drawn at random. That is, each article in a lot is assumed to have an equal chance to be selected in the sample.*

The nature of variation in random samples is described by the theory of sampling (based on all possible samples), which shows that large samples selected at random are representative of the universe. The relevant principle can be stated as follows:

In most large samples selected at random, each statistical measure of the sample (e.g., average or proportion) closely approximates the corresponding measure of the universe, even³ when the sample is a small part of the universe.

³William Spur, Lester Kellogg, and John Smith, Business and Economic Statistics (Homewood, Illinois: Richard D. Irwin, Inc., 1954), p. 88.

*The limitation of having two observers made it necessary to begin the unit selection process anew after each flow pattern was recorded.

Often there are practical difficulties in the way of random selection of a sample. If it is practicable to assign a different number to each item in the lot, chance devices can be used to determine the items to select.⁴ The method used by the B&B team was drawing balls from a bowl which will be described in detail in Chapter III. Published tables of random numbers are available to choose the items for the sample.⁵

The well-trained observer should follow the shopping unit around the store using the statistical methods mentioned, keeping in mind the desired goals. Care must be taken so that the subject is not aware they are being "followed." Following too closely tends to alter the tour and the reverse finds the observer without many important facts.

The question could be raised as to whether it is advisable to ask basic questions of the customer before or after the shopping tour. Questions beforehand tend to seriously effect their actions while in the store. Some of the people suspected they were followed. Questions at the end would, therefore, confirm their suspicions and often-times cause poor customer relations. Since clipboards were

⁴Eugene L. Grant, Statistical Quality Control (New York: McGraw-Hill Book Company, 1952), p. 389.

⁵J. M. Juran, Quality Control Handbook (New York: McGraw-Hill Book Company, Inc., 1951), pp. 420-421.

carried, the B&B team members were frequently mistaken for employees. This was advantageous. If other supplementary information is desired it could be gathered at other times rather than seriously effecting the flow analysis or causing ill-will among the clientele.

Compiling the Data

Raw data recorded on the flow pattern worksheets in the method presented was tabulated manually. Large sheets of paper marked off in sections with appropriate columns for passes, handles, and purchases serve well where the observer plans to use the data only once. One member called individual passes, handles, et cetera, while the other formally compiled the data. The individual item totals were gathered bi-weekly so that advertising effectiveness could be analyzed. Resulting figures could be tabulated to high-light specific areas of interest. International Business Machines (IBM) systems could be worked out for this work, but for the needs of this study on the limited scale the cost would have been prohibitive.

Some of the more important totals were:

1. Passes
2. Not passes
3. Handles
4. Purchases
5. Per cent of passes

6. Per cent of purchases
7. Total purchases
8. Average purchase
9. Average time in store
10. Average checkout time
11. Per cent of checkout time to total time
12. Departmental breakdown of services
13. Number of shoppers not using services
14. Checklane used
15. Carryout versus parcel pickups
16. Types of shopping units

The data could be grouped into daily, semi-weekly, or weekly totals, et cetera, depending on the detail required (see Exhibit C, sections 1-4). Other figures could be calculated besides the ones shown in Exhibit C.

Analysis

After compiling the data the next step is analysis. Key store personnel could gather the basic data and send it in to division headquarters for analysis. The results would give top merchandising and planning management a better picture of the outlet from which they could evaluate the merchandise layout.

Since this study was concerned mainly with the grocery areas, the following will not apply in some respects to perishables. However, ideas are offered which may be used throughout the entire store.

Individual flow analysis is not the complete solution to merchandising problems, but indicates factors which need further consideration.

The compiled data could be analyzed so that:

1. Extremely high and low pass and purchase areas could be pin-pointed on a blank flow pattern worksheet for a graphic presentation.
2. High profit items could be plotted on the same chart.
3. Any areas where handles were very noticeable could be plotted.
4. Items that required repeated stocking because of high stock turnover could be plotted.
5. The average tour of the shopping unit around the outlet could then be drawn in.
6. Anything which occurs enough times to make it significant to the over-all picture could be indicated.

The result would be a flow pattern worksheet marked with all pertinent data giving top management concise information with which to appraise the layout.

Applications

The B&B method is almost unlimited in its applications. This type of store oriented research could prove to be a useful tool for food chain management.

Conditions resulting from shopper activities are listed as follows:

1. High handles combined with low purchases could indicate a need for more closely appraising price, variety, or competition in the shopping areas for the product or product group.
2. Low purchases could indicate a need for relocation, recombination, or elimination of items.
3. Low passes in certain aisles could indicate physical barriers obstructing movement, frequent congestion, or possibly lack of aggressive merchandising.
4. Low end and special display purchases could indicate poor location, eye catching qualities, or buy appeal.
5. Low passes and purchases of advertised items could indicate a need for a closer look at the ads, location in store, or possibly, competitive pricing.
6. Lengthy shopping tours combined with high demand and low impulse goods sales could indicate that the shopper was not exposed to many impulse items.
7. High percentage of total store time spent in check lanes could indicate a need for timing when opening check lanes, checker training, or possibly more bag boys during the peak periods.

8. Many times high pilferage could indicate blind areas in physical layout--this can be graphically brought out by the B&B method.
9. Demonstrations, often times felt to add interest to store merchandising, should be judged not only on their own merit but also on their effect on other items nearby.
10. The long gondola layouts of today have the advantage of cross-merchandising--demand items across from demand items, with impulse items across from impulse items. For example, baking needs with a non-food peg rack above and sugar with kitchen utensils across the aisle from it.

This list was not intended to be complete, but to point out some of the shopper activities which might be observed.

Limitations

Flow analysis, if properly used, points to factors which need further consideration. The main danger is that this technique will become the all inclusive answer rather than an approach to scientific merchandise management.

There are several recognized limitations. In order not to weight the study or add qualitative judgments the method, for the present at least, should remain as stated.

A pass is recorded where a customer could have noticed an area at any point on the shopping tour. Since

the observer is following the customer without asking any questions, this is the only way to eliminate the qualitative bias of "thinking" what the shopping unit really did. A pass is recorded only once even if the shopper travels by the designated section more than one time. This method tends to record passes possibly a little lower than they really are.

Handles include items which are picked up but not purchased by the customer. Only one handle is tabulated regardless of the number of selections and returns made in a designated area. This was one way to tabulate the results, keeping in mind that each individual shopping unit should remain equal regardless of units handled or purchased.

Quantity purchases for one customer should receive only one mark on the final tally sheet per designated area. As with handles, the results tend to make some sections look low in relation to passes. The same method of compiling was used for customer services. Maximum number of services per customer in the four categories considered was one for each department.

In the B&B method the in-store recording was performed on flow analysis worksheets. All multiple purchases, handles, double-backs, and unusual actions by customers were noted, literally everything that was done by the subject. These individual sheets were kept in daily packs and could be referred to when the need arose. The results

or totals show trends and the worksheets temper certain of the figures. Only through working with this type of study for a period of time, and following up over-all recommendations, will the researcher become proficient.

Summary

The author has attempted to present the B&B method showing how it has application to merchandising management. A study of this type becomes more effective as it is worked with extensively. As with any research, there are limitations and bias; to disregard them would be fallacious. The job became one of trying to control these conditions and still retain the over-all effectiveness of the method.

Since every store presents a different climate of problems little attempt was made to generalize, but rather to set down as clearly as possible the basic areas of methodology.

CHAPTER III

THE STORE USED FOR THE STUDY

This chapter describes the Greater Lansing shopping area, relates facts on the Frandor Shopping Center, and lists the reasons for using Kroger Store #G-224 for the study.

The Greater Lansing Area

Lansing, the state capital of Michigan, has a population of almost 200,000 people in the highly industrialized confines of the shopping area. Such factories as the Oldsmobile Division of General Motors Corporation, the Peo Motors, Inc., Duplex Truck Company, Motor Wheel Corporation, Duo-Therm Corporation Division of Motor Wheel Corporation, John Bean Division of Food Machinery and Chemical Corporation, and others, employ approximately 32,000 people. The industrial workers in Lansing averaged nearly \$100.00 per week during 1953; in addition to this, the industrial payroll is augmented by that of the State Government, employing over 6,000 persons who received over twenty million dollars in salaries and wages annually, and the Michigan State University payroll having over 4,000 persons receiving

in excess of twelve million dollars annually.¹ Greater Lansing, according to the Consumers' Markets Standard Rate and Data Service, Incorporated, had a spendable income of \$365,401,000 or \$6,687.00 per household in 1954.²

In addition to this, there are over twenty thousand students enrolled at Michigan State University, representing every state in the nation and more than fifty foreign countries. Building projects now under way include a city of 456 modern apartments for married students.

Frاندor Shopping Center

Due to its geographic location and its excellent wholesale and retail establishments, Lansing is the shopping center of Central Michigan. Frاندor Shopping Center is conveniently located halfway between Lansing and East Lansing. It is bounded on the North by East Saginaw Street (M-78) and East Grand River Avenue (US-16), and on the East by Panny Park, on the South by East Michigan (M-43), and on the West by Clippert Street (see Fig. 1, page 24).

The Frاندor Shopping Center comprises fifty-five acres of land, on which fifty stores are built. Five thousand cars can be parked in its confines.

¹Frاندor Shopping Center Brochure, Lansing, Michigan, 1956.

²Ibid.

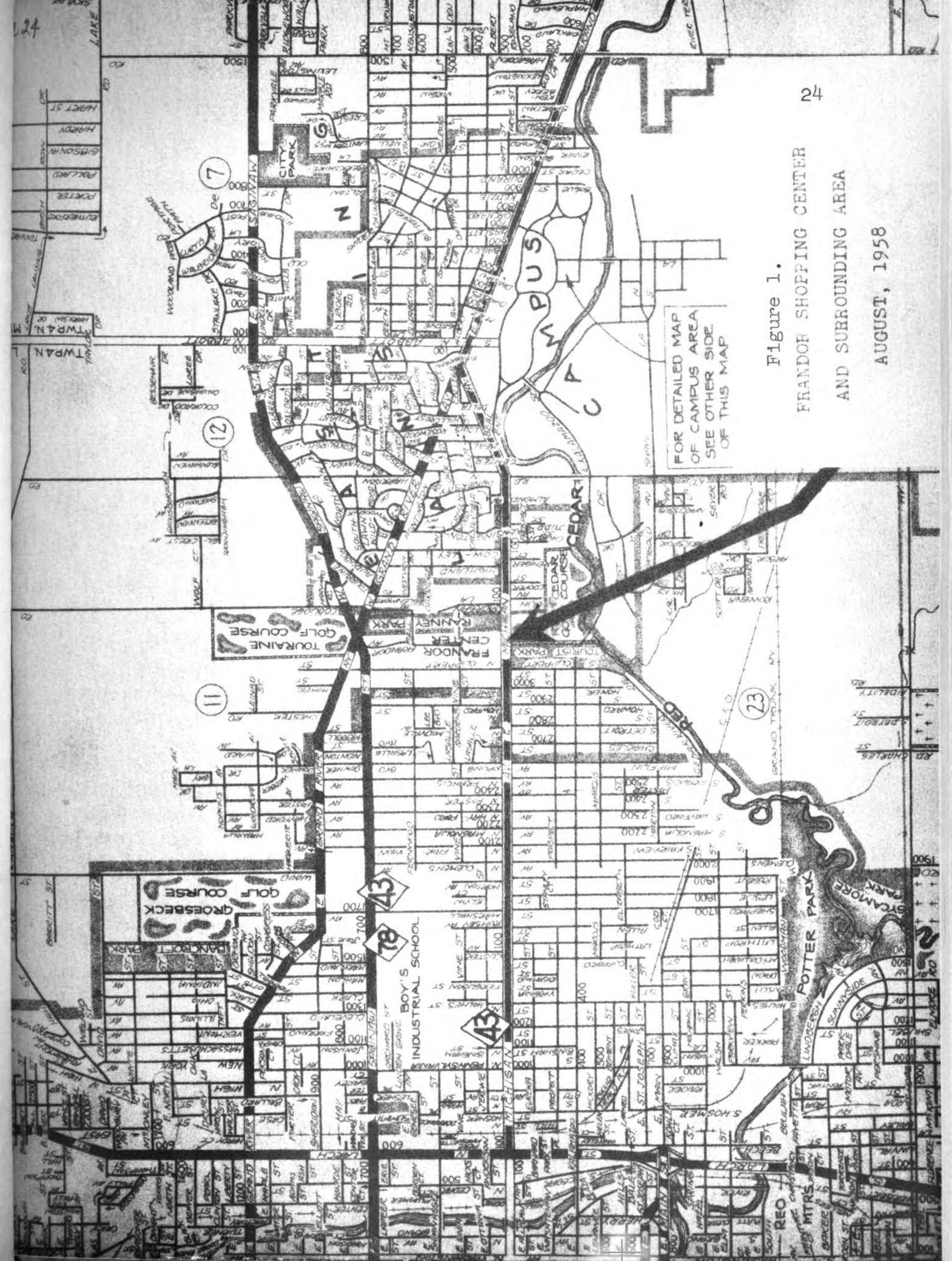


Figure 1.
FRANDOR SHOPPING CENTER
AND SURROUNDING AREA
AUGUST, 1958

Some of the retail stores within the Frandor Shopping Center include:

Sears, Roebuck and Company--regional size, hard and soft goods store

Federal's--department store

Howard Johnson--restaurant

S. S. Kresge Company--hardware and variety store

A. S. Beck Company--shoe store

Thom McAnn--shoe store

F. W. Woolworth--hardware and variety store

Kroger--food store

Wrigley--food store

Shoppers from central Michigan travel to the Frandor Shopping Center to make many of their major purchases. Kroger Store #G-224 is situated in the middle of the center--one of the real "finds" in supermarket locations.

Kroger Store #G-224

The B&B team was confronted with the question--which store to use for the research project?

A representative outlet was required to permit the team to follow customers around the store for a two week period. The Great Atlantic and Pacific Tea Company (A&P) has a strict policy of not permitting any information to be divulged except in extreme cases from division headquarters. National Market Basket would permit asking questions, but not following customers. Schmidt's, a local five-store chain

of modern supermarkets, offered little challenge since many surveys have been conducted in their outlets. Small chains would have consented but then it was felt that to really test the method it was necessary to study a large, modern supermarket.

The main reasons for selecting Kroger Store #G-224 were the following:

1. Frandor Shopping Center offered a store close to the campus so that travel time and inconvenience was minimized. Since extensive pretesting, two full weeks of recording customer flows, and post-analysis were necessary, this proximity became one of the major factors in the decision.
2. These studies required complete cooperation of management and all personnel. Under store manager, Mr. Norman "Bud" Otto and District Manager Mr. Lou Smith, the observers were given complete freedom and the "crew" was most cooperative--this was an important consideration.
3. Frandor shoppers varied from factory workers to college professors. The study of the contrasting shopping groups was a fascinating experience.
4. All advertising for Kroger stores in the Lansing area is placed in the Lansing State Journal on Mondays and Wednesdays.

5. The store presented somewhat of a challenge in that there was a possible need for improvement.

The Kroger Co. operates four outlets in Greater Lansing: East, North, South, and the Shopping Center. After selecting the Frandor outlet, the observers contacted The Kroger Company's Grand Rapids Division office and secured from Mr. H. Arville Ferguson, Grocery Merchandiser, a blueprint of the store layout. This blueprint eliminated the task of measuring all gondolas in the selling area.

Flow pattern observations were conducted from Monday, July 21, to Saturday, August 2, 1958. This period was used because it is relatively free from seasonal fluctuations. Each observer followed one customer from start to finish. As mentioned in Chapter II, a table of random numbers were used (see Exhibit D). It was constructed by numbering balls and placing them in a bowl. After each selection the ball was replaced, so that each number had an equal chance of being selected. The number to be run on the specific days was obtained in relation to volume. One hundred flows were run each week.

Compiling the data into a form for analysis was done as follows: Working on large sectioned sheets of paper, the observers laboriously went through each individual flow worksheet. The task was then to compile the bi-weekly, weekly, and grand totals along with many desired percentages and sundry data. Michigan State University maintains a

statistical workshop on the campus equipped with modern calculators. Without automatic equipment this study would have taken considerably longer.

Some may question the value of a two week study. Although findings were similar, the second week added support to the original material, and secondly, one is never absolutely sure until additional flows are recorded that the first week was sufficient. This is not meant to infer that a two week study is not helpful or absolutely essential in other research projects of this type.

Various figures and exhibits which appear within this volume are provided because they play a vital part in visualizing the location, findings, advertising copy, layout, and breakdowns. The reader, it is hoped, will become very familiar with the store's "expression" to its customers by carefully considering the material presented in this project.

CHAPTER IV

GENERAL FINDINGS AND RECOMMENDATIONS

This chapter includes a detailed analysis of the data gathered over the two week study from July 21 to August 2, 1958. No attempt was made to make recommendations for the backroom or storage areas. However, some of the changes in merchandise layout will naturally assume differences in handling and stocking from the present practices. Exhibit E, No. 1 shows the layout of selling area prior to doing the study.

The author confined his remarks to the grocery department including: the front end, special and end displays, bakery, frozen foods, non-foods, et cetera. Mr. Herman F. Baechle discussed the perishable departments under the title, "An empirical Case Study of Customer Flow Patterns As An Approach In Determining Optimum Perishable Merchandise Layout."¹

No attempt was made to offer this analysis as the correct method, since it is impossible for even the most

¹Herman F. Baechle, "An Empirical Case Study of Customer Flow Patterns As An Approach In Determining Optimum Perishable Merchandise Layout" (unpublished Master's thesis, Food Distribution Curriculum, Department of Marketing and Transportation Administration, Michigan State University, East Lansing, Michigan, 1958).

experienced merchandising people to be absolutely certain of layout, location, or allocation.

The Frandor Store was divided into 136 product and product group designations. The discussion will begin at the first designation and analyze major areas of interest as they arise. The results of the recommendations, as the B&B team saw them, will appear as Exhibit E, No. 2.

The Front End

Findings. Before considering the first classification let us consider the Kroger Store front and the first impression the customer was confronted with after parking her automobile. Large signs proclaimed the giving of Top Value stamps, Kroger's label saving plan, and various promotions going on at the time. In all the time the B&B team spent at the store very few of these window posters were changed. When walking past the store, throughout the entire length of the front window it was impossible to see the selling area except for the back of displays or several produce tables directly in the sun.

The tables in this section were adapted from Exhibit C, Section No. 3 (grand totals based on two hundred shopping units). Item numbers were analyzed in a consecutive order except where intermediate designations are considered by the author's colleague under "Perishables" or grouped differently for clearer analysis.

Table I shows that every shopper passed the four classifications at the front end of the store, but when passes and handles were considered the picture changes. The coke machine served no purpose at its present location, since no one purchased or even handled a coke. People entering could not notice the designation because after they passed through the "magic doors" the machine was out of sight. When leaving, customers concentrated on moving their groceries to the parcel pickup area rather than stopping for a soft drink.

TABLE I
NUMBER OF CUSTOMERS WHO PASSED AND PURCHASED IN
THE FRONT END IN KROGER STORE #G-224¹

No.	Designation	Not Passed	Passed	Handled	Purchased	% Purchased	% Passed
1	Coke Machine	0	200	0	0	0.0	100.0
2	Front Displays	0	200	1	47	23.5	100.0
15	Bakery Specials	0	200	5	9	4.5	100.0
16	Picnic Supplies	0	200	4	25	12.5	100.0

¹Based on 200 shopping units from July 21--August 2, 1958.

Front displays were in the form of cut cases piled on full cases. Reserve stock was behind the thirty foot front

stack and extended back to the windows. In the two week period of the study, the only change made was to replace some of the faster moving products with weekly ad items. The area lacked the orderly appearance and shopping interest due to lack of "creative merchandising and seasonal tie-ins." Creative merchandising may be defined as that little extra touch which gives an item eye appeal and buy appeal.

One hundred per cent of the shopping units passed the bakery special table. The study revealed that only 4.5 per cent or 9 actually made purchases. Five additional people handled some baked goods. There were indications, therefore, which question whether shoppers were ready to buy bakery items at this point in the store, if the price actually signified a special, and if this table warranted its present permanent location.

Item #16 has been designated picnic supplies. It includes such things as wooden utensils, napkins, paper plates, six-pak beer, and wraps. Four shoppers handled them and 25 or 12.5 per cent purchased from this designation. There were no indications in this area of the seasonal tie-in for summertime picnics. Of those that noticed the product, a large percentage ultimately purchased.

Recommendations.

1. In keeping with the general architecture of the Frandor Shopping Center, the Kroger Store has pleasant eye

appeal. The writer feels that large window signs should be used only occasionally for special promotions or announcements. The present practice served to cheapen the appearance instead of permitting those passing to view the selling area.

2. From the findings, the coke machine in its present location did not indicate it was returning sufficient profit dollars. The recommendation, therefore, is to move it back to the corner of the store where a special beer display is presently located (Item #131) (see Exhibit A).

3. Front end displays should not be a storage area for reserve stock. With most of the window signs removed the present condition would look unattractive. Closer ordering for specials and constant dressing up is necessary in order to give the customer the impression of stockturn. The recommendation is to put wire "dump" displays across this area and keep them filled.

4. Near to the Kroger location is a custom bakery carrying a complete line of pies, cakes, rolls, and cookies. Competition is on a basis of price since convenience is not a major factor. It is therefore recommended that the bakery special table be used only when merchandising an item that has price appeal or seasonal appeal and not as a permanent display table.

The Glass Section

Findings. Of the total possible passes the survey revealed that only 38.5 per-cent of all customers passed this high profit area. Considering that almost half of these people purchased when they passed peanut butter, jelly, and preserves there is a definite need for a change in the physical layout or relocation of this product group to a higher "pass area" in the store (see Table II).

TABLE II

NUMBER OF CUSTOMERS WHO PASSED AND PURCHASED IN
THE GLASS SECTION IN KROGER STORE #G-224¹

No.	Designation	Not Passed	Passed	Handled	Purchased	% Purchased	% Passed
17	Jellies and Preserves ²	123	77	4	30	15.0	38.5
18	Pickles and Olives	113	87	0	22	11.0	43.5
19	Condiments	50	150	2	32	16.0	75.0
20	Dressings and Oils ²	44	156	1	35	17.5	78.0

¹Based on 200 shopping units from July 21--August 2, 1958.

²Special and end displays are not included.

Pickles and olives received a higher percentage of passes with 43.5 per cent, but were purchased by 11 per cent. High handles coupled with few purchases, sometimes indicates an item is incorrectly priced. In fact, this study showed not one of the 87 shopping units which passed this designation handled them.

Condiments were passed by 75.0 per cent of the shoppers and purchased by 16.07. During the second week of the study some items in this product group were on sale so the purchase looked higher than normal. Dressings and oils received about the same customer reaction with 78 per cent passes and 17.5 per cent purchases.

Recommendations. In his suggestions for the "Perishables," Mr. Baechle recommended a complete remodel of the Produce department² (see Exhibit E, No. 1). This change should result in a greater amount of traffic through the Glass Section. It is also possible to move glass to a more heavily traveled area and replace it with demand items.

Beverages

Findings. This classification is one of the major profit areas in the average outlet since the number of passes for beverages generally is high. Store #G-224 is no exception.

²Baechle, op. cit.

Tea, chocolate, and coffee sections are directly across from the dairy department. Passes as shown in Table III are extremely high, but only 7 per cent of the customers out of 200 purchased from the chocolate product group. Coffee received the highest per cent of purchases in the section with 22.5 per cent.

TABLE III
NUMBER OF CUSTOMERS WHO PASSED AND PURCHASED
BEVERAGES IN KROGER STORE #G-224¹

No.	Designation	Not Passed	Passed	Handled	Purchased	% Purchased	% Passed
23	Tea	18	182	0	15	7.5	91.0
24	Chocolate ²	21	179	0	7	3.5	89.5
25	Coffee	17	183	1	45	22.5	91.5
53	Wine ²	101	99	1	1	.5	49.5
56	Beer ²	100	100	1	13	6.5	50.0
57	Beverages (soft drinks)	96	104	5	27	13.5	52.0

¹Based on 200 shopping units from July 21--August 2, 1958.

²Special and end beverage display are not included.

Wine sales indicated a need for further consideration. Only 49 per cent of the shopping units passed the designation with one person handling and one purchasing. Indications are that the variety might be limited to a few brands, or possibly the shopping habits of the customers are such that they do not normally buy wine in grocery stores.

Beer sales were split into four areas. Designation #56 showed the highest sales figures. The other three will be discussed under the section "Special and End Displays." Of 200 shopping units, 13 customers purchased beer from the shelf out of the 100 passing by. All sales from this area are individual units or in six-pak quantity.

Soft drinks were passed by 52 per cent of the people with 13.5 per cent purchasing. Since this product group offered excellent profit returns during the warm weather months, indications are that it should be located in additional places in the store.

Recommendations.

1. Remove one of the coffee grinders since it presently is not operating and three machines are not necessary for the store volume.

2. The shelf stock on wine should be moved between beer and soft drinks. (See Exhibit A, Items #56 and #57.)

3. Make soft drink specials part of the seasonal promotional area (item #16) mentioned earlier in this chapter. The combination for this time of year would include potato chips, wooden utensils, paper plates, wraps, and soft drinks.

Household and Laundry Supplies

Findings. This section carries some of the highest margins in the grocery department. The average margin is

over 25 per cent on sales. In store #G-224 most of the items generally classified under this heading are in one aisle. For ease of understanding, various other products and product groups will be included in Table IV. One unique feature about this store is a "blind aisle" in which these products are located (see Exhibit E, No. 1).

On the average, 50 per cent of all customers shop down through the aisle after passing the dairy department. Soap powders were purchased by 18 per cent of the shopping units. Cleansers were passed by 51 per cent of the shopping units with 14.5 per cent of total units purchasing. Across the aisle from these two product groups are the household items and waxes. They include mops, brooms, furniture polish, simonize, et cetera. Items #41 and #42, 50.5 per cent of all customers passed and 6.5 per cent purchased. When coupled with the high markup on these two items, the area represents excellent return.

Soaps were purchased by 15.5 per cent and passed by 50.5 per cent of the total shopping units. Picnic supplies, foil and waxed paper, paper towels, and toilet tissue were purchased by 8.0, 7.5, 6.5, and 20.5 per cent, respectively. Average passes for the four product designations was calculated at 47 per cent. Toilet tissue indicated drawing power when almost one-half of the shoppers that passed the designation purchased.

TABLE IV

NUMBER OF CUSTOMERS WHO PASSED AND PURCHASED
HOUSEHOLD AND LAUNDRY PRODUCTS IN KROGER #G-224¹

No.	Designation	Not Passed	Passed	Handled	Purchased	% Purchased	% Passed
26	Soap powders ²	87	113	0	36	18.0	56.5
27	Cleansers	98	102	1	29	14.5	51.0
28	Soaps	99	101	0	31	15.5	50.5
29	Picnic supplies	100	97	0	16	8.0	48.5
30	Foil and waxed paper	104	96	2	15	7.5	48.0
31	Paper towels	104	96	1	13	6.5	48.0
32	Toilet tissues	112	88	1	41	20.5	44.0
38	Gadget rack	99	101	17	13	6.5	50.5
41	Household items	96	104	2	12	6.0	52.0
42	Waxes and polishes	102	98	1	15	7.5	49.0
43	Bleaches	100	100	0	26	13.0	50.0

¹Based on 200 shopping units from July 21--August 2, 1958.

²Special and end displays are not included in the figures.

After analyzing the correlation between the type of product, the number of handles and purchases, and price in relation to competition, the facts indicate the percentage of handles to be high when:

1. The product can be readily seen through the package or package window.
2. The product is considered by the average shopping unit to be an impulse rather than a demand item. Generally these product designations do not appear on shopping lists.
3. The product is attractive but does not satisfy the customers need at the time--curiosity.

Across the aisle from these demand items is the gadget rack. Fifty-one per cent of the total number of shopping units passed this designation. However, out of 101 shoppers to pass this designation, 30 stopped to either handle or purchase items indicating a definite interest. There were 17 handles and 13 purchases.

Recommendations.

1. As mentioned previously in Chapter II, the Frandor Shopping Center has within its confines branches of several large department, variety, hardware, and drug stores. Is it possible to sell non-food lines, including gadget rack items profitably, in such a climate? The study indicated that 15 per cent of all shopping units either purchased or handled

items from this designation. Slow moving items should be eliminated in order to insure that the rack looks interesting at all times.

2. Stocking of toilet tissue during busy hours created a repeated bottleneck in this heavily traveled area. Since tissue boxes take up considerable space the shelves in this area should be stocked during the slack periods late in the afternoon.

Dried Foods, Pet Foods, Health and Beauty Aids

Findings. As the writer proceeds through the various designations in the outlet some are grouped because of their location in a particular aisle or section classification.

Of the total shopping units that passed rice and the two dried bean designations the percentage was recorded at 4.5, 5.0, and 7.0 per cent, respectively (see Table V). These product groups generally fall into the range expected for this type of item.

Spaghetti and macaroni products were about the same on passes, but the purchases were 11 per cent or 23 out of the total shopping units. Inspection of the section indicated that the variety of brands and sizes carried was limited.

Health and beauty aids showed 5 handles and 28 passes out of the 106 shopping units that passed the designation.

Kroger carries a fairly complete stock of these items, but indications are that variety and completeness are factors vital to health and beauty aid merchandising.

TABLE V

NUMBER OF CUSTOMERS WHO PASSED AND PURCHASED DRIED FOODS, PET FOODS, AND HEALTH AND BEAUTY AIDS IN KROGER STORE #G-224¹

No.	Designation	Not Passed	Passed	Handled	Purchased	% Purchased	% Passed
45	Dried beans	94	106	2	10	5.0	53.0
46	Rice	95	105	0	9	4.5	52.5
47	Dried beans	95	105	0	14	7.0	52.0
48	Spaghetti and macaroni	94	106	0	23	11.5	53.0
49	Health and beauty aids ²	94	106	5	28	14.0	53.0
52	Pet Foods ²	97	103	1	15	7.5	51.5

¹Based on 200 shopping units from July 21--August 2, 1958.

²Special and end displays are not included in the figures.

Across the aisle from this designation are the Pet Foods. During the two week study, 7.5 per cent of the shoppers purchased and 51.5 per cent passed the designation

out of 200 shopping units. Most of the major brands were stocked and several rows were carried on all varieties. A complete gondola and an end display were employed to merchandise the product group. Customers shopped back and forth, and indicated from their actions, that possibly the product designation contained too much variety. For example, in several instances the shopper picked up items and walked to another product on the shelf to compare the price and the contents.

A complete gondola, with the exception of a limited area for wine, was employed to merchandise the Pet Foods. An end display adjacent to this designation was stocked with fifteen cases of Rival dog food during the two week period of the study.

Recommendations.

1. Health and Beauty Aid sales indicated good customer acceptance. Kroger Store #G-224 employed the full length of the gondola to merchandise this product designation. Several retail outlets in the Frandor Shopping Center carry a very complete line of products; but it seemed to the author that the customers were noticeably influenced by the handling of some cosmetics stocked. For example, several shoppers handled and later purchased from a lipstick rack.

In order to get more variety into the designation, existing stock should be moved since the products have been stacked to add second rows only where necessary. Moving sanitary napkins to a location next to toilet tissue would give more room for additional varieties. The addition of another shelf would permit stocking greater varieties and eliminate the practice of piling two and three high.

2. From Exhibit E, No. 1, the reader can see that the Household and Laundry Supply is a blind aisle. This area is adjacent to checkstand VII which is used only during rush periods. Magazines, soft goods, stationery, and comic books are located there with ample space to pass through an opening to leave the store without going through the checklanes. Several of the key store personnel were questioned about whether or not they had noticed any shopping units leaving the store by this route. They all seemed to agree that a few used this area for a hasty exit.

Considering that the products presently filling the location are generally high on per cent of pilferage the recommendation is, first, to build permanent shelving which would eliminate this "escape route." Second, move all pet food to these shelves since the per cent of passes was about the same and all related items could then be grouped together. Note the change on Exhibit E, No. 2.

This would suggest relocating magazines, comic books, and stationery. This will be discussed later under the section entitled "Non-Foods and Soft Goods." The resulting location would soon become familiar to the customer at that point on her tour.

Crackers, Cookies, Cereals, and Candy

Findings. This section covers one complete aisle and part of another gondola due to the proximity of location.

Potato chips and pretzles are located in a high customer pass area. From Table VI it is evident that 57.5 per cent traveled by it, having 2 handles and 5.5 per cent purchases. It must be remembered that potato chips are in three locations in this outlet: in the front end with picnic supplies, on a large end rack across from the lower end of the meat case, and the shelf designation. Generally, the movement for this season is excellent with a direct delivery insuring proper stocking and freshness control.

Cracker and cookie figures indicated about the same number of purchases, 35 and 32, respectively. Crackers do not take up a full gondola while the cookie section does. However, when considering per cent of passes, indications were that 57 per cent passed crackers while 48 per cent passed cookies.

TABLE VI

NUMBER OF CUSTOMERS WHO PASSED AND PURCHASED CRACKERS,
COOKIES, AND CANDY IN KROGER STORE #G-224¹

No.	Designation	Not Passed	Passed	Handled	Purchased	% Purchased	% Passed
59	Potato chips and pretzles ²	85	115	2	11	5.5	57.5
60	Crackers	86	114	1	35	17.5	57.0
61	Cookies	104	96	4	32	16.0	48.0
63	Candy	106	94	3	16	8.0	47.0
66	Cereals	78	122	3	67	33.5	61.0
72	Candy ²	98	102	0	13	6.5	51.0
73	Nuts ²	111	87	0	5	2.5	44.5

¹Based on 200 shopping units from July 21--August 2, 1958.

²Special and end displays are not included in the figures.

Candy appears in many locations throughout the outlet. Besides being stocked in the racks on the checklanes, candy is on display on the shelves and an end display. Table VI shows this designation to have 47 per cent as the average per cent of passes for the shelf stock. Where the full side of a gondola is used the per cent of purchase is up to 8 per cent in comparison to 6.5 per cent for designation

#72 which occupies three-quarters of the shelf footage (see Exhibit A).

The highest per cent of purchases for grocery items was recorded for cereals. Over one-third of the 122 shopping units that passed this designation purchased. From the observations made of the shoppers in this area, little time was spent looking for desired items.

Nuts appeared on the regular shelves and also on an end display in a nearby area. The findings showed that 5 out of 87 passing the designation purchased, with no handles recorded for the two week study.

Recommendations. Most of the product groups mentioned above were merchandised properly. Periodic discussion with and observation of direct salesmen should insure that freshness and variety is maintained in the future.

The author questions the over-all variety of the candy designation. Items appeared to be given extra rows or as in some cases extra shelves. An order book versus shelf stock comparison should be made to insure that all possible varieties and sizes that can be moved are carried in stock.

Cooking Needs, Bread, and Bread Products

Findings. The results on Table VII indicate that the average per cent of customers passing the first three

designations was 51.3. Purchases in these product groups varied greatly. Baking needs showed 5 per cent of the shopping units purchased in contrast to 11.5 for sugar and 8.5 for salt.

TABLE VII

NUMBER OF CUSTOMERS WHO PASSED AND PURCHASED COOKING
NEEDS, BREAD, AND BREAD PRODUCTS IN KROGER STORE
#G-224¹

No.	Designation	Not Passed	Passed	Handled	Purchased	% Purchased	% Passed
68	Baking needs	98	102	1	10	5.0	51.0
69	Sugar	98	102	2	23	11.5	51.0
70	Salt	94	106	1	17	8.5	53.0
71	Spices	89	111	3	19	9.5	55.5
74	Bread ²	64	136	5	48	24.0	68.0
75	Rolls	52	148	5	34	17.0	74.0
77	Pancake and pie mixes	89	111	3	4	2.0	55.5
78	Flour	92	108	3	19	9.5	54.0
79	Cake mixes	96	104	3	11	5.5	52.0
84	Bread ²	69	131	5	36	18.0	65.5
85	Pastries	70	130	4	13	6.5	65.0

¹Based on 200 shopping units from July 21--August 2, 1958.

²Special and end displays are not included in the figures.

Kroger carries an unusually large selection of spices and seasonings. From this rack 19 customers purchased and 3 handled out of the possible 111 shoppers to pass the product group designation.

Bread and bread products were divided into four separate classifications. The reason for the division of bread was to analyze more closely from which side of this gondola most customers buy. On one side the flow study indicated that 68 per cent of the total shopping units passed and 24 per cent purchased with 5 handles; in comparison to the opposite side where 65.5 per cent of the total shopping units passed and only 18 per cent purchased with 4 handles. There were indications, therefore, that designation #74 was a more favorable merchandising location for bread than #84. Pastries and rolls showed the per cent of purchases as being 6.5 and 17.0 per cent, respectively. A custom bakery three shops away in the shopping center must be kept in mind when considering bread and bread products sales. However, with the excellent returns evidenced in Table VII, the author feels with increased merchandising effort, this group could add more profit dollars.

Flour, pancake, pie, and cake mixes showed 54 per cent of the shoppers passed the designation and 9.5 per cent, 2.0 per cent, and 5.5 per cent purchased, respectively. Most of these items have sales peaks in the cool weather months.

Recommendations.

1. Even though the Frandor Shopping Center has other stores selling pies, cakes, and rolls the facts on the bakery items indicated a strong desire to purchase not only power items but also impulse-type specialties. The Wrigley outlet in the shopping center uses an oven for merchandising pies. Ovens of this kind could favorably affect the sales of applicable items. From the results of the two week study recorded in Table VII, indications were that this clientele would look favorably upon innovation, especially in bakery specialties. The author recommends that the oven be located at designation #105 which was occupied with frozen food specials (see Exhibit A). This will be amplified later under the Frozen Food category.

2. Variety is extremely important to Mrs. Consumer when a bakery purchase is contemplated. Again, an order book versus shelf stock comparison should be made in order to insure that all profitable items are being carried.

Prepared and Baby Food Aisle

Findings. Items in this aisle have been grouped for ease of handling. The average customer flow was found to be the length of gondolas since the store's physical layout was made up of long aisles with only mid-section walk ways.

The reader is cautioned to remember when going over purchase figures of products and product groups that the

study made no attempt to quantify actions of the shopping units. For example, the purchase figure for Baby Food in Table VIII showed that 21 shoppers selected the items, not 21 units were sold.

TABLE VIII

NUMBER OF CUSTOMERS WHO PASSED AND PURCHASED PREPARED
AND BABY FOODS IN KROGER STORE #G-224¹

No.	Designation	Not Passed	Passed	Handled	Purchased	% Purchased	% Passed
81	Baby food	95	105	2	21	10.5	52.5
82	Milk products	94	106	1	10	5.0	53.0
83	Syrups	92	108	1	6	3.0	54.0
89	Desserts	95	105	1	14	7.0	52.5
92	Canned fish	94	106	1	14	7.0	53.0
93	Canned meat ²	97	103	3	22	11.0	51.5
94	Canned soup	95	105	1	35	17.5	52.5

¹Based on 200 shopping units from July 21--August 2, 1958.

²Special and end displays are not included in the figures.

Out of 105 customers that passed the baby food designation, 21 purchased and 2 handled the items. There was approximately the same percentage of passes for milk

products as for baby food but the figures showed that the per cent of purchases were about one-half as high for the milk products.

Syrups showed 54.0 per cent passes with 3.0 per cent purchases in comparison to desserts with 52.5 passes but 7.0 purchases. A greater amount of shelf space was allocated to desserts and there was less seasonal sales fluctuation whereas syrup sales are highest in the cooler months and drop off sharply in the summer.

Canned fish figures looked about the same as those for desserts. Table VIII showed that 53.0 per cent of the shopping units passed the designation with 7.0 per cent recorded for purchases. Summer "cold meat" promotions helped the sales of canned meat which, with a lower per cent of passes (51.5 per cent) attained purchases from 11 per cent of the customers.

One of the higher figures in the entire grocery department was recorded for canned soups. Fifty-three per cent of the total shopping units passed the designation and 17.5 per cent of the total purchased from this product group.

Recommendations.

1. Several items in this aisle were promoted heavily with advertising campaigns. Whenever possible end- and dump-displays should be constructed of such products to take advantage of these sales builders.

2. Constant checks should be made on baby food salesmen to insure rotation, proper pricing, and allocation of all items authorized by division headquarters. Many items that are slow movers receive additional space to induce shopper interest rather than answer the demand of the customer.

Canned Fruits, Vegetables, Juices, and Miscellaneous
Prepared Foods

Findings. Some of the designations included in this category received fairly good acceptance. Canned vegetables were stocked in various locations in the store. For the discussion here, designation #96 and #102 will be considered. Out of the total number of shopping units an average of 43 per cent of the customers passed these two locations. However, differences were noted when referring to the per cent of purchases on Table IX. Designation #96 showed 18 per cent whereas #102 indicated 8.0 per cent. Most of this difference was due to the fact the former extended the full length of a gondola in contrast to the latter which ran less than half the length of the gondola.

Canned juices received 12 per cent of total passes. Indications were that when the customer did pass the location she purchased one-third of the time. In comparison to canned fruit where 45.8 per cent of the total shopping units passed, 9.5 per cent purchased.

TABLE IX

NUMBER OF CUSTOMERS WHO PASSED AND PURCHASED CANNED
FRUITS, VEGETABLES, JUICES, AND MISCELLANEOUS
PREPARED FOODS IN KROGER STORE #G-224¹

No.	Designation	Not Passed	Passed	Handled	Purchased	% Purchased	% Passed
96	Canned vegetables ²	112	88	2	36	18.0	44.0
99	Canned juices ²	130	70	1	24	12.0	35.0
102	Canned vegetables ²	116	84	1	16	8.0	42.0
103	Baked beans ²	119	81	1	21	10.5	40.5
104	Prepared foods ²	117	83	1	12	6.0	41.5
106	Canned fruit ²	103	97	0	19	9.5	48.5

¹Based on 200 shopping units from July 21--August 2, 1958.

²Special and end displays are not included in the figures.

Baked beans and prepared foods were stocked in the same aisle next to each other with the average number of passes indicated at 41 per cent of the total. Differences in per cent of purchases ranged from 10.5 per cent for the former to 6.0 per cent for the latter.

Recommendations. Indications for canned juices at first suggested that the product group be relocated to take advantage of higher per cent of customer passes. After considering various spots and respective margins versus turnover the author feels the present location would realize the maximum return. Additional sales could come from front end and dump displays filled with juices.

The Frozen Food Department

Findings. Mr. Herman F. Baechle, writing the "Perishable" analysis, and the author decided upon allocating twelve feet of frozen food space to the meat department for a delicatessen area to be included. Changes are, therefore, necessary to make the adjustment in the Frozen Food department.

Designation #105 is a large case used for featured frozen food items. Customers could see this designation from three sides. There were 18 customers or 9 per cent of the total shopping units who passed this designation and stopped to purchase. Handles were recorded at 4 which tends to indicate that possibly the price was out of line, or that the interest first created was lost due to the quality of the product (see Table X).

Ice cream passes were high with 46.5 per cent of the customers going by this designation; 9 per cent purchased and 2 per cent handled the product group.

TABLE X

NUMBER OF CUSTOMERS WHO PASSED AND PURCHASED THE
FROZEN FOOD DEPARTMENT IN KROGER STORE #G-224¹

No.	Designation	Not Passed	Passed	Handled	Purchased	% Purchased	% Passed
105	Frozen food specials	76	124	4	18	9.0	62.0
108	Ice cream	107	93	1	38	19.0	46.5
110	Frozen juices	98	102	2	33	16.5	51.0
111	Frozen pies	98	102	1	20	10.0	51.0
113	Frozen vegetables	91	109	1	16	8.0	54.5
114	Frozen specialties	103	97	3	5	2.5	48.5
115	Frozen fruits	107	93	1	2	1.0	46.5

¹Based on 200 shopping units from July 21--August 2, 1958.

Fifty-one per cent of the shopping units passed and 16 per cent purchased frozen juices. Frozen pies showed the same results for passes but the per cent of purchases dropped to 10 per cent of the total shopping units.

Frozen vegetables were passed by 54.5 per cent of the total shopping units with total purchases dropping to 8.0 per cent. Frozen specialties and fruits received an

average of 47 per cent passes but Table X shows that per cent of purchases was only 2.5 per cent and 1.0 per cent, respectively.

Recommendations. Customers rarely buy what they can not see. When obliged to search for a particular product, they usually substitute, go without, or go somewhere else to buy. Here are eleven ways in which food chains throughout the country are maximizing dollar returns from frozen food space.

1. Careful stacking of frozen products. Allow one full row for each fast moving item and two or three stacks within a row for slower items.
2. Maintaining orderly stacks at all times.
3. Avoiding duplication of products.
4. Allocating space according to seasonal demand.
5. Encouraging the sale of new products.
6. Using guides to product location.
7. Stringing packages for greater readability.
8. Using display solely for selling not for holding reserve stocks.
9. Proper pricing and prompt price changes to keep up with competition.
10. Dumping packages to create mass display effect and to save time in stocking.
11. Multiple-pricing.³

³"Ways Chains Build Sales per Linear Foot," Chain Store Age, Vol. 34, No. 4 (April, 1958), 130-131.

One problem area in the Kroger store's frozen food department was the allocation of space according to seasonal demand and duplication.

1. In the specialties area three or four varieties of pizza pies were carried in the same sizes.
2. Only three kinds of fruits were ordered in the fruit sections with extra rows on each item.
3. A complete analysis of stock carried versus the items authorized on the order sheets should be performed.

Reference is made to Exhibit E, No. 2, the suggested drawing of store layout. Using the twelve feet of case space from the frozen food department, the B&B team moved all items towards the front of the outlet. Ice cream was felt to have greater salability in a new case across from the bakery products gondola. Here it would realize a higher number of passes and be closer to the center of the check-stand area.

As previously mentioned suggestions are for an oven to be located where designation #105, frozen specials, are presently. These products along with canned juices from the end of the main case are planned for the spot ice cream formerly held at designation #108. The specials on canned juices are recommended to be put in designation #100 presently being used for "TV dinners."

The additions and relocations have these advantages:

1. All similar product groups would be brought closer together for easier shopping.
2. The impact of weekly frozen food specials would draw shoppers past other impulse, high-profit selections.
3. Change would cause a close re-examination of allocation, duplication, and variety which should increase sales.
4. Ice cream relocation allows more space for the display of the canned juices.
5. The remodel should stimulate shopping interest to explore the innovated frozen food department.

Miscellaneous Items

Findings. This category was included in order to bring into focus three high profit product groups which are important to the grocery line but do not fit any specific heading.

Dietetics represent a high profit area for a store if the product group receives customer notice. The designation during the two week study was recorded at 31.5 per cent of passes and only 2 shopping units purchased out of a possible 63. Indications were that a limited number of customers passed the area, and of those, few purchased.

Of 96 customers to pass toppings and party foods, 3.5 per cent purchased. This was partially due to its

TABLE XI
NUMBER OF CUSTOMERS WHO PASSED AND PURCHASED
MISCELLANEOUS ITEMS IN KROGER STORE #G-224¹

No.	Designation	Not Passed	Passed	Handled	Purchased	% Purchased	% Passed
97	Dietetics	137	63	0	2	1.0	31.5
107	Toppings and party foods ²	104	96	0	7	3.5	48.0
112	Kool-Aid	85	115	1	12	6.0	57.5

¹Based on 200 shopping units from July 21--August 2, 1958.

²Stock above the dairy case is not included in the figures.

location above the ice cream case and the natural tie-ins between the two.

Kool-Aid represented a high profit return for the outlet during the particular two week period of the study. Over half of the shoppers passed the designation and 12 out of 115 purchased.

Recommendations.

1. The dessert designation #89 was replaced by a new ice cream case in an earlier recommendation. Since desserts tend to cause customers to stop and purchase, the author recommends locating desserts and dietetics on the

same gondola at designation #97 presently stocked exclusively with dietetics. Desserts would add traffic to the dietetics and the result would be a greater return for the store.

2. Toppings and party foods sold well above the ice cream case during the test study. In keeping with the new ice cream location this product group should be moved to the new designation (see Exhibit E, No. 2, #89). Under the section on "End Displays," a new location will be discussed for party goods.

3. Kool-Aid could be relocated to the top of the frozen juice case presently designated at #108.

Soft Goods and Non-Foods

Findings. Policy on this line is to only carry a limited number of items. Many times when special deals are available on a product group, they will place an order, but just on an in and out basis. The recommendations made in this section were, therefore, tempered by the over-all policy considerations.

One-fifth of the shopping units passed the magazine rack. This figure, although low, seemed more encouraging when coupled with the rather high per cent of purchases which the study revealed to be 6 per cent of the sample population (see Table XII).

TABLE XII

NUMBER OF CUSTOMERS WHO PASSED AND PURCHASED SOFT
GOODS AND NON-FOODS IN KROGER STORE #G-224¹

No.	Designation	Not Passed	Passed	Handled	Purchased	% Purchased	% Passed
33	Magazines	160	40	4	12	6.0	20.0
34	Soft goods	107	93	7	2	1.0	46.5
35	Stationery	168	32	0	2	1.0	16.0
36	Comic books	98	102	3	3	1.5	51.0
37	Stocking rack ²	95	105	0	3	1.5	52.5
87	Soft goods	86	114	5	2	1.0	57.0
109	Records	145	55	2	1	.5	27.5

¹Based on 200 shopping units from July 21--August 2, 1958.

²End display at present.

Soft goods appeared in two different locations--one near the bakery gondola, and the other at the end of the blind aisle.

In both designations there were more handles recorded than purchases. The data indicated a need for further consideration.

Only 2 observed shoppers purchased stationery. This designation, the study revealed, was only passed by 32

shopping units. Comic books, however, showed the percentage of passes at 51 per cent and purchases were recorded at 1.5 per cent. Over half of the total shoppers passed the stocking rack, whereas only 27.5 per cent passed the record designation. Purchases were about the same, with 1.5 per cent shown for the former and .5 per cent for the latter.

Recommendations.

1. In many instances, related product sales increase when similar items are stocked together. Designations #52 and #53, formerly stocked with pet foods and wine, could be remodeled to accomodate magazines, comic books, stocking rack, and records. This would locate all similar items across the aisle from the health and beauty aids. The proposed change would expose to these high profit lines over half of the shopping units. A complete picture of the new locations is shown on Exhibit E, No. 2.

2. Recommend that the dog food display #51, be eliminated to permit the construction of an end display of stationery items in its place. This item would tie-in naturally with the non-food items on that gondola.

3. Soft goods could be moved to one location, i.e., designation #34, without affecting the percentage of total passes. A consideration of this type should induce greater customer interest and sales.

End Displays

Findings. Store merchandisers are constantly asking themselves three questions: What should be put on display?, Where?, and How long to leave it up? The following figures should stimulate such questions in the minds of the management of Kroger Store #G-224.

Special displays are used primarily to increase sales. Food chains have found that such displays increase sales of virtually any item in the store. They account for about 7.5 per cent of direct sales store tests have shown and the buying atmosphere they create effects an estimated 20 per cent of total sales.⁴

These displays also create price impression, establish customer confidence in quality of products, influence traffic patterns, and accomplish a number of other results.⁵

Table XIII indicated low percentages of purchases for almost every end display despite a high average per cent of passes. Kroger store #G-224 has a display on every possible end area. During the period of study there were few grocery displays that showed imagination.

⁴"1958 Display Manual," Chain Store Age, Vol. 34, No. 2 (February, 1958), 56.

⁵Ibid., p. 56. ———

TABLE XIII

NUMBER OF CUSTOMERS WHO PASSED AND PURCHASED
FROM END DISPLAYS IN KROGER STORE #G-224¹

No.	Designation	Not Passed	Passed	Handled	Purchased	% Purchased	% Passed
21	Pickles and catsup	2	198	0	1	.5	99.0
22	Tea and chocolate	2	198	1	5	2.5	99.0
37	Stocking rack	95	105	0	3	1.5	52.5
39	Toy rack	47	153	4	2	1.0	76.5
51	Dog food	69	131	0	5	2.5	65.5
54	Wine	40	160	2	2	1.0	80.0
55	Wine	43	157	1	0	0.0	78.5
62	Carton cigarettes	58	142	0	11	5.5	71.0
64	Candy	39	161	0	0	0.0	80.5
65	Nuts	37	163	1	9	4.5	81.5
67	Beer	22	178	0	1	.5	89.0
76	Coffee and marshmallows	37	163	1	1	.5	81.5
80	Basket of values	31	168	1	12	6.0	84.0
86	Carton cigarettes	41	159	0	17	8.5	79.5
88	Tobaccos	88	112	0	1	.5	56.0
90	Pork and beans	48	152	0	0	0.0	76.0
91	Tuna fish	44	156	1	13	6.5	78.0
95	Potato chips	46	154	1	14	7.0	77.0
98	Light bulbs	70	130	2	3	1.5	65.0
100	TV frozen dinners	60	140	0	4	2.0	70.0
101	Peanut butter	64	136	1	2	1.0	68.0

¹Based on 200 shopping units from July 21--August 2, 1958.

Recommendations.

1. Remove the eight displays not included in Kroger's original blue print. These include designation numbers 21, 37, 40, 55, 64, 76, 91, and 101.⁶ (See Exhibit E, No. 2, for revision.) This change would permit larger, more attractive displays to be built across the aisle, thus reducing shopper congestion. Other suggestions are: Locating party foods at designation #54 to fit in more closely with beverages; stocking tobaccos on the two cigarette racks; and moving canning supplies into designation #80 from the special display designation #118.

2. Careful planning and attractive construction is necessary to induce customers to buy from displays. There is a need at this outlet for an individual with abilities to carry out this task.

Special Displays

Findings. Special displays, by their definition, should create interest and induce purchasing. Table XIV indicated that few shopping units were motivated by such displays.

Hawaiian punch was displayed for a week and a half. Thursday, Friday, and Saturday of the first week the product

⁶"Fixture Plan," The Kroger Co., Store #G-224, Frandor Shopping Center, Lansing, Michigan, June 22, 1954, Sheet #1.

was sold by a demonstrator. Of 111 shopping units that passed the designation only 13 actually purchased, although many left cans around the store.

TABLE XIV

NUMBER OF CUSTOMERS WHO PASSED AND PURCHASED
FROM SPECIAL DISPLAYS IN KROGER STORE #G-224¹

No.	Designation	Not Passed	Passed	Handled	Purchased	% Purchased	% Passed
25-1/2	Hawaiian punch ²	24	111	3	13	9.6	82.5
50	Pet supply rack	78	122	3	1	.5	61.0
118	Canning supplies	142	58	0	3	1.5	29.0
131	Beer	70	130	1	0	0.0	65.0

¹Based on 200 shopping units from July 21--August 2, 1958.

²Based on 135 shopping units from July 21--August 2, 1958.

Pet supplies "attracted" one shopper out of a possible 122 who passed the designation. Canning supplies were sold to 3 shoppers and were passed by 29 per cent of the total customers. Beer, located in cases, next to the "bottle return" door was not purchased by one shopping unit in the sample.

Recommendations.

1. The demonstration caused serious bottlenecks and resulted in some customer irritation. Sales did not seem to warrant the result of making customers travel around the congestion thereby missing some product designations. This outlet lacked the space to effectively use demonstrations unless they would be able to work from behind cases.

2. Canning supplies could be moved to designation #80 for a tie-in fall promotion.

3. Earlier recommendations call for moving the coke machine in the corner of the outlet presently designated #131. Beer could be effectively sold in full case quantities by "bottle return" personnel. A wall sign could list the various case prices of beer and soda. A simple question like, "would you like a refill madam?," may increase sales. Clean, empty cases on display could also act as a reminder for purchasing beer and beverages.

Miscellaneous Facts

Findings. All data discussed in this section appears in detail in Exhibit C, Section 4 of the Appendix. Miscellaneous data recorded on flow analysis worksheet indicated:

Total dollar volume for the study.	. . . \$1923.49
Average dollar purchase	9.62
Per cent of shopping units who received grocery service	13.5%
Per cent of shopping units who received office service.	5.0%

Per cent of customers who did not desire service	52.5%
Per cent of customer shopping without a list	74.0%
Average shopping time in the store (in minutes)	21.29
Average time spent standing in checklanes (in minutes)	5.08
Per cent of shopping time spent in checklanes	23.86%
Per cent of customers who used the parcel pickup system	53.5%

Table XV showed that 56.5 per cent of the shopping units was comprised of at least one man and/or child. This fact indicated that a good deal of merchandising effort should be directed toward these two groups.

TABLE XV
PERCENTAGE BREAKDOWN OF SHOPPING UNITS IN KROGER
STORE #G-2241

Classification	Number	Percentage
Male alone	16	8.0
Female alone	72	36.0
More than one female	15	7.5
More than one male	2	1.0
Male and female	35]	17.5
Female and children	31]	
Male and children	4	15.5
Other	25	2.0
TOTAL	200	100.0

¹Covering the period from July 21 to August 2, 1958.

Table XVI shows that checklanes I and III were most frequently used by the customers during the period of the study. Seventy-two per cent of the shopping units passed through the first four checklanes.

The purchases of customers from checkstand racks and adjacent dump displays was also recorded. Eight customers out of 200 purchased from the area in checklane IV but only one customer purchased from checklane VII.

TABLE XVI
PERCENTAGE OF SHOPPING UNITS WHO PASSED
AND PURCHASED IN THE CHECKLANES IN KROGER
STORE #G-224¹

Checklane	% Purchased	% Passed
I	3.5	20.5
II	3.0	16.0
III	2.5	20.0
IV	4.0	16.0
V	3.0	12.5
VI	1.0	9.0
VII	.5	6.0

¹Based on 200 shopping units from July 21--August 2, 1958.

Recommendations.

1. Direct more merchandising effort toward men and children.
2. Employ proper timing when opening checklanes and adding bagboys during peak periods:

3. Display and promote impulse merchandise to its fullest extent.

Summary

Kroger Store #G-224 is one of the highest volume stores in the Grand Rapids Division. Sales have never dropped below bonus figures. On the surface, an observer might feel that the outlet has the optimum merchandise layout. The question might be asked, "Is this outlet realizing the maximum return on the investment considering the ideal location?"

There are indications from the data presented that changes in merchandise layout are needed. Variety, duplication, and attractiveness are three areas that should be considered further.

The foregoing discussion is one approach in improving the sales figures through stockturns. It is not offered as the only answer to the never ending search for optimum merchandise layout.

CHAPTER V

RELATION OF THE FINDINGS TO ADVERTISING

This chapter will make some evaluations as to the relative effect of advertising on sales at Kroger Store #G-224. One of the major considerations in selecting this outlet for the test was that all newspaper advertising was run in the Lansing State Journal on Mondays and Wednesdays. This newspaper is published once a day on a seven-day week and is the only local newspaper. The circulation area includes Greater Lansing.

Since Kroger also employs a spot-radio campaign, and periodic handbills in the form of "bag stuffers," it is not possible to directly correlate advertising effectiveness to newspapers alone. However, the Lansing State Journal ads were an important medium used in Kroger sales promotion.

No attempt was made to qualify which department or particular item was most significant in attracting customers for the period covered. Herman F. Baechle found the perishable departments increased sales during promotion periods which sometimes effects the grocery department.¹

¹Baechle, op. cit., p. 53.

The chapter will be divided into four headings to correspond to the newspaper ads:

1. Monday July 21, 1958--covering July 21-23 versus
July 28-30
2. Wednesday July 23, 1958--covering July 23-26
versus July 30-August 2
3. Monday July 28, 1958--covering July 28-30 versus
July 21-23
4. Wednesday July 30, 1958--covering July 30-August 2
versus July 23-26.

Product group designations include other items not represented in ads. Since the shopping unit must locate the item on the shelf, sales of adjacent items may also be effected. Product designations which were advertised in comparative periods were not included in the tables since no logical analysis could be drawn.

Monday, July 21, 1958

Figure 2 shows the Kroger ad which featured bacon, cauliflower, and fig bars. Table XVII was adopted from the data breakdowns in Exhibit C, Sections 1 and 2. The figures show the number of passes and purchases for the advertised product groups and the number of passes and purchases of the same product groups during a comparative period when they were not advertised. No attempt was made to tie-in special and end displays since what the shopping unit bought from the shelves was felt to contribute more to the overall profit picture.

CAT FOOD 2 15-Oz. Cans 27c
Feed 3 Little Kittens and watch your pet tabby grow.

INSTANT COFFEE 6-Oz. Jar \$1.35

CO-ETS 4-Pack 25c
Makes make-up applications faster and easier.

KAISER FOIL Roll 43c
Indispensable for camping trips and cook-outs.

KARO SYRUP 1 1/2-Lb. Bottle 25c
Prescribed for infant formulas by many doctors.

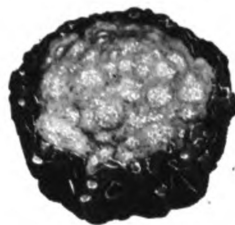
MAZOLA OIL Qt. 79c
The main ingredient of the finest salad dressing.

MAZOLA OIL Gal. \$2.59
Good for deep frying. Can be used over again.



SAVE TWICE
Get Top Value Stamps
plus Kroger best-buys!

**Michigan
large
SNOW
WHITE**



Cauliflower ea. 29c
Crisp, fresh flowerets to saute superbly with Kroger cheese.

Save \$4.05

Kroger Catalog No. 65-61
under regular retail price of
\$16.95 for a
24-pc. set **BKCO
STAINLESS
STEEL
FLATWARE**
on the Kroger Label-Savings Plan.
See Kroger Catalog or ask
Kroger Manager for full detail.

**KLIEN
CHOCOLATE SPANGLES**

8 1/4 oz. pkg. **29c**

Sweet-tooth special! Serve 'em in place of dessert during the long hot summer.

BOSCO 12-Oz. Jar 37c
Chocolate soda fountain treats right at home.

NU-SOFT Pint 45c
Towels and sheets stay soft and get cleaner.

SALISBURY STEAKS 16-Oz. Can 56c
Every-cooked for a fast easy dinner. Try them!

WATER MAID RICE 1-Lb. Pkg. 19c
The basis of many a fine meat or fish casserole.

TETLEY TEA BAGS 4-Ct. Pkg. 67c
Since 1837 and preferred by Real Tea Drinkers.

MODESS Pkg. of 12 45c
A comfortable and absorbent sanitary napkin.

WELCHADE Qt. Btl. 39c
Grape gelatin in store for you with this treat.

KRAFT OIL 32-Oz. Btl. 75c
An all-purpose liquid shortening for cooking.

CHILI WITH BEANS 1-Lb. Can 33c
For the budget-minded. Broadcast is priced right.

BROADCAST HASH 1-Lb. Can 39c
An egg sunny-side-up for this corned beef feast.

PIGS FEET 14-Oz. Jar 43c
Broadcast pickles them the way you like them.

SLICED DRIED BEEF 2 1/2-Oz. Jar 39c
Packed by Broadcast for that on-the-spot meal.

BEEF-STEW 16-Oz. Can 39c
Broadcast uses plenty of meat and vegetables.



beat the heat!

**go
Krogering**
(THE HAPPY WAY TO SHOP)

**Wilson
Laurel Sliced
Bacon**
lb. **59c**

We reserve the right to limit quantities.

**WILDROOT
CREAM OIL**

4 oz. btl. **65c**

Summer sports raise heroes with hair. Groom it the grassless Wildroot way.

VALUABLE COUPON

SAVE 19¢
KROGER

FIG BARS

lb. pkg. **10c** with this coupon

Coupon valid through Wednesday
July 23, 1958
Limit: one coupon per customer
When Presented at Your Friendly Kroger Store

East Lansing Kroger
555 E. Grand River

North Lansing Kroger
1721 N. Grand River Ave.

South Lansing Kroger
2501 S. Cedar St.

Frondor Center Kroger
410 Frondor

Figure 2. Kroger Ad--July 21, 1958

TABLE XVII

NUMBER OF CUSTOMERS WHO PASSED AND PURCHASED ADVERTISED ITEMS IN KROGER STORE #G-224¹

No.	Designation	Advertised		Not Advertised	
		Passed	Purchased	Passed	Purchased
20	Dressings and oils	27	5	26	4
23	Tea	28	3	31	0
24	Chocolate ²	28	0	32	1
25	Coffee ²	28	3	32	6
30	Foil and wax paper	15	0	9	2
31	Towels	16	3	9	1
46	Rice	14	2	15	1
49	Health and beauty aids	14	5	16	3
52	Pet foods ²	13	2	17	3
61	Cookies	17	4	15	7
99	Canned juices ²	8	2	14	4
104	Prepared foods	12	0	17	3

¹Covering the period July 21-23 versus July 28-30, 1958, based on 35 shopping units.²End and special displays are not included in the figures.

Columns three and four in Table XVII show the number of passes and purchases for the specified designations recorded for Monday--Wednesday of the first week (advertised period). A similar set of figures was gathered for the same three days of the second week, which appear in columns five and six of the same table (not advertised).

Limited advertising effectiveness was noted from the data shown. In fact, more passes and purchases were recorded in many cases, for the second week. Figures for the perishable sections of the store showed that there were marked increases during the advertised period for most items during the two week study.²

Indications were that customers shopped the grocery department the same regardless of whether or not the ad "listed" the item.

Some observations made of Figure 2 include:

1. The ad was built around a meat and produce item.
2. Fig bars were the only grocery item which was featured.
3. All other items were listed in small print except for Wildroot cream oil and Kleins' spangles.

Wednesday, July 23, 1958.

Kroger mid-week ads are generally more complete and designed to build store-wide sales (see Figure 3). Thrifty

²Baechle, op. cit., p. 54.

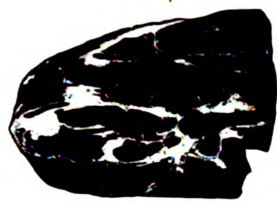
Chuck Roast 49^c

Thrifty blade-cut! Shoulder bone and excess fat removed to give you more for your money!
Kroger, Fresh, Lean

Ground Beef 49^c



express to summer fun!
Now, more than ever, Kroger values count double! When you are stretching the family budget to cover vacation expenses, Kroger helps you out better for less. And you get summer take-alongs free with Top Value Stamps.



go Krogering

(THE HAPPY WAY TO SHOP)

SAVE TWICE!
GET TOP VALUE STAMPS PLUS KROGER BEST BUYS!

for better bargains
and make your vacation savings grow

Peaches 3 29^c

South Carolina beauties!—ready for summer short-cake eating.

- | | | | |
|-------------------------------|---------------------------|-------------------------|---------------------|
| LETTUCE | 2 heads 29 ^c | PEPPERS | ea. 9 ^c |
| Fresh, Farm California Earing | | Large, Green Bell | |
| PADISHES | 3 bunches 19 ^c | CABBAGE | head 9 ^c |
| Kroger, Bright Red | | Doan, Fresh, Farm Heads | |

Lunch Meat 39^c

Country Club brand. Sizzle it with fresh eggs, sunny-side-up.

Lemonade 10^c

Kroger-frozen for flavor. A real pep-up aid to beat the heat.

TV SPECIALS

- | | | |
|--|-------------|-----------------|
| SUGAR COOKIES | 29 ct. pkg. | 29 ^c |
| Pecan Caramel Cream sparkle with milk. | | |
| BABY DINNER | jar | 19 ^c |
| Beck's High Meat for the highchair. | | |
| POTATO CHIPS | lb. bag | 79 ^c |
| The New Era way to successful parties. | | |
| LUNCH MEATS | lb. pkg. | 59 ^c |
| Your choice of five Peabody flavors. | | |



- | | | |
|---|---------------|-----------------|
| HUNGARIAN RING | ea. | 39 ^c |
| Serve 10 cents on this breakfast party. | | |
| SANDWICH BREAD | loaf | 22 ^c |
| Sliced right for the picnic basket. | | |
| ICED TEA BAGS | 40 ct. pkg. | 59 ^c |
| Drink Kroger flavor—regular or mint. | | |
| PORK & BEANS | 4 16-oz. cans | 49 ^c |
| Kroger is mighty proud of this recipe. | | |



GET 40% SAVINGS ON
EXCO ETERNA STAINLESS FLATWARE
WITH THE KROGER LABEL-SAVINGS PLAN

26-Piece Set
ONLY \$6.90
with 13 Kroger Labels. Reg. Price \$10.95
YOUR KROGER LABELS PAY THE DIFFERENCE

Just save the word "Kroger" from the labels on Kroger-brand foods. Use them to help buy Elba Stainless and other famous-brand merchandise. Get your Savings Plan Catalog at Kroger today. See more than 300 ways to save up to 50% on housewares, gifts, appliances.

COUNTRY CLUB Butter 49^c

Cash in coupon at the right for big savings on Country Club.

With Coupon Below

We Reserve The Right To Limit Quantities
coffee 69^c
Cup-O-Cheer is tops in flavor with its roasted-in-rich goodness.

VALUABLE COUPON
50 FREE TOP VALUE STAMPS
With a \$5.00 or more purchase, excluding beer, wine or cigarettes.
Coupon Good Through Saturday, July 26, 1958
Limit one coupon per customer.

VALUABLE COUPON
SAVE 20c COUNTRY CLUB BUTTER
49^c with this coupon
When presented at your friendly Kroger store. Coupon valid through Saturday, July 26, 1958. Limit one coupon per customer.

VALUABLE COUPON
SAVE 19c COUNTRY CLUB ICE CREAM (1/2 gal.)
plus **PENNANT MARSHMALLOW CREME**
69^c With This Coupon
When presented at your friendly Kroger store. Coupon valid through Saturday, July 26, 1958. Limit one coupon per customer.

- | | | | | | | | | |
|--|------------|-----------------|--------|------------|-----------------|------------------|----------------|-----------------|
| IVORY FLAKES | large pkg. | 34 ^c | OXYDOL | large pkg. | 34 ^c | DASH DETERGENT | reg. pkg. | 39 ^c |
| Dishwasher materials. 99 and 44 100 percent pure. | | | | | | | | |
| IVORY SNOW | giant pkg. | 75 ^c | TIDE | giant pkg. | 77 ^c | RAIN DROPS | 24-oz. pkg. | 33 ^c |
| Mild and guaranteed for greater efficiency. | | | | | | | | |
| IVORY LIQUID | 12-oz. can | 41 ^c | CHEER | giant pkg. | 77 ^c | DIAPER SWEET | 24-oz. pkg. | 33 ^c |
| New Lemon-white to pumpkin blends in the dishpan. | | | | | | | | |
| DUZ | giant pkg. | 77 ^c | DREFT | giant pkg. | 77 ^c | PLANTERS PEANUTS | 7 1/2-oz. can | 39 ^c |
| Blind and safe—foamless for real cleaning power. | | | | | | | | |
| BLUE DOT DUZ | reg. pkg. | 34 ^c | JOY | reg. can | 39 ^c | NABISCO PRETZELS | 7 1/2-oz. pkg. | 29 ^c |
| America's favorite washers soap now Blue Dot too! | | | | | | | | |
| This small capital does a whole quartet of dishes. | | | | | | | | |

EAST LANSING KROGER 555 E. Grand, E. Lansing
NORTH LANSING KROGER 1721 M. Grand, N. Lansing
SOUTH LANSING KROGER 2501 S. Cedar St., S. Lansing
FRANDOR CENTER KROGER 410 Frandor, Frandor

Figure 3. Kroger Ad--July 23, 1958

Beef, peaches, luncheon meat, and lemonade were the featured items. Emphasis was placed on newspaper advertising by the use of coupons redeemable for merchandise.

There were a few differences between the figures for the advertised and non-advertised periods (see Table XVIII). Bakery products and lemonade indicated that shoppers were influenced by the ads. Twenty-eight purchased bakery products during the advertised period versus only 18 for the non-advertised. Frozen specials showed purchases were 15--2 respectively. The interest shown in lemonade might have increased sales for other frozen items if it were located in the main frozen food case.

Tea, crackers, wax, and polishes were purchased by fewer shopping units when they were advertised than when they were not advertised.

Few product groups were made up exclusively of the advertised item. Bread had a few brands and several varieties for the customer to select. The B&B technique was able to indicate marked differences between comparative periods in advertising effectiveness.

Monday, July 28, 1958

Ten pounds of sugar was advertised for 89 cents in the half page ad which appeared in the Lansing State Journal (see Figure 4). Four shopping units purchased during the period without advertising whereas only three purchased during the period of the advertising.

TABLE XVIII

NUMBER OF CUSTOMERS WHO PASSED AND PURCHASED ADVERTISED ITEMS IN KROGER STORE #G-224¹

No.	Designation	Advertised		Not Advertised	
		Passed	Purchased	Passed	Purchased
23	Tea ²	65	3	58	9
25	Coffee ²	65	19	58	17
42	Waxes and Polishes	37	5	41	7
59	Potato chips ² and pretzles	44	4	37	3
60	Crackers	42	12	37	15
61	Cookies	33	12	31	9
73	Nuts ²	34	2	32	2
74	Bread	46	21	45	14
81	Baby foods	35	8	36	8
85	Pastries	49	6	40	4
103	Baked beans ²	31	7	20	7
105	Frozen food specials	47	15	35	2

¹Based on 65 shopping units covering the period July 23-26 versus July 30-August 2, 1958.²End and special displays are not included in the figures.

SAVE TWICE!



Canister Set FREE for Top Value Stamps

FOR ONLY 11/8 BOOKS you can have this 6-pc. Lustr Ware Canister Set for your kitchen. It's molded of durable styrene plastic ... choice of three colors to suit your setting. Shakers included, too. And say, have you seen all the other wonderful Top Value gifts? More than 2,000 for you to choose from. Now at your nearby Top Value Redemption Store. And all free, too, for the Top Value Stamps you get when you shop at Kroger Stores and other leading merchants.

Visit your nearest Top Value Redemption Store

316 N. Washington Ave.
Lansing



Your choice of more than 2000 gifts

Save on Pioneer Pure Sugar

Sugar Special

89¢

10 lb. sack
with coupon
below at ...

Kroger

CLIP THE COUPON BELOW. Take it to any Kroger Store. Get a 10-lb. sack of Pioneer Pure Sugar for only 89¢. You'll like shopping at Kroger where you live better for less—and where you get Top Value Stamps for free gifts.



Kroger SPECIAL SUGAR COUPON

Pioneer Pure
Sugar

89¢

10 lb. sack
with this coupon

Redeemable at any Kroger Store. Good only through August 2, 1958.

East Lansing Kroger
555 E. Grand River

North Lansing Kroger
1721 N. Grand River Ave.

South Lansing Kroger
2501 E. Cedar St.

Frander Center Kroger
410 Frander

Although the ad broke the monotony of general listings there was no seasonal tie-in mentioned, i. e., sugar for the canning season coming up.

Wednesday, July 30, 1958

Table XIX shows the reactions for Thursday through Saturday of the second week versus the comparative period for the first week.

Shopping units were not greatly influenced by the Kroger advertising campaign.

The July 30th ad theme was changed from featuring perishables to emphasizing a grocery theme, "Dollar Sales" (see Figure 5). Since many of the items included in the ad were at the front end, these figures were analyzed into the shelf designations. Where specials appeared limited differences were noted.

Summary

This chapter was included to give the reader some notions of how the data might be used to appraise food advertising effectiveness. No attempt has been made to generalize or even make definite statements for the outlet under study. There were indications that the division should be aware of:

1. Advertised items which appeared on the shelves were not noticeably passed or purchased to an

TABLE XIX

NUMBER OF CUSTOMERS WHO PASSED AND PURCHASED ADVERTISED ITEMS IN KROGER STORE #G-224¹

No.	Designation	Advertised		Not Advertised	
		Passed	Purchased	Passed	Purchased
19	Condiments ²	54	17	48	11
28	Soaps	38	13	40	12
38	Gadget rack	38	4	39	7
87	Soft goods	32	0	46	2
92	Canned fish	33	4	39	5
99	Canned juices ²	17	5	31	13
102	Canned vegetables ²	22	1	32	10
106	Canned fruit ²	29	6	35	8
111	Frozen pies	31	8	37	9

¹Based on 65 shopping units covering the period July 20--August 2 versus July 23-26, 1958.²End and special displays are not included in the figures.



Pork Chops

From young, tender, corn-fed porkers.

End Cut . . . 49¢
Center Cut . . . 79¢

Bacon 2 Lb. Pkg. **\$1.49**

Country Mail Sliced Bacon . . . lb. 69¢
Porkchop Ring Bologna . . . lb. 59¢
Turkeys . . . lb. 49¢
Porkchop Lunch Meat . . . lb. 59¢

dollar deals from.... DEL MONTE

Catsup 6 14 oz. brk. \$1
Del Monte brand made with nippy Pineapple Distilled Vinegars.

Fruit Cocktail 4 303 cans \$1
Del Monte five-in-one blend with harmony and tasty character.

Golden Corn..6 303 cans \$1
Del Monte—sweet and tender. Choose cream-style or whole kernel.

Peaches 5 303 cans \$1	Tomatoes 5 303 cans \$1
<small>Del Monte dessert treat — yellow clingstones in halves or slices.</small>	<small>Served by Del Monte. Check over abundant in flavor dishes.</small>
Green Beans 5 303 cans \$1	Fruit Drink 3 46 oz. cans \$1
<small>Blue Label cut in the Del Monte tradition. One-of-a-kind goodness.</small>	<small>Delicious Del Monte for breakfast—Blended Orange and Apple.</small>

prices are tumbling

go Krogering

(THE HAPPY WAY TO SHOP)

and see what
A DOLLAR WILL DO!



VALID COUPON

50 FREE EXTRA TV STAMPS

With a \$5 or More Purchase (Excluding Beer, Wine or Cigarettes) at Kroger. Coupon Expires Sat., August 2, 1958.

Cantaloupe 27 Size I **29¢**

Seedless Grapes . . . 25¢

Potatoes
15 Lb. Bag **49¢**

Plan Heavy Savings for your picnic table and dinner dishes.
We Reserve the Right to Limit Quantities

Ice Cream . . . 2 1 1/2 Gall. \$1
Choose Country Club Vanilla, Chocolate, strawberry, neapolitan

Sweet Peas . . . 9 303 cans \$1
Arundale's pride of the vine. Perfect size for perfect taste.

Applesauce . . 7 303 cans \$1
Kroger blend of selected apples spiced and cooked to perfection.

Grapefruit . . . 6 303 cans \$1
Cut in sections by Kroger to go with mounds of cottage cheese.

Pot Pies 5 11 oz. pies \$1
A prize Banquet of flavor for those quick-on-the-run dinners.

Pineapple 5 303 cans \$1	Tuna 5 cans \$1
<small>Rosby's plantation-bred treat. Taps on Country Club ice cream!</small>	<small>Norfolk has the delicate flavor of the French caught fish.</small>

FRENCH DRESSING 2 37c

FEEN-A-MINT 2 35c

HAWAIIAN PUNCH 2 39c

FELS NAPTHA BAR 2 21c

INSTANT FELS 2 79c

BEADS O' BLEACH 2 39c

EAST LANSING KROGER
525 E. Grand River

LIQUID TREND 2 53c

SWEETHEART SOAP 2 23c

RINSO BLUE DETERGENT 2 33c

SWEETHEART SOAP 2 33c

NORTH LANSING KROGER
1721 N. Grand River

BLUE WHITE FLAKES 2 27c

DEVILED HAM 2 21c

BLUE BONNET MARGARINE 2 59c

SWIFTNINING 2 37c

SOUTH LANSING KROGER
2501 S. Cedar St

GOLF BALLS 2 \$1.00

KRYKO MARGARINE 2 29c

CUCUMBER WATERS 2 39c

HILHO CRACKERS 2 37c

DUTCH CLEANER 2 27c

PURPACEL TALK 2 39c

FRANDOR CENTER KROGER
410 Treador

Figure 5. Kroger Ad--July 30, 1958

increased extent versus a comparative non-advertised period.

2. There were no seasonal merchandising tie-ins between departments for the two week period.
3. Few "shelf-talkers" were used in the store to indicate featured items stocked on the shelves.

CHAPTER VI

SUMMARY AND CONCLUSIONS

Summary

The purpose of this study was to present a research technique which could be used to investigate the shopping patterns and reactions of shoppers in retail food stores. The outlet chosen for study was Kroger Store #G-224, in Lansing, Michigan, and was selected because of the highly competitive nature of the area. In addition to a large Wrigley supermarket within the Frandor Shopping Center, The Great Atlantic and Pacific Tea Company, Market Basket, Schmidt's, various independents, and other Kroger units, operate in direct competition with the outlet studied. The material for the project was the result of personal observations of two hundred shoppers over a two week period. Although few generalizations on the results of this study can be made, as every store presents different problems, it indicated the results which can be obtained in other outlets by using the same technique.

Some of the advantages to be realized are:

1. Written records are formed which illustrate the exact pattern which the customer traveled during the shopping tour.

2. Management may acquire a more realistic picture of shopping habits in an individual store. A more realistic basis is thereby obtained for elimination of the undesirable conditions and the possible incorporation of desirable conditions in other stores.

3. The effects of advertising may be more readily discernable. For example, when a certain advertised item fails to move in the amount anticipated, perhaps the item was displayed so as not to be readily seen or properly stocked.

4. Customer flow studies also give a good indication of checklane operations, the usage of customer services, and other important happenings in the store.

Although the customer flow studies performed by the B&B method are somewhat greater in detail than various other studies conducted in the past, it is realized that even greater detail is possible with the utilization of IBM equipment.

This study seems to reinforce many of the feelings of store personnel which gives indication the store group is alert to various disadvantageous conditions and changes should be favorably accepted by personnel and customers alike.

Findings

1. Due to the physical layout, all shopping units passed the front end designations. On the average

only 10 per cent purchased from the four product or product groups.

2. Most shoppers did not pass the jelly and preserve designation, but continued shopping straight ahead into the Produce department. In order to shop the complete glass section the customer had to double back on her tour.

3. Beverages, where located across from the Dairy department, was passed by over 85 per cent of the total shopping units. Only one customer purchased wine from the shelf stock.

4. Household and laundry supplies were passed by about half of the total shopping units.

5. Cereal was purchased by more shopping units than any other product designation in the grocery department during the study.

6. Items that showed low passes and handles were many times in the middle of seasonal slumps. For example, canned fruit and juice sales.

7. Sales of frozen food specials stocked in a separate case did not appreciably effect higher over-all frozen food sales or number of passes.

8. Figures indicated low percentages of purchases for almost every end display despite a high average per cent of passes.

9. The average dollar sale per customer observed for the two week period was \$9.62.

10. Fifty-seven per cent of the shopping units were comprised of at least one man and/or one child.

11. Twenty-four per cent of the average 21 minute shopping tour was taken up by standing in the checklanes.

12. Three-fourths of the customers did not use "lists" while shopping.

Recommendations

Chapter IV includes a number of recommendations and suggestions. Some of the most important of these are:

1. Remove large window signs except for special promotions or announcements.
2. Use dump displays in the front end and keep them filled with merchandise in place of the cut case displays.
3. Remodel the Produce department to increase department sales and reflect increased profits for the glass section.
4. Install a bakery oven for fresh and frozen pastry products.
5. Install a new ice cream case and move to a more central location.
6. Employ the proper "timing" in checklane operation, in opening additional lanes or adding bag boys.
7. Direct more merchandising effort toward "man and child appeals."

8. Display and promote impulse merchandise to its fullest extent.
9. Strive to build end and special displays which represent a seasonal tie-in and/or "buy appeal."
10. Make an over-all check of the grocery department to insure that all saleable authorized items are being stocked.

Conclusion

Supermarket operators endeavor to lay out their markets in such a way as to get the customers to pass as many displays as possible. Of course, the simplest way to effect this would probably be to erect one long corridor through which every customer would have to go in order to come out at the end. In that way, it would be possible to get the maximum exposure desired. Unfortunately, the properties on which supermarkets locate are not adaptable to such a plan. Therefore, the operator must use every imaginable device to get the biggest average sale possible from each customer.¹

Merchandise layout should be considered an important phase of operations in a supermarket. The customer desires an interesting, pleasant, and rewarding tour on which she finds all the items to fill her family's needs. Operators

¹Zimmerman, op. cit., p. 183.

must decide which items shall be most readily seen by the customer and how she can be persuaded to shop every section of the market. There is a tendency for shoppers to move to the right and/or the periphery of the store. It is for this reason that some operators design layouts and displays for the right side of the market to which customers gravitate as they enter. One of the reasons why it is so important to get exposure of all items to all customers is that two-thirds of the items that the average shopper takes out of the market are bought "on impulse." Unseen, therefore, unsold.² Where the desires of the customer and the hopes of the operator intersect in theoretical merchandise layout, the optimum point has been reached. Consumer flow pattern analysis is an approach in solving this vexing problem. The B&B method is not purported as an answer to all merchandising and layout problems, but as another technique for gathering internal data for intelligent decision-making.

²Ibid.

BIBLIOGRAPHY

BIBLIOGRAPHY

Books

- Brembeck, Winston L. and William S. Howell. Persuasion. New York: Prentice-Hall Inc., 1955.
- Grant, Eugene L. Statistical Quality Control. New York: McGraw-Hill Book Company, Inc., 1952.
- Juran, J. M. Quality Control Handbook. New York: McGraw-Hill Book Company, Inc., 1951.
- Spur, William, Lester Kellogg, and John Smith. Business and Economic Statistics. Homewood, Illinois: Richard D. Irwin, Inc., 1954.
- Zimmerman, M. M. The Super Market. New York: McGraw-Hill Book Company, Inc., 1955.

Periodicals

- Haskell, Clifford. "Follow That Woman," Progressive Grocer, Vol. 37, No. 7 (July, 1958), 84.
- "1958 Display Manual," Chain Store Age, Vol. 34, No. 2, (February, 1958), 56.
- "Ways Chains Build Sales per Linear Foot," Chain Store Age, Vol. 34, No. 4 (April, 1958), 130-131.

Studies

- Foodtown Study. Reprint from Progressive Grocer, January, 1955.
- Super Valu Study. Reprint from Progressive Grocer, January, 1958.

Newspapers

- The State Journal, Lansing, Michigan. July 21, 1958.
- The State Journal, Lansing, Michigan. July 23, 1958.

The State Journal, Lansing, Michigan. July 28, 1958.

The State Journal, Lansing, Michigan. July 30, 1958.

Unpublished Material

Baechle, Herman F. "An Empirical Case Study of Customer Flow Patterns As An Approach in Determining Optimum Perishable Merchandise Layout." Unpublished Master's thesis, Food Distribution Curriculum, Department of Marketing and Transportation Administration, Michigan State University, East Lansing, Michigan, 1958.

Frاندor Shopping Center Brochure. Lansing, Michigan, 1956.

"Fixture Plan." The Kroger Co. Store #G-224, Frاندor Shopping Center, Lansing, Michigan, June 22, 1954, Sheet #1.

Personal Interviews

Brown, Earl. Agricultural Extension Department, Michigan State University, East Lansing, Michigan, June and July, 1958.

Brewer, Lysle. Assistant Manager, Kroger Co. Store #G-224, Frاندor Shopping Center, Lansing, Michigan, July and August, 1958.

Ferguson, H. Arville. Grocery Merchandiser, Grand Rapids Division, The Kroger Co., July, 1958 [by telephone].

Hughes, Patrick. Head Meat Cutter, Kroger Co. Store #G-224, Frاندor Shopping Center, Lansing, Michigan, July and August, 1958.

Latson, Al. Head Produce Clerk, Kroger Co. Store #G-224, Frاندor Shopping Center, Lansing, Michigan, July and August, 1958.

Otto, Norman. Store Manager, Kroger Co. Store #G-224, Frاندor Shopping Center, Lansing, Michigan, July and August, 1958.

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(Exhibit E, 1 and 2 are filed in the pocket in back of thesis.)	

DAY
TIME IN
TIME OUT
SMOKE (S)
M F D
LISTENING
AMOUNT
X = PURCHASE
O = HANDLED
--- = SMOKE
--- = SMOKE
AND BASED
W = WAITING
E = EMPLOYEE
OFFICE
TIME SPENT
CHECKING OUT

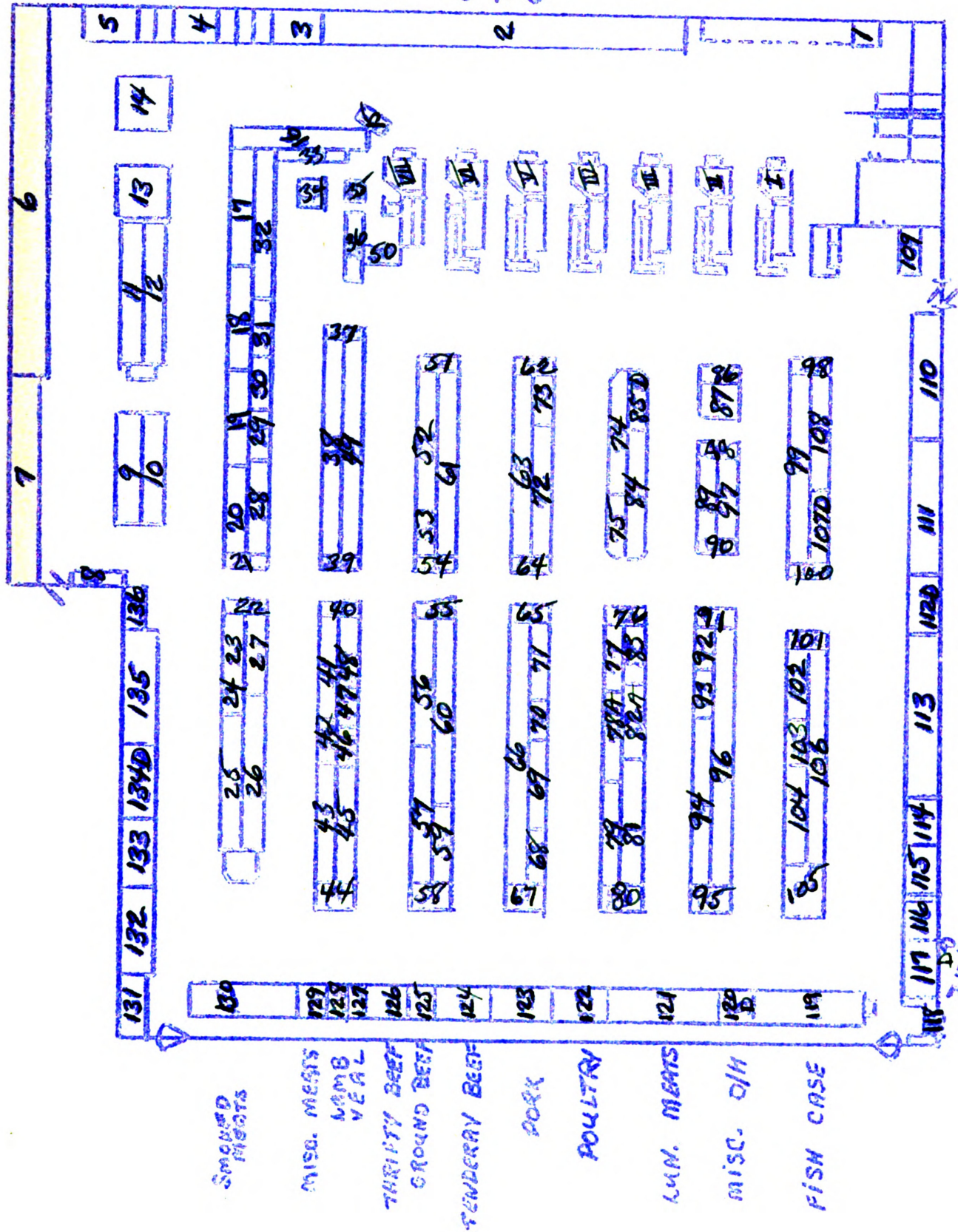


Exhibit A

EXHIBIT B

AREA BREAKDOWN FOR TEST KROGER STORE
#G-224, EAST LANSING, MICHIGAN

1. Coke machine
2. Front displays
3. Bulb food and lawn seed
4. Watermelon
- 4-1/2 Strawberries
5. Cantaloupe
6. Green vegetables
 - Celery
 - Radishes
 - Cucumbers
 - Peppers
 - Carrots
 - Tomatoes
 - Corn
 - Lettuce
 - Green Beans
 - Miscellaneous
 - Cabbage
7. Potatoes
8. Plant sundry rack
9. Fresh fruits
10. Fresh fruits
11. Fresh citrus and onions
12. Fresh citrus and onions
13. Special produce table--plants
14. Bananas
15. Bakery specials
16. Picnic supplies
17. Jellies and preserves
18. Pickles and olives
19. Condiments
20. Dressings and oils
- 21.* ED--Pickles and catsup
- 22.* ED--Tea and chocolate
23. Tea
24. Chocolate
25. Coffee
- 25-1/2* SD--Hawaiian punch
26. Soap powders
27. Cleansers
28. Soaps
29. Picnic supplies
30. Foil and waxed paper

[*SD--Special Display
**ED--End Display]

EXHIBIT B (Continued)

31. Towels
32. Toilet tissues
33. Magazines
34. Soft goods
35. Stationery
36. Comic books
- 37.**ED-Stocking rack
38. Gadget rack
- 39.**ED--Toy rack
- 40.**ED--Insecticides and dial soap
41. Household items
42. Waxes and polishes
43. Bleaches
44. IT-5--canned hams
45. Dried fruits
46. Rice
47. Dried beans
48. Spaghetti and macaroni
49. Health and beauty aids
- 50.* SD--Pet supply rack
- 51.**ED--Dog food
52. Pet foods
53. Wine
- 54.**ED--Wine
- 55.**ED--Wine
56. Beer
57. Beverages
58. IT-5 Bacon
59. Potato chips and pretzles
60. Crackers
61. Cookies
- 62.**ED--Carton cigarettes
63. Candy
- 64.**ED--Candy
- 65.**ED--Nuts
66. Cereals
- 67.**ED--Beer
68. Baking needs
69. Sugar
70. Salt
71. Spices
72. Candy
73. Nuts
74. Bread
75. Rolls
- 76.**ED--Coffee and marshmallows
77. Pancake and pie mixes
78. Flour
79. Cake mixes

EXHIBIT B (Continued)

- 80.**ED--Basket values 10 ¢
- 81. Baby foods
- 82A. Milk products
- 83. Syrups
- 84. Bread
- 85. Pastries
- 86.**Ed--Carton cigarettes—
- 87. Soft goods
- 88.**ED--Tobaccos
- 89. Desserts
- 90.**ED--Pork and beans
- 91.**ED--Tuna fish
- 92. Canned fish
- 93. Canned meat
- 94. Canned soups
- 95.**ED--Potato chips
- 96. Canned vegetables
- 97. Dietetics
- 98.**ED--Light bulbs
- 99. Canned juices
- 100.**ED--TV frozen dinners
- 101.**ED--Peanut butter
- 102. Canned vegetables
- 103. Baked beans
- 104. Prepared foods
- 105. Frozen food specials
- 106. Canned fruit
- 107. Toppings and party foods
- 108. Ice cream
- 109. Records
- 110. Frozen juices
- 111. Frozen pies
- 112D. Kool Aid
- 113. Frozen vegetables
- 114. Frozen specialties
- 115. Frozen fruits
- 116. Turkeys, ducks, cacklebirds
- 117. Frozen meats
- 118.* SD--Canning supplies
- 119. Fish case
- 120. Canned miscellaneous meat, sauerkraut, and lard
- 121. Luncheon meats
- 122. Poultry
- 123. Pork
- 124. Tenderay Beef
- 125. Ground Beef
- 126. Thrifty Beef
- 127. Veal
- 128. Lamb

EXHIBIT B (Continued)

- 129. Miscellaneous meats
- 129A. Bologna special
- 129B. Thick cut steaks and chops
- 130. Smoked meats
- 130-1/2 Oscar Mayer display
- 131.* SD--Beer
- 132. Milk
- 132-1/2 Butter
- 133. Eggs
- 133-1/2 Cottage cheese
- 134. Dairy specialties
- 135. Margarine
- 136. Cheese rack

EXHIBIT C--Section 1

FLOW STUDY TABULATION, WEEK OF JULY 21, 1958

Item No.	Mon.--Tues.--Wed.				Thurs.--Fri.--Sat.				1st Week Total			
	Not Pass	Pass	Handled	Purchased	Not Pass	Pass	Handled	Purchased	Not Pass	Pass	Handled	Purchased
1	0	35	0	0	0	65	0	0	0	100	0	0
2	0	35	0	6	0	65	0	17	0	100	0	23
3	0	35	0	0	0	65	0	7	0	100	0	7
4	0	35	1	4	0	65	2	8	0	100	3	12
4-1/2	8	27	2	2	8	57	0	6	16	84	2	8
5	1	34	1	5	6	59	0	9	7	93	1	14
6-Cel.	6	29	0	2	9	56	0	4	15	85	0	6
Rad.	4	31	0	13	9	56	2	19	13	87	2	32
Cuc.	5	30	0	5	9	56	0	9	14	86	0	14
Pep.	5	30	0	5	9	56	0	10	14	86	0	15
Car.	6	29	0	0	8	57	0	6	14	86	0	6
Tom.	5	30	0	6	9	56	0	12	14	86	0	18
Corn.	6	29	0	3	8	57	1	11	14	86	1	14
Let.	5	30	0	9	8	57	0	20	13	87	0	29
G.B.	6	29	0	0	7	58	0	2	13	87	0	2
Misc.	6	29	2	5	8	57	2	6	14	86	4	11
Cab.	6	29	0	1	8	57	0	9	14	86	0	10
7	14	21	0	5	20	45	0	11	34	66	0	16
8	15	20	1	0	30	35	0	0	45	55	1	0
9	6	29	1	5	7	58	5	2	13	87	6	6
10	7	28	1	3	13	52	2	11	20	80	3	14
11	12	23	1	5	6	59	2	11	18	82	3	16
12	6	29	0	3	34	31	0	4	40	60	0	7
13	1	34	1	0	0	65	3	7	1	99	4	7
14	1	34	2	7	0	65	4	15	1	99	6	22
15	2	33	1	3	0	65	4	2	2	98	5	5
16	2	33	2	4	2	63	0	9	4	96	2	13
17	21	14	0	7	43	22	0	7	64	36	0	13
18	17	18	0	5	42	23	0	7	59	41	0	12
19	11	24	1	1	17	48	1	11	28	72	2	12
20	8	27	0	5	15	50	1	14	23	77	1	19
21	0	35	0	0	1	64	0	1	1	99	0	1
22	0	35	0	0	0	65	1	4	0	100	1	4
23	7	28	0	3	0	65	0	3	7	93	0	6
24	7	28	0	0	0	65	0	3	7	93	0	3
25	7	28	0	3	0	65	1	19	7	93	1	22
25-1/2	7	28	0	1	0	65	3	12	7	93	3	13

EXHIBIT C--Section 1 (Continued)

Item No.	Mon.--Tues.--Wed.				Thurs.--Fri.--Sat.				1st Week Total			
	Not Pass	Pass	Handled	Purchased	Not Pass	Pass	Handled	Purchased	Not Pass	Pass	Handled	Purchased
26	21	14	0	5	22	43	0	12	43	57	0	17
27	25	10	1	2	24	41	0	10	49	51	1	12
28	20	15	0	3	25	40	1	12	45	55	0	8
29	25	15	0	2	29	36	0	6	49	51	0	8
30	20	15	0	0	29	36	1	8	49	51	1	8
31	19	16	0	3	29	36	0	4	48	52	0	7
32	24	11	1	4	28	37	0	17	52	48	1	21
33	26	9	3	1	53	12	1	4	79	21	4	5
34	22	13	2	0	30	35	2	1	52	48	4	1
35	28	7	0	0	57	8	0	0	85	15	0	0
36	18	17	3	1	28	37	0	1	46	54	3	2
37	17	18	0	1	27	38	0	1	44	56	0	2
38	20	15	6	1	26	39	6	7	46	54	12	8
39	13	22	1	0	16	49	2	0	29	71	3	0
40	13	22	0	0	17	48	1	2	30	70	1	2
41	24	11	0	0	25	40	1	6	49	51	1	6
42	24	11	0	2	28	37	1	5	52	48	1	7
43	24	11	0	3	28	37	0	7	52	48	0	10
44	9	26	1	0	3	62	2	0	7	93	3	0
45	20	15	1	0	29	36	1	5	49	51	2	5
46	21	14	0	2	31	34	0	1	52	48	0	3
47	21	14	0	1	31	34	0	4	52	48	0	5
48	20	15	0	4	32	32	0	10	52	48	0	14
49	21	14	1	5	27	38	3	7	48	52	4	12
50	17	18	1	1	22	43	2	0	39	61	3	0
51	15	20	0	1	19	46	0	2	34	66	0	3
52	22	13	0	2	27	38	1	4	49	51	1	6
53	22	13	0	1	30	35	1	0	52	48	1	1
54	10	25	0	0	15	50	1	0	25	75	1	0
55	9	26	0	0	14	51	1	0	23	77	1	0
56	20	15	0	6	33	32	1	2	53	47	1	8
57	18	18	1	5	31	34	2	8	49	51	3	13
58	18	27	2	4	1	64	3	6	9	91	5	10
59	18	17	0	2	21	44	1	4	39	61	1	6
60	20	15	1	3	23	42	0	12	43	57	1	15
61	18	17	3	4	32	33	1	12	50	50	4	16
62	13	22	0	0	18	47	0	3	31	69	0	3
63	19	16	0	1	32	33	1	7	51	49	1	8
64	10	25	0	0	9	56	0	0	19	81	0	0

EXHIBIT C--Section 1 (Continued)

Item No.	Mon.--Tues.--Wed.				Thurs.--Fri.--Sat.				1st Week Total			
	Not Pass	Pass	Handled	Purchased	Not Pass	Pass	Handled	Purchased	Not Pass	Pass	Handled	Purchased
65	9	26	0	2	9	56	1	5	18	82	1	7
66	17	18	0	11	21	44	0	23	38	62	0	34
67	9	26	0	0	2	63	0	0	11	89	0	0
68	24	11	0	1	26	39	0	4	50	50	0	5
69	24	11	0	4	26	39	2	6	50	50	2	10
70	24	11	0	2	26	39	0	3	50	50	0	5
71	22	13	0	3	24	41	0	9	46	54	0	12
72	25	10	0	1	27	38	0	5	52	48	0	6
73	24	11	0	0	31	34	0	2	55	45	0	2
74	16	19	0	6	19	46	3	21	35	65	3	27
75	17	18	0	2	13	52	4	14	30	70	4	16
76	11	24	1	0	9	56	0	1	20	80	1	1
77	21	14	2	0	24	41	1	2	45	55	3	2
78	23	12	0	2	24	41	1	5	47	53	1	7
79	22	13	1	0	25	40	2	4	47	53	3	4
80	11	14	0	3	4	61	1	3	15	85	1	6
81	19	16	0	2	30	35	1	8	49	51	1	10
82	20	35	0	1	26	39	1	5	46	54	1	6
83	18	17	0	0	27	38	0	2	45	55	0	2
84	14	21	1	2	18	47	2	19	32	68	3	21
85	13	22	2	2	16	49	1	6	29	71	3	8
86	10	25	0	1	10	55	0	5	20	80	0	6
87	15	20	2	0	19	46	2	2	34	66	4	2
88	16	19	0	0	21	44	0	0	37	63	0	0
89	15	20	1	2	25	40	0	5	40	60	1	7
90	10	25	0	0	12	53	0	0	22	78	0	0
91	9	26	1	1	9	56	0	3	18	82	1	4
92	18	17	1	1	26	39	0	5	44	56	1	6
93	20	15	1	1	28	37	1	10	48	52	2	11
94	19	16	0	8	28	37	1	10	47	53	1	18
95	12	23	1	1	8	57	0	6	20	80	1	7
96	23	12	1	5	33	32	1	12	56	44	2	17
97	28	7	0	0	36	29	0	1	64	36	0	1
98	20	15	1	1	16	49	1	1	36	64	2	2
99	27	8	0	2	34	31	1	13	61	39	1	15
100	18	17	0	0	12	53	0	2	30	70	0	2
101	19	16	0	0	15	50	0	0	34	66	0	0
102	23	12	0	4	33	32	1	10	56	44	1	14
103	23	12	1	2	34	31	0	7	57	43	1	9
104	23	12	0	1	33	32	0	4	56	44	0	5

EXHIBIT C--Section 1 (Continued)

Item No.	Mon.--Tues.--Wed.				Thurs.--Fri.--Sat.				1st Week Total			
	Not Pass	Pass	Handled	Purchased	Not Pass	Pass	Handled	Purchased	Not Pass	Pass	Handled	Purchased
105	17	18	1	1	18	47	0	15	35	65	1	16
106	22	13	0	1	30	35	0	8	52	48	0	9
107	24	11	0	1	30	35	0	5	54	46	0	6
108	24	11	1	4	31	34	0	13	55	45	1	17
109	33	2	0	1	50	15	1	0	83	17	1	1
110	23	12	0	6	29	36	1	14	52	48	1	20
111	23	12	0	2	28	37	0	9	51	49	0	11
112	21	14	0	2	26	39	0	5	47	53	0	7
113	21	14	0	3	27	38	0	7	48	52	0	10
114	23	12	1	2	31	34	1	1	54	46	2	3
115	24	11	1	1	32	33	0	1	56	44	1	2
116	23	12	0	0	32	33	1	0	55	45	1	0
117	24	11	1	0	34	31	1	0	58	42	2	0
118	27	8	0	1	41	24	0	2	68	32	0	3
119	20	15	4	2	29	36	2	0	49	51	6	2
120	20	15	0	0	29	36	1	0	49	51	1	0
121	10	25	2	11	8	57	11	24	18	82	13	35
122	11	24	1	1	4	61	9	10	15	85	10	11
123	12	23	0	5	3	62	1	6	15	85	1	11
124	13	22	1	1	3	62	4	5	16	84	5	6
125	13	22	1	8	2	63	1	24	15	85	2	32
126	9	26	3	6	3	62	5	14	11	89	8	20
127	11	24	1	0	8	57	1	1	19	81	2	1
128	11	24	1	1	13	52	3	1	24	76	4	2
129	10	25	2	4	9	56	2	7	19	81	4	11
129A	10	25	1	1	10	55	0	1	20	80	1	2
129B	-	-	-	-	-	-	-	-	-	-	-	-
130	9	26	0	4	5	60	6	6	14	86	6	10
130-1/2	-	-	-	-	-	-	-	-	-	-	-	-
131	16	18	0	0	19	46	1	0	35	65	1	0
132	10	25	1	11	1	64	0	23	11	89	1	34
133	8	27	0	13	1	64	1	39	9	91	1	52
134	7	28	1	7	0	65	1	17	6	94	2	24
135	8	27	0	6	0	65	1	11	7	93	1	17
136	3	32	0	4	0	65	0	7	3	97	0	11
Eggs				9				22				31
Milk				9				15				24
Butt.				3				20				23
Cot.Ch.				12				16				16

EXHIBIT C--Section 1 (Continued)

Checkstands	Mon.--Tues.--Wed.				Thurs.--Fri.--Sat.				1st Week Total			
	Not Pass	Pass	Handled	Purchased	Not Pass	Pass	Handled	Purchased	Not Pass	Pass	Handled	Purchased
I	29	6	1	1	55	10	1	1	84	16	2	2
II	24	11	0	2	55	10	0	1	78	22	0	3
III	34	1	1	1	48	17	0	0	80	20	1	1
IV	27	8	1	0	61	4	1	1	87	13	2	1
V	32	3	1	1	58	7	0	2	90	10	1	3
VI	30	5	1	1	56	9	0	0	87	13	1	1
VII	34	1	0	0	60	5	0	0	94	6	0	0

EXHIBIT C--Section 2

FLOW STUDY TABULATION, WEEK OF JULY 28, 1958

Mon.--Tues.--Wed.					Thurs.--Fri.--Sat.				2nd Week Total			
Item No.	Not Pass	Pass	Handled	Purchased	Not Pass	Pass	Handled	Purchased	Not Pass	Pass	Handled	Purchased
1	0	35	0	0	0	65	0	0	0	100	0	0
2	0	35	1	6	0	65	0	18	0	100	1	24
3	0	35	0	1	0	65	0	4	0	100	0	5
4	0	35	0	4	0	65	0	8	0	100	0	12
4-1/2	-	-	-	-	-	-	-	-	-	-	-	-
5	0	35	1	7	16	49	3	11	17	83	4	18
6-Cel.	6	29	0	4	16	49	0	9	22	78	0	13
Rad.	6	29	0	3	17	48	1	8	23	77	1	11
Cuc.	6	29	0	3	18	47	0	3	24	76	0	6
Pep.	6	29	0	0	17	48	1	1	23	77	1	1
Car.	6	29	0	2	16	49	0	4	22	78	0	6
Tom.	6	29	1	4	18	47	0	3	24	76	1	7
Corn.	6	29	2	1	18	47	1	4	24	76	3	5
Let.	6	29	1	10	16	49	2	18	22	78	3	28
G.B.	6	29	0	2	16	49	0	1	22	78	0	3
Misc.	6	29	1	4	16	49	2	4	22	78	3	8
Cab.	6	29	0	5	16	49	0	3	22	78	0	8
7	12	23	0	2	23	42	0	14	35	65	0	16
8	18	17	0	0	34	31	0	0	52	48	0	0
9	7	28	1	5	14	51	1	8	21	79	2	13
10	11	24	2	6	11	54	1	7	22	78	3	13
11	7	28	0	3	17	48	0	8	24	76	0	11
12	17	18	0	4	34	31	0	5	51	49	0	9
13	1	34	1	1	2	63	1	5	3	97	2	6
14	1	34	1	7	2	63	0	17	3	17	2	24
15	1	34	0	3	2	63	0	1	3	97	0	4
16	2	33	2	5	2	63	0	7	4	96	2	12
17	23	12	1	4	36	29	0	13	59	41	4	17
18	21	14	0	2	32	33	0	8	53	47	0	10
19	11	24	0	3	11	54	0	17	22	78	0	20
20	9	26	0	4	12	53	0	12	21	79	0	16
21	1	34	0	0	0	65	0	0	1	99	0	0
22	2	33	0	1	0	65	0	0	2	98	0	1
23	4	31	0	0	7	58	0	9	11	89	0	9
24	3	32	0	1	11	54	0	3	14	86	0	4
25	3	32	0	6	7	58	0	17	10	90	9	23
25-1/2	17	18	0	0	-	-	-	-	17	18	0	0

EXHIBIT C--Section 2 (Continued)

Item No.	Mon.--Tues.--Wed.				Thurs.--Fri.--Sat.				2nd Week Total			
	Not Pass	Pass	Handled	Purchased	Not Pass	Pass	Handled	Purchased	Not Pass	Pass	Handled	Purchased
26	24	11	0	5	20	45	0	14	44	56	0	19
27	26	9	0	4	23	42	0	13	49	51	0	17
28	27	8	0	3	27	38	0	13	54	46	0	16
29	26	9	0	2	28	37	0	6	54	46	0	8
30	26	9	0	2	29	36	1	5	55	45	1	7
31	26	9	0	1	30	35	1	5	56	44	1	6
32	27	8	0	2	33	32	0	18	60	40	0	20
33	31	4	0	1	50	15	0	6	81	19	0	7
34	26	9	1	0	29	36	2	1	55	45	3	1
35	30	5	0	2	53	12	0	0	83	17	0	2
36	25	10	0	1	27	38	0	0	52	48	0	1
37	24	11	0	0	27	38	0	1	51	49	0	1
38	26	9	4	1	27	38	1	4	53	47	5	5
39	12	23	1	1	6	59	0	1	18	82	1	2
40	13	22	0	0	5	60	0	4	18	82	0	4
41	26	9	0	1	21	44	1	5	47	53	1	6
42	26	9	0	1	24	41	0	7	50	50	0	8
43	25	10	0	4	23	42	0	12	48	52	0	16
44	3	32	3	0	4	61	1	0	7	93	4	0
45	20	15	0	2	25	40	0	3	45	55	0	5
46	20	15	0	1	23	42	0	5	43 ^c	57	0	6
47	20	15	0	2	23	42	0	7	43	57	0	9
48	20	15	0	1	22	43	0	9	42	58	0	9
49	19	16	0	3	27	38	1	13	46	54	1	16
50	17	18	0	0	22	43	0	1	39	61	0	1
51	14	21	0	0	21	44	0	2	35	65	0	2
52	18	17	0	3	30	35	0	6	48	52	0	9
53	18	17	0	0	31	34	0	0	49	51	0	0
54	10	25	1	0	5	60	0	2	15	85	1	2
55	6	29	0	0	4	61	0	0	20	81	0	0
56	21	14	0	3	26	39	0	10	47	53	0	13
57	21	14	1	4	26	39	1	10	47	53	2	14
58	3	32	1	10	9	56	3	7	12	88	4	17
59	18	17	0	2	28	37	1	3	46	54	1	5
60	15	20	0	5	28	37	0	15	43	57	0	20
61	20	15	0	7	34	31	0	9	54	46	0	16
62	10	25	0	2	17	48	0	6	27	73	0	8
63	20	15	0	2	35	30	2	6	55	45	2	8
64	10	25	0	0	10	55	0	0	20	80	0	0

EXHIBIT C--Section 2 (Continued)

Mon.--Tues.--Wed.					Thurs.--Fri.--Sat.				2nd Week Total			
Item No.	Not Pass	Pass	Handled	Purchased	Not Pass	Pass	Handled	Purchased	Not Pass	Pass	Handled	Purchased
65	8	27	0	0	11	54	0	2	19	81	0	2
66	15	20	2	11	25	40	1	22	40	60	3	33
67	14	31	0	0	7	58	0	1	11	89	0	1
68	17	18	0	2	31	34	1	3	48	52	1	5
69	17	18	0	3	31	34	0	10	48	52	0	13
70	16	19	0	4	28	37	1	8	44	56	1	12
71	16	19	0	2	27	38	3	5	43	57	3	7
72	21	14	0	4	25	40	0	3	46	54	0	7
73	23	12	0	1	33	32	0	2	56	44	0	3
74	9	26	0	7	20	45	2	14	29	71	2	21
75	11	24	1	6	11	54	0	12	22	78	1	18
76	9	26	0	0	8	57	0	0	17	83	0	0
77	18	17	0	1	26	39	0	1	44	56	0	2
78	17	18	0	3	28	37	2	9	45	55	2	12
79	18	17	0	1	31	34	0	6	49	51	0	7
80	5	30	0	1	11	54	0	5	16	84	0	6
81	17	18	1	3	29	36	0	8	46	54	1	11
82	18	17	0	1	30	35	0	3	48	52	0	4
83	17	18	0	1	30	35	1	3	47	53	1	4
84	14	21	1	6	23	42	1	9	37	63	2	15
85	16	19	1	1	25	40	0	4	41	59	1	5
86	7	28	0	5	14	51	0	6	21	79	0	11
87	19	16	0	0	33	32	1	0	52	48	1	0
88	18	17	0	0	33	32	0	1	51	49	0	1
89	23	12	0	2	32	33	0	5	55	45	0	7
90	10	25	0	0	16	49	0	0	26	74	0	0
91	9	26	0	1	17	48	0	8	26	74	0	9
92	18	17	0	4	32	33	0	4	50	50	0	8
93	18	17	1	1	31	34	0	10	49	51	1	11
94	18	17	0	7	30	35	0	10	48	52	0	17
95	8	27	0	0	18	47	0	7	26	74	0	7
96	15	20	0	9	41	24	0	10	56	44	0	19
97	23	12	0	1	50	15	0	0	73	27	0	1
98	6	29	0	0	28	37	0	1	34	66	0	1
99	21	14	0	4	48	17	0	5	69	31	0	9
100	6	29	0	0	24	41	0	2	30	70	0	2
101	6	29	1	0	24	41	0	2	30	70	1	2
102	17	18	0	1	43	22	0	1	60	40	0	2
103	17	18	0	5	45	20	0	7	62	38	0	12
104	18	17	1	3	43	22	0	4	61	39	1	7

EXHIBIT C--Section 2 (Continued)

Item No.	Mon.--Tues.--Wed.				Thurs.--Fri.--Sat.				2nd Week Total			
	Not Pass	Pass	Handled	Purchased	Not Pass	Pass	Handled	Purchased	Not Pass	Pass	Handled	Purchased
105	11	14	1	0	30	35	2	2	41	59	3	2
106	15	20	0	4	36	29	0	6	51	49	0	10
107	16	19	0	0	34	31	0	1	50	50	0	1
108	16	19	0	6	26	29	0	15	52	48	0	21
109	21	14	1	0	41	24	0	0	62	38	1	0
110	12	23	1	7	34	31	0	6	46	54	1	13
111	13	22	0	1	34	31	1	8	47	53	1	9
112	8	27	0	1	20	35	1	4	38	62	1	5
113	13	22	1	2	20	35	0	4	43	57	1	6
114	12	22	1	1	36	29	0	1	49	51	1	2
115	14	21	0	0	37	28	0	0	51	49	0	0
116	14	21	0	0	38	27	0	0	52	48	0	0
117	14	21	0	2	39	26	1	1	53	47	1	3
118	26	9	0	0	48	17	0	0	74	26	0	0
119	14	21	5	0	35	30	0	1	49	51	5	1
120	14	21	2	0	35	30	1	0	49	51	3	0
121	59	26	1	10	15	50	4	19	24	76	5	29
122	6	29	2	5	12	54	2	5	17	83	4	10
123	8	27	1	2	27	38	2	12	35	65	3	14
124	4	31	0	3	12	53	1	2	16	84	1	5
125	4	31	3	7	11	54	0	15	15	85	3	22
126	4	31	2	5	12	53	3	7	16	84	5	12
127	3	32	1	1	21	44	1	0	14	76	2	1
128	4	31	0	0	22	43	1	1	16	74	1	1
129	3	32	0	0	21	44	1	3	14	76	1	3
129A	-	-	-	-	-	-	-	-	-	-	-	-
129B	7	28	0	0	14	51	1	4	21	79	1	4
130	3	32	1	3	10	55	1	3	13	87	2	6
130-1/2	7	28	0	0	16	49	1	1	23	77	1	1
131	15	20	0	0	20	45	0	0	35	65	0	0
132	3	32	0	14	10	55	1	18	13	87	1	32
133	2	33	0	14	8	57	0	31	10	90	0	45
134	3	32	2	10	9	56	0	15	12	88	2	25
135	3	32	0	6	9	56	0	15	12	88	0	21
136	3	32	0	0	9	56	0	4	12	88	0	4
Eggs				8				11				19
Milk				8				13				21
Butt.				4				9				13
Cot.Ch.				5				11				16

EXHIBIT C--Section 2 (Continued)

Checkstands	Mon.--Tues.--Wed.				Thurs.--Fri.--Sat.				2nd Week Total			
	Not Pass	Pass	Handled	Purchased	Not Pass	Pass	Handled	Purchased	Not Pass	Pass	Handled	Purchased
I	22	13	0	3	53	12	0	2	75	25	0	5
II	34	1	0	0	58	7	0	3	90	10	0	3
III	28	7	0	1	52	13	0	3	80	20	0	4
IV	29	6	0	2	52	13	0	5	81	19	0	7
V	32	3	0	1	53	12	0	2	85	15	0	3
VI	35	0	0	0	60	5	0	1	95	5	0	1
VII	32	3	0	0	62	3	0	1	95	6	0	1

EXHIBIT C--Section 3

FLOW STUDY TABULATION, GRAND TOTAL FOR TWO WEEK
STUDY PERIOD, AND PERCENTAGES BY COMMODITY
OR COMMODITY GROUP

Grand Total —					% of Grand Total	
Item No.	Not Pass	Pass	Handled	Purchased	% of Purchases	% of Passes
1	0	200	0	0	0.0	100.0
2	0	200	1	47	23.5	100.0
3	0	200	0	12	6.0	100.0
4	0	200	3	24	12.0	100.0
4-1/2	16	84	2	8	8.0	84.0
5	24	176	5	32	16.0	88.0
6-Cel.	37	163	0	19	9.5	82.0
Rad.	36	164	3	43	21.5	82.0
Cuc.	38	162	0	20	10.0	81.0
Pep.	37	163	1	16	8.0	82.0
Car.	36	164	0	12	6.0	82.0
Tom.	38	162	1	25	12.5	81.0
Corn	38	162	4	19	9.5	81.0
Let.	35	165	3	57	28.5	82.5
G.B.	35	165	0	5	2.5	82.5
Misc.	36	164	7	19	9.5	82.0
Cab.	36	164	0	18	9.0	82.0
7	69	131	0	32	16.0	65.5
8	79	103	1	0	0.0	51.5
9	34	166	8	19	9.5	83.0
10	42	158	6	27	13.5	79.0
11	42	158	3	27	13.5	79.0
12	91	109	0	16	8.0	54.5
13	4	196	6	13	6.5	98.0
14	4	196	8	46	23.0	98.0
15	5	195	5	9	4.5	100.0
16	8	192	4	25	12.5	100.0
17	123	77	4	30	15.0	38.5
18	113	87	0	22	11.0	43.5
19	50	150	2	32	16.0	75.0
20	44	156	1	35	17.5	78.0
21	2	198	0	1	.5	99.0
22	2	198	1	5	2.5	99.0
23	18	182	0	15	7.5	91.0
24	21	179	0	7	3.5	89.5
25	17	183	1	45	22.5	91.5
25-1/2	24	111	3	13	9.6	82.5

EXHIBIT C--Section 3 (Continued)

Grand Total					% of Grand Total	
Item No.	Not Pass	Pass	Handled	Purchased	% of Purchases	% of Passes
26	87	113	0	36	18.0	56.5
27	98	102	1	29	14.5	51.0
28	99	101	0	31	15.5	50.5
29	103	97	0	16	8.0	48.5
30	104	96	2	15	7.5	48.0
31	104	96	1	13	6.5	48.0
32	112	88	1	41	20.5	44.0
33	160	40	4	12	6.0	20.0
34	107	93	7	2	1.0	46.5
35	168	32	0	2	1.0	16.0
36	98	102	3	3	1.5	51.0
37	95	105	0	3	1.5	52.5
38	99	101	17	13	6.5	50.5
39	47	153	4	2	1.0	76.5
40	48	152	1	6	3.0	76.0
41	96	104	2	12	6.0	52.0
42	102	98	1	15	7.5	49.0
43	100	100	0	26	13.0	50.0
44	14	186	7	0	0.0	93.0
45	94	106	2	10	5.0	53.0
46	95	105	0	9	4.5	52.5
47	95	105	0	14	7.0	52.5
48	94	106	0	23	11.5	53.0
49	94	106	5	28	14.0	53.0
50	78	122	3	1	.5	61.0
51	69	131	0	5	2.5	65.5
52	97	103	1	15	7.5	51.5
53	101	99	1	1	.5	49.5
54	40	160	2	2	1.0	80.0
55	43	157	1	0	0.0	78.5
56	100	100	1	13	6.5	50.0
57	96	104	5	27	13.5	52.0
58	21	179	9	27	13.5	89.5
59	85	115	2	11	5.5	57.5
60	86	114	1	35	17.5	57.0
61	104	96	4	32	16.0	48.0
62	58	142	0	11	5.5	71.0
63	106	94	3	16	8.0	47.0
64	39	161	0	0	0.0	80.5
65	37	163	1	9	4.5	81.5
66	78	122	3	67	33.5	61.0
67	22	178	0	1	.5	89.0

EXHIBIT C--Section 3 (Continued)

Grand Total					% of Grand Total	
Item No.	Not Pass	Pass	Handled	Purchased	% of Purchases	% of Passes
68	98	102	1	10	5.0	51.0
69	98	102	2	23	11.5	51.0
70	94	106	1	17	8.5	53.0
71	89	111	3	19	9.5	55.5
72	98	102	0	13	6.5	51.0
73	111	89	0	5	2.5	44.5
74	64	136	5	48	24.0	68.0
75	52	148	5	34	17.0	74.0
76	37	163	1	1	.5	81.5
77	89	111	3	4	2.0	55.5
78	92	108	3	19	9.5	54.0
79	96	104	3	11	5.5	52.0
80	31	169	1	12	6.0	84.5
81	95	105	2	21	10.5	52.5
82	94	106	1	10	5.0	53.0
83	92	108	1	6	3.0	54.0
84	69	131	5	36	18.5	65.5
85	70	130	4	13	6.5	65.0
86	41	159	0	17	8.5	79.5
87	86	114	5	2	1.0	57.0
88	88	112	0	1	.5	56.0
89	95	105	1	14	7.0	52.5
90	48	152	0	0	0.0	76.0
91	44	156	1	13	6.5	78.0
92	94	106	1	14	7.0	53.0
93	97	103	3	22	11.0	51.5
94	95	105	1	35	17.5	52.5
95	96	154	1	14	7.0	77.0
96	112	88	2	36	18.0	44.0
97	137	63	0	2	1.0	31.5
98	70	130	2	3	1.5	65.5
99	130	70	1	24	12.0	35.0
100	60	140	0	4	2.0	70.0
101	64	136	1	2	1.0	68.0
102	116	84	1	16	8.0	42.0
103	119	81	1	21	10.5	40.5
104	117	83	1	12	6.0	41.5
105	76	124	4	18	9.0	63.0
106	103	97	0	19	9.5	48.5
107	104	96	0	7	3.5	48.0
108	107	93	1	38	19.0	46.5
109	145	55	2	1	.5	27.5

EXHIBIT C--Section 3 (Continued)

Grand Total					% of Grand Total	
Item No.	Not Pass	Pass	Handled	Purchased	% of Purchased	% of Passes
110	98	102	2	33	16.5	51.0
111	98	102	1	20	10.0	51.0
112	85	115	1	12	6.0	57.5
113	91	109	1	16	8.0	54.5
114	103	97	3	5	2.5	47.5
115	107	93	1	2	1.0	46.5
116	107	93	1	0	0.0	46.5
117	111	89	3	3	1.5	44.5
118	142	58	0	3	1.5	29.0
119	98	102	11	3	1.5	51.0
120	98	102	3	0	0.0	51.0
121	42	158	18	64	32.0	79.0
122	32	168	14	21	10.5	84.0
123	50	150	4	25	12.5	75.0
124	32	168	6	11	5.5	84.0
125	30	170	5	54	27.0	85.0
126	27	173	13	32	16.0	86.5
127	43	157	4	2	1.0	78.5
128	50	150	5	3	1.5	75.0
129	43	157	5	14	7.0	78.5
129A	20	80	1	2	2.0	80.0
129B	21	79	1	4	4.0	79.0
130	27	173	8	16	8.0	86.5
130-1/2	23	77	1	1	1.0	77.0
131	70	130	1	0	0.0	65.0
132	24	176	2	66	33.0	88.0
133	19	181	1	97	48.5	90.5
134	18	182	4	49	24.5	91.0
135	19	181	1	38	19.0	90.5
136	15	185	0	15	7.5	92.5
I*	159	41	2	7	3.5	20.5
II	168	32	0	6	3.0	16.0
III	160	40	1	5	2.5	20.0
IV	168	32	2	8	4.0	16.0
V	175	25	1	6	3.0	12.5
VI	182	18	1	2	1.0	9.0
VII	188	12	0	1	.5	6.0

*Roman numerals denotes passes, handles and purchases at checkstands.

EXHIBIT C--Section 4

Items	M.T.W.	Th.F.S.	Total 1st Week	M.T.W.	Th.F.S.	Total 2nd Week	Grand Total	% of Pur.
Total Purchases	\$269.95	\$736.06	\$1,006.01	\$286.99	\$630.49	\$917.48	\$1,923.49	
Avg. Purchases	7.75	11.75	9.96	8.44	9.70	9.27	9.62	
Services								
Meat	1	8	9	2	2	4	13	6.5
Produce	13	22	35	10	13	23	58	29.0
Grocery	3	11	14	4	9	13	27	13.5
Office	1	5	6	1	3	4	10	5.0
List	7	23	30	7	15	22	52	
No List	28	43	70	28	50	78	148	
Time in Store	17.97	24.10	21.98	16.76	22.56	20.58	21.29	(minutes)
Time in Checklanes	4.37	5.47	5.09	2.59	6.35	5.06	5.08	(minutes)
% of Time in Checklanes	25.31	22.69	23.15	15.45	28.15	24.59	23.86	
Shoppers								
Male	4	4	8	4	4	8	16	8.0
Female	12	24	36	14	22	36	72	36.0
Female+	3	3	6	1	8	9	15	7.5
Male+	0	0	0	1	1	2	2	1.0
Male & Female	9	13	22	3	10	13	35	17.5
Female & Child	5	12	17	5	9	14	31	15.5
Male & Child	0	1	1	1	2	3	4	2.0
Miscellaneous	2	8	10	5	10	15	25	12.5
No Services	17	30	47	19	37	56	103	52.5
Carry Out			45			48	93	46.5
Parcel Pickups			55			52	107	53.5

EXHIBIT D

TABLE OF RANDOM NUMBERS FOR SAMPLING OF KROGER
STORE #G-224

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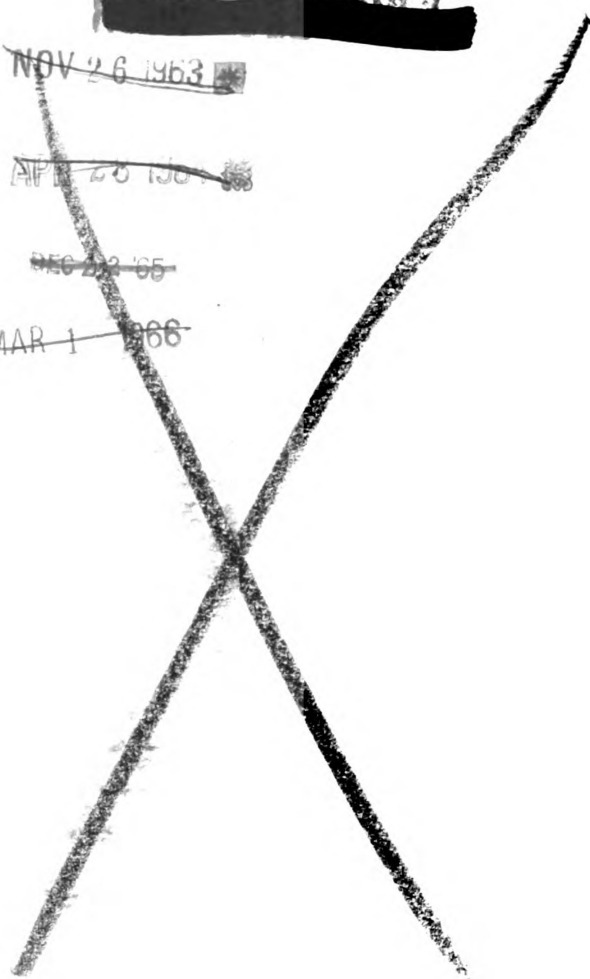
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